The Pennefather Brothers

David Sledge
Surveyor
Eurobodalla Shire Council

Abstract

The name Pennefather usually prompts the comment "now there was a good surveyor" from many cadastral surveyors in NSW.

By examining some of the history of the life of Edward and Gerald Pennefather and a detailed examination of some of the surveys done by Gerald Pennefather this paper will try to find out why modern surveyors make this type of comment.

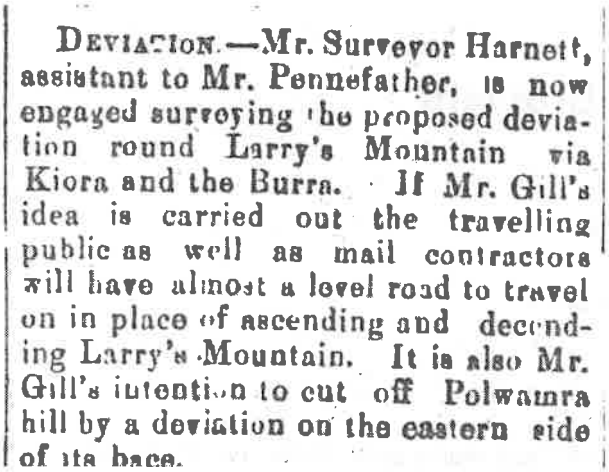
Why Pennefather?

What made me decide to give this presentation on Surveyors Pennefather? There were three events that prompted me to investigate the possibility of doing this paper.

- My survey assistant religiously buys the local newspaper, which is published once a week. He pointed out to me the historical item shown in Fig 1. The local historical society supplies the newspaper with some items of interest from their microfilmed copy of the newspaper that was printed on the same day 100 years ago.
- In my survey work at Council I have used several of Pennefather's plans. Comments form other local surveyors on Pennefathers work was always along the lines "Pennefather's surveys are always very reliable". My early investigations revealed that there was in fact two surveyors Pennefather, brothers, one year different in age. The other Pennefather worked in the Casino area. Correspondence with a surveyor currently practicing in the Casino area revealed the comment "if you don't agree with Cecil go and have another look at your own work"
- After the last APAS conference the thought struck me as to why don't many local government surveyors present papers at APAS. The answer to this question may be that local government surveyors don't usually get involved in many large or noteworthy survey projects. For the local government surveyor there is always the interesting "little" problems raising their heads. For example, the new landowner that discovers that the "road" his pre owners have been using for access for the last 50 years is not a Council road but a strip of land left as a "road" in an old system subdivision. An in depth explanation of a couple of these "little" problems may be enough to fill an APAS presentation...maybe next time.

So I thought why not have a look and see if I could find enough information to give a presentation on Surveyor Pennefather. I began looking for a S. Pennefather as this appeared to be the initial in his signature on the plans I had used. It soon became apparent that the S was a G and there was in fact two Pennefathers, Gerald and Cecil who are brothers. It looked like there would be enough information on the two Pennefathers so I took the silly or bold step of volunteering to present this paper.

In many ways Cecil is perhaps the more interesting of the two brothers. But as I have used some of Gerald's survey plans (and have access to most of the plans he did in the Eurobodalla Shire and the old editions of the local newspaper) I will concentrate the detail of this presentation on him.



DEVIATION.—Mr. Surveyor Harnett, assistant to Mr. Pennefather, is now engaged surveying the proposed deviation round Larry's Mountain via Kiora and the Burra. If Mr. Gill's idea is carried out the travelling public as well as mail contractors will have almost a level road to travel on in place of ascending and descending Larry's Mountain. It is also Mr. Gill's intention to cut off Polwarra hill by a deviation on the eastern side of its base.

Figure 1 Moruya Examiner 17/2/1903

Part of The Pennefather Family History

The father of Cecil and Gerald is Daniel Pennefather. Daniel was baptised on 2/6/1826 at Clonoulty,Tipperary, Ireland. Daniel became a Lieutenant in the 40th Regiment of Foot of the English Army.

The 40th Regiment of Foot (and Daniel Pennefather) was posted to Melbourne arriving in 1852. The purpose of the 40th Regiment of Foot coming to Australia was to garrison the towns of the Victorian gold fields. The 40th Regiment of Foot saw action at the Eureka Stockade incident of 3/12/1854, but it appears that Daniel may not have been at the Eureka Stockade incident himself.

In 1854 Daniel married Elizabeth Curr from a wealthy family that was settled in Tasmania. Daniel was a Protestant and Elizabeth was Roman Catholic. As a result of these different religions there was two wedding ceremonies, the Catholic one on 22/1/1854 and the Protestant one on 28/1/1854. In December 1854 Daniel retired from the army by selling his commission probably to his cousin who was living at the family home in Marlow, Ireland.

Daniel's new family lived alternatively during the next 5 or so years in Tasmania or Melbourne. The family then settled in Melbourne where Daniel called himself a "gentleman" which indicates he was a person of independent means. He was a member of the Melbourne Hunt Club where he was known as "Galloping Dan". Daniel appears to have faded from the Australian picture some time after 1870. It appears that his marriage to Elizabeth failed but there was no divorce. Daniel is recorded as dying in Ireland in 1894 aged 68.

Daniel's grandson, Wilfred (97 years old in 1995) stated that "all Daniel's children were being raised as R.C.'s and were attending or booked to attend St. Xaviers R.C. College, Melbourne. [Records from the College show that Wilfred Ernest Pennefather attended in 1878 &1879] A priest hit one of the younger boys on the hand causing an injury, which upset Mrs. Pennefather. She took her complaint all the way to the Bishop but did not get a satisfactory outcome. As a result she took all the children out of the college and both she and all of the children except, Edward Cecil, changed to Church of England, the religion of Daniel."

Elizabeth died in about 1912 aged about 80.

Daniel and **Elizabeth** had the following children:

Elliven; born 1855 Tasmania, died 1856 Melbourne.

Edward Cecil; born 1857 Melbourne, died 1936 Casino (Edward Cecil appears to have sometimes been known as Edward Cecil and at other times Cecil Edward).

Gerald Augusts; born 1858 at sea (off Table Cape Tasmania), died 1929 Roseville (Gerald was known as "Jed").

Reginald; (there is some evidence that Reginald made the servant lady, Mary, pregnant and was then forced to leave his parents house and marry Mary. It is well known that he and his brother, Hugh Claud, disliked each other intensely.)

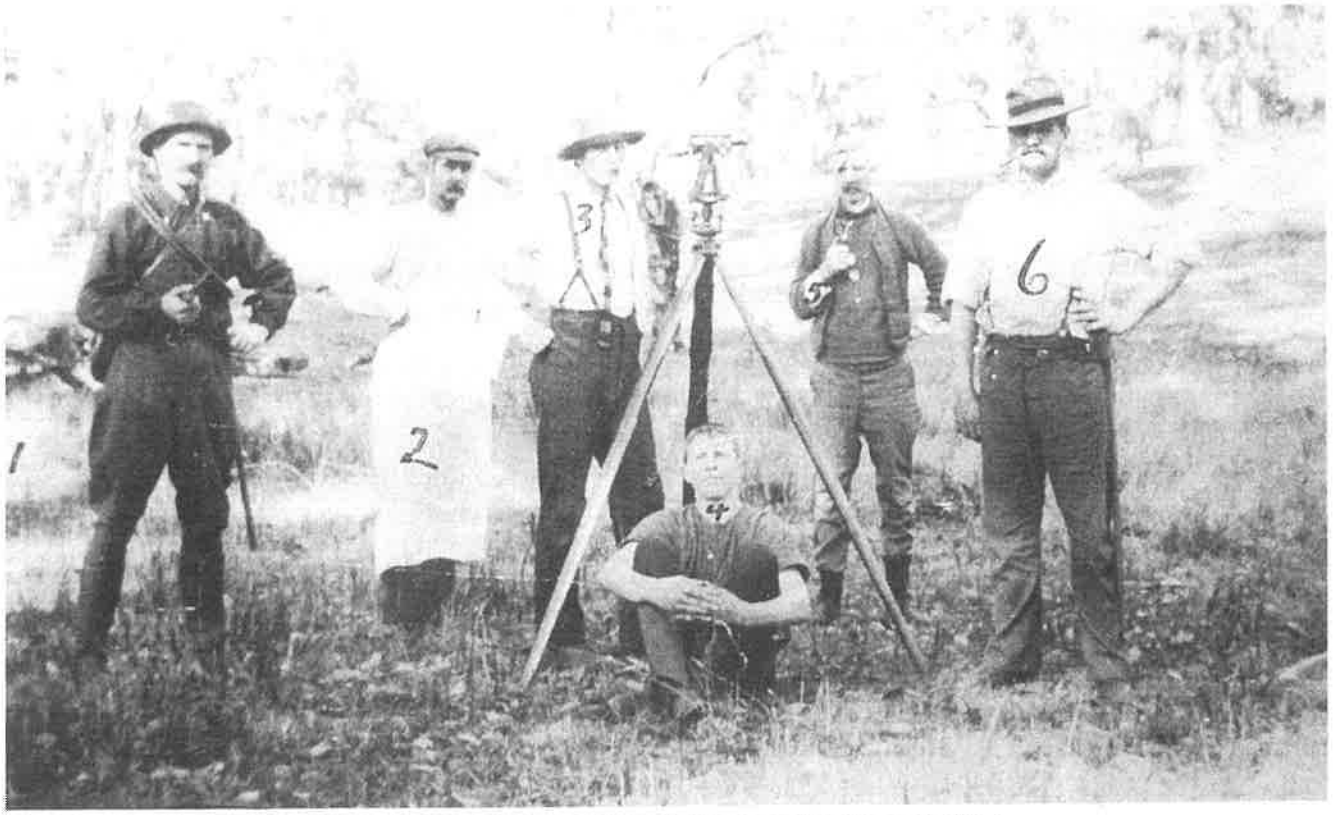
Hugh Claud, born 1863 Melbourne, died 1949. Known as "H.C.P." or "old Penny" he became one of Australia's most noted sheep classers from 1900 to 1930. He loved horses and hunting like his father Daniel before him.

Wilfred Ernest, born 1868. Cecil's obituary in the 1936 *Australian Surveyor* describes Wilfred as an electrical engineer of Kew, Melbourne.

I am told the family name means a father of pennies a miser or spendthrift.

Both Cecil and Gerald became surveyors in New South Wales. I have not been able to find out when they moved into New South Wales or what made them both take up a career in Surveying.

EDWARD CECIL PENNEFATHER



Cecil Pennefather and team c. 1910. L to R. A. Byrnes, (Chainman), name unknown but thought to be the cook, C. E. Barnes, Surveyor Jack Tyrrell, E. C. Pennefather holding Pipe, name unknown, (Axeman).
(W.R.H.S. Files) 11

Figure 2 ("Bonalbo")

The photograph in Fig.2 shows Cecil's survey team circa 1910. Unless there is a problem with the perspective in the photo, Cecil, second from the right, would have to be described as short but wiry. If I were after an axe man then the one on the far right of the photo would obviously fit the bill.

EDUCATION

St. Xaviers R.C. College, Melbourne

Lyndurst college,(?) Sydney

MARRIAGE

Cecil married Alice Paulina Hanrahan, daughter of Hanrahan JP of Bathurst in 1882.

CHILDREN

Cecil and **Alice** appear to have had eleven children!

Clawd W, born 1883 known as "Grumpy" worked for a period as survey assistant to Cecil

Geraldine C, born 1886

Kathleen E, born 1887

Vere Reginald Cecil, born 1889 Soldier in 2nd Aust. Light Horse 1st World War

Fred G N E, born 1893 died at birth

Noel Hastings, born 1895 Soldier in 8th Aust. Light Horse 1st World War, charged at Beersheba

Cecil Godfery, born 1898

Dorothy V M, born 1900 Sister of Mercy Nun

Wilfred Xavier, born 1903 Served in RAAF in 2nd World War

There appears to be two more sons assumed to have died at birth

EMPLOYMENT HISTORY

The NSW Government Gazette shows that Cecil, aged 23, was appointed as a Licensed Surveyor on 2/7/1880.

Inspection of the Blue Books[1] at the State Records office reveals the following:

From 1882 to 1894 Cecil was employed by the Lands Department as a "contract" Licensed Surveyor.

During this time the fees paid to him varied between ≤348 (pounds) and ≤908 per year. The salary of other Government workers at this time was for example in 1892 the Casino Postmaster ≤260, a Lands Department District Surveyor ≤582. There is no listing in the Blue books for Cecil as a "contract" Licensed Surveyor after 1894, but no "contract" Licensed Surveyors are shown after 1894.

From 1886 Cecil is listed as also being specially licensed under the RP Act. From 1887 he is also shown as being a Mining Surveyor first at Grafton and then from 1892 at Casino.

It appears that Cecil became a private surveyor about the turn of the century (1900). He did private survey work from the Clarence River to the Queensland border. For his survey fieldwork Cecil had a survey party of six.

Cecil also worked in Queensland, from 1908 he is listed as a Queensland Registered Surveyor. Cecil was registered under the Surveyors Act 1929 (NSW) in 29/11/1929 and was removed from the register on 16/7/1937.

OTHER ITEMS OF INTEREST

Cecil was part of a syndicate which was formed in about 1910 to establish the town of Bonalbo. He did much of the survey work in the town of Bonalbo and the subdivision of the original Bonalbo Station. It appears he lived on and also ran a dairy farm at Naughtons Gap.

Cecil was also a freelance journalist who contributed to the Sydney Mail, Northern Star and other publications for many years. Some times this writing was done under the name of "The Wanderer". Mary Ralston, of the West of the Range Historical Society, has given me a copy of a 3

[1] The "Blue Books" are a list, with various details, of State Government employees starting in 1822 with a name index for each year.

page poem, "Bonalbo", written by Cecil about people in the Bonalbo area. Mary has interpreted this poem and added some notes as to names of the people referred to in the poem.

Cecil served on Juries at Lismore Quarter Sessions and at times this required a three-day horse ride from where he was working.

GERALD AUGUSTS PENNEFATHER

EDUCATION

St. Xaviers R.C. College, Melbourne
Lyndurst college, (?) Sydney

MARRIAGE

Jed married Constance Mc Donald in 1885 at Sydney.

CHILDREN

Jed and **Constance** had the following children.

Nina Constance, born 1886 at Cooma

Reginald Victor Graham, born 1887 at Cooma. Served in the 4th Tunnelling Company WW1, awarded M.C. for action at Messines. Reginald was licensed as a Surveyor in 1912, registered under the Surveyors Act 1929 in 1934 and removed from the register in 1937. It appears he then, "alas", changed careers and became an Engineer and rose to a senior position in the NSW Railways.

Clarence, born 1889 at Cooma

Ellen, born 1892 at Moruya

Helen, born 1897 at Moruya

EMPLOYMENT HISTORY

The NSW Government Gazette shows that Gerald, aged 22, was appointed as a Licensed Surveyor on 2/1/1880. Even though Jed was a about I year younger than Cecil he was licensed six months before him.

Inspection of the Blue Books at the State Records office reveals the following:

From 1881 to 1882 Gerald is listed as a "contract" Licensed Surveyor being paid ≤319 for 1881 and ≤929 for 1882.

In 1883 he is listed as a 2nd Class Staff Surveyor employed by the Lands Department being paid a salary of ≤530.

His salary increased each year to ≤570 in 1886. In 1887 his salary seems to go down to ≤340 where it stays until 1890. In 1891 and 1892 he is listed as a Surveyor with a salary of ≤350. (In 1892 the Moruya Postmaster was paid ≤220.)

In 1894 Gerald is listed as a Surveyor, at the Cooma District Survey Office being paid a salary of ≤335. The 1894 Blue book also lists James Lindsay as an assistant Surveyor at the Cooma District Survey Office being paid ≤0.10s.0p per diem. (For those of you, who can't remember, like me, there are 12 pennies in a shilling and 20 shillings in a pound.) The relevance of James Lindsay will be come apparent later.

In 1896 Gerald is listed as a Surveyor grade A3, at the Goulburn District Survey Office being paid a salary of ≤325 with ≤150 disbursement for equipment. Lindsay is listed as an assistant Surveyor, grade B2 being paid ≤175. The District Surveyor at Goulburn was paid ≤600.

In 1899 Lindsay is listed at the Grafton District Survey Office.

From 1896 to 1903 Gerald is listed as under the Goulburn District Survey Office rising to Surveyor grade A3 paid ≤400. From 1904 to 1908 he is listed under the Forbes District Survey Office rising to Surveyor grade A2 paid ≤400. In 1910 Gerald is appointed as District Surveyor grade A5 at Grafton paid ≤550. From 1911 to 1913 Gerald is listed as the District Surveyor grade A4 at Forbes District Survey Office paid up to ≤600. From 1914 to 1922 Gerald is listed as the District Surveyor at Kempsey's District Survey Office rising to grade A3 paid up to ≤650.

In 1923, at the age of 65, Gerald is shown in the Relieving & Emergency Officers section of the Lands Department as an Emergency District Surveyor with a salary of ≤742.8s.8p. This is the last listing for Gerald.

It appears that from 1881 to 1891 Jed and family lived at Cooma. As part of his work at the Cooma District Survey Office Jed did amendment surveys and other surveys of reserves, portions, school sites, and roads etc. This work was in the Parishes of Lake, Gygederick, Bradley, Cootralantra, Coolamalatong, Myack, Buckenderra, Bullenbalong, Nimmo, Townsend, Gungarlin, Kalkite, Jinderboine, in the County of Wallace, the Parishes of Binjara, Cooma, Gladstone and Town of Cooma in the County of Brestford, the Parishes of Wallagoot and Bowinda, in the County of Auckland, the Parishes of Cuppacumbalong, Cudgenby, Yarara, Congwarra, in the County of Cowley and probably in other areas too. (I have listed all these parishes because of the amazing variety of names …for instance Cuppacumbalong. Any one familiar with the Snowy Mountains would recognise Townsend, Gungarlin, Kalkite, Jinderboine).

In 1891 Gerald and family moved to Moruya where his last two children were born. The 1901 census lists Gerald as residing at Gundary , which is the western part of Moruya. During his time at Moruya Jed reported first to the Cooma Land Board office then to the Goulburn Land Board office. A return trip to Cooma or Goulburn from Moruya, in the 1890s, would presumably have taken about a week. One wonders how often Jed would have to have had made such a trip. Presumably survey plans were sent to the Land Board office by mail. I wonder how many hand drawn plans got lost or damaged in the mail.

OTHER ITEMS OF INTEREST

Unlike his brother Cecil, it has been difficult to find any information on Jed other than his surveying work.The local newspaper the Moruya Examiner does have some news items featuring Gerald.

It appears that Jed sometimes played in local cricket matches when one of the regular players was unavailable. Fig 3 shows the results of such a match held in 1903. His first score is 1 run the second is 3 runs, at least he did not get a duck. Another newspaper report on a match in 1895 gives Jed's scores as 7 runs and 5 runs.

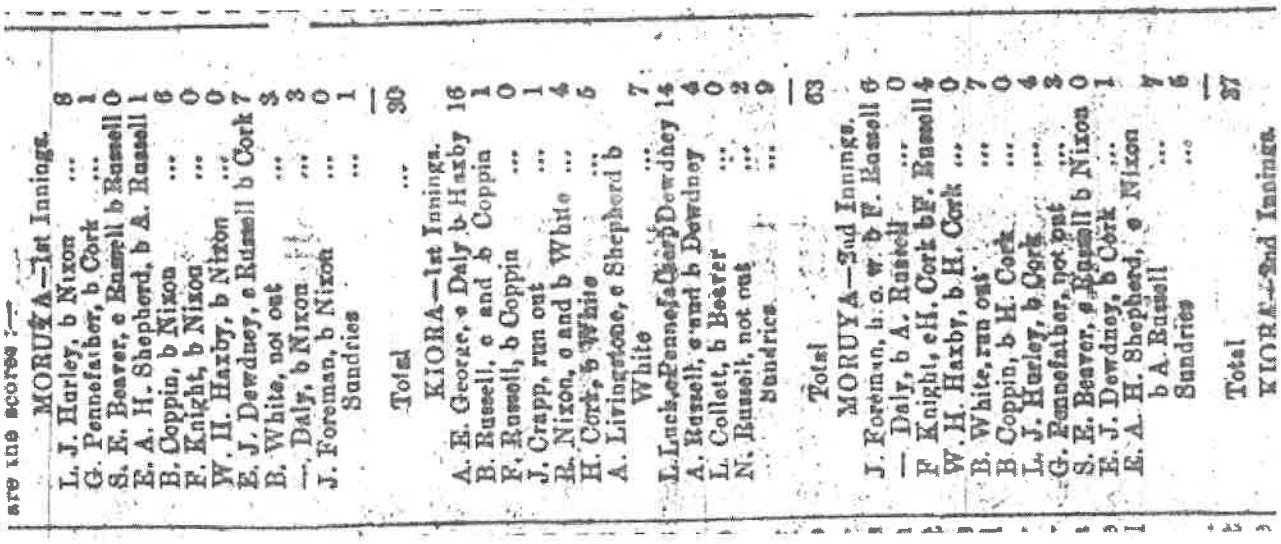
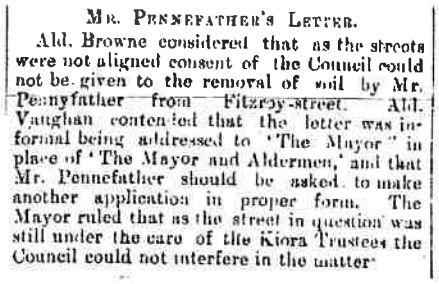


Figure 3 Moruya Examiner 10/3/1903

It appears that Jed had some dealings with the Eurobodalla Shire Council. Why he wanted soil from Fitzroy St is unclear. The character of some councillors obviously does not change, alderman Vaughan did not want to even accept Gerald's letter as he considered it was not addressed properly.



MR. PENNEFATHER'S LETTER.

Ald. Browne considered that as the streets were not aligned consent of the Council could not be given to the removal of soil by Mr. Pennyfather from Fitzroy-street. Ald. Vaughan contended that the letter was informal being addressed to "The Mayor" in place of 'The Mayor and Aldermen,' and that Mr. Pennefather should be asked to make another application in proper form. The Mayor ruled that as the street in question was still under the care of the Kiora Trustees the Council could not interfere in the matter.

Figure 4 Moruya Examiner 14/8/1891

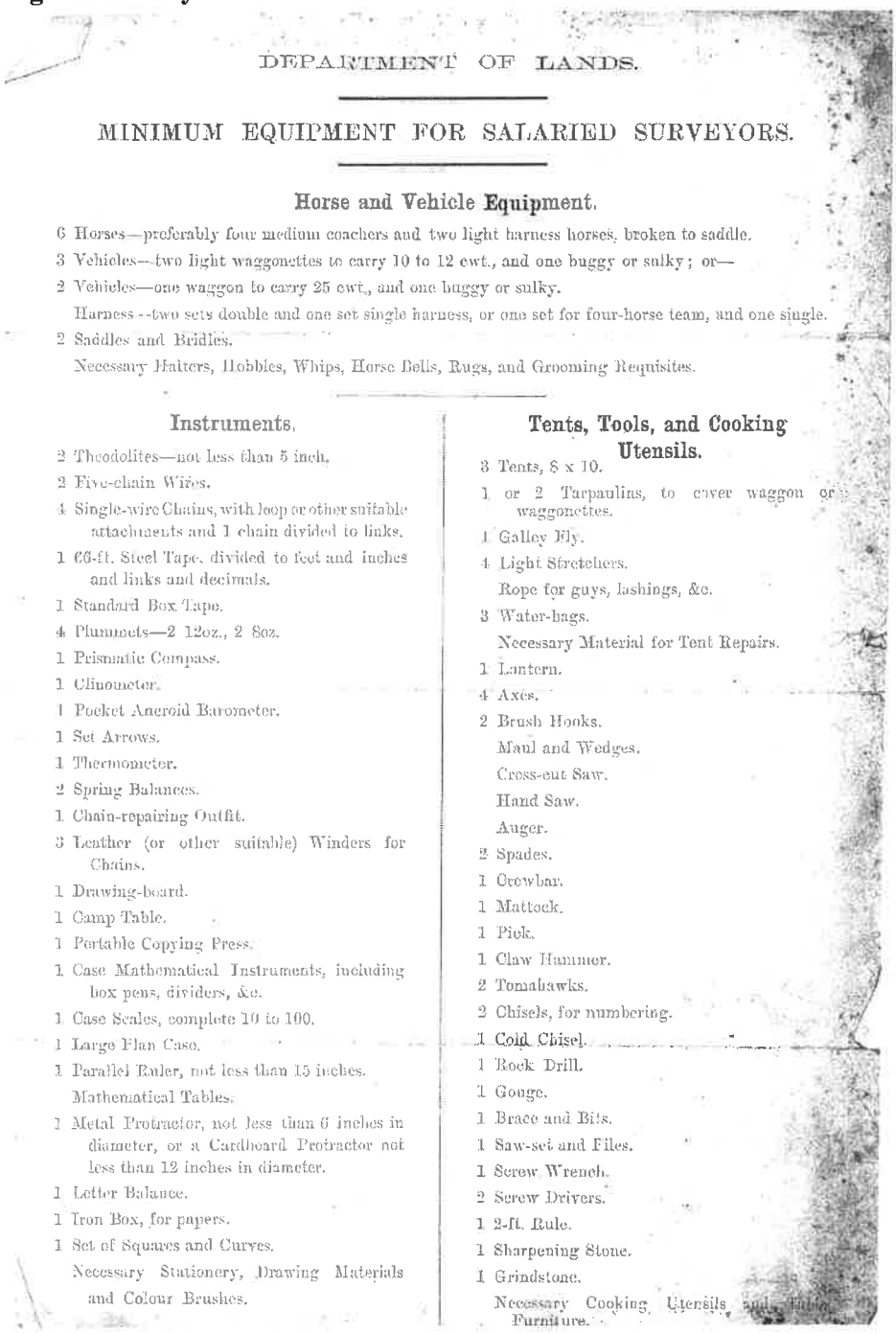
SURVEYING IN THE PERIOD 1880 TO 1925

EQUIPMENT AT THE TIME

Transport was by horse or horse & cart

Loss.—On Monday, Mr. Mining Surveyor Bornstein, had the misfortune to lose one of his best horses down one of the old alluvial shafts. It died before he was able to get it to the surface.

Figure 5 Moruya Examiner 29/5/1904



DEPARTMENT OF LANDS.

MINIMUM EQUIPMENT FOR SALARIED SURVEYORS.

Horse and Vehicle Equipment.

6 Horses—preferably four medium coachers and two light harness horses, broken to saddle.
3 Vehicles—two light waggonettes to carry 10 to 12 cwt., and one buggy or sulky; or—
2 Vehicles—one waggon to carry 25 cwt., and one buggy or sulky.
Harness—two sets double and one set single harness, or one set for four-horse team, and one single.
2 Saddles and Bridles.
Necessary Halters, Hobbles, Whips, Horse Bells, Rugs, and Grooming Requisites.

Instruments.

2 Theodolites—not less than 5 inch.
2 Five-chain Wires.
4 Single-wire Chains, with loop or other suitable attachments and 1 chain divided to links.
1 66-ft. Steel Tape, divided to feet and inches and links and decimals.
1 Standard Box Tape.
4 Plummets—2 12oz., 2 8oz.
1 Prismatic Compass.
1 Clinometer.
1 Pocket Aneroid Barometer.
1 Set Arrows.
1 Thermometer.
2 Spring Balances.
1 Chain-repairing Outfit.
3 Leather (or other suitable) Winders for Chains.
1 Drawing-board.
1 Camp Table.
1 Portable Copying Press.
1 Case Mathematical Instruments, including box pens, dividers, &c.
1 Case Scales, complete 10 to 100.
1 Large Plan Case.
1 Parallel Ruler, not less than 15 inches.
Mathematical Tables.
1 Metal Protractor, not less than 6 inches in diameter, or a Cardboard Protractor not less than 12 inches in diameter.
1 Letter Balance.
1 Iron Box, for papers.
1 Set of Squares and Curves.
Necessary Stationery, Drawing Materials and Colour Brushes.

Tents, Tools, and Cooking Utensils.

3 Tents, 8 x 10.
1 or 2 Tarpaulins, to cover waggon or waggonettes.
1 Galley Fly.
4 Light Stretchers.
Rope for guys, lashings, &c.
3 Water-bags.
Necessary Material for Tent Repairs.
1 Lantern.
4 Axes.
2 Brush Hooks.
Maul and Wedges.
Cross-cut Saw.
Hand Saw.
Auger.
2 Spades.
1 Crowbar.
1 Mattock.
1 Pick.
1 Claw Hammer.
2 Tomahawks.
2 Chisels, for numbering.
1 Cold Chisel.
1 Rock Drill.
1 Gouge.
1 Brace and Bits.
1 Saw-set and Files.
1 Screw Wrench.
2 Screw Drivers.
1 2-ft. Rule.
1 Sharpening Stone.
1 Grindstone.
Necessary Cooking Utensils and Camp Furniture.

Figure 6 Dated 1908? From State Records Office Penrith

Survey Staff

Government Survey field parties during the 1890s usually consisted of six men, the Surveyor, a cook, two chainmen, and axeman and an instrument man or assistant surveyor.

SURVEY INSTRUMENTS

ANGLE MEASUREMENT

In the 1872 regulations for Licensed Surveyors the use of the circumfrentor was prohibited. All surveys had to be done with a theodolite. So from 1872 angle measurement was reliable.

DISTANCE MEASUREMENT

Marking the Landscape (p23) says, "...in the 1872 regulations, (for Licensed Surveyors), the Gunter's chain was still the standard for linear measurement although the steel riband was in general use at this stage." In the 1882 regulations surveyors were required to equip themselves with two steel ribands 66 ft long and a Gunter's chain. In the 1886 regulations surveyors were required to equip themselves with two steel ribands 66 ft long, a Gunter's chain and a light steel riband not less than 500 lks (100.58m) long. So from about 1800, the time that Gerald and Cecil were licensed, distance measurement increased in ease and accuracy as steel ribands were used in place of the 20.115m Gunter's chain.

The History of Surveying in N.S.W. (in the Australian Surveyor June 1953), quotes the 1855 Royal Commission into the Surveyor General's Department. "Surveyors were expected to measure at least 3 linear miles (4.8 Km) per day and the Salaried Surveyors permitted a party of six men, many convicts being trained as chainmen...."

I have looked at some of Jed's field notes. Distances have been corrected for slope (the vertical angle appearing in the field notes). There does not appear to be anything in the field notes regarding temperature or sag corrections.

In a couple of the examples of Jed's plans, shown later, comparison with modern distance measurement is possible.

REGULATIONS AT THE TIME

SPECIAL MARKS

The 1886 regulations for Licensed Surveyors appears to be the first time permanent marks (also called special marks) were required. These special marks were to be placed in addition to the normal marking of reference trees which were marked at almost every portion corner. The regulations state that special marks are to be a 9" length of gas pipe, a glass bottle or an iron bolt buried in the ground. Two of these marks were to be placed for each survey.

The surveyor of 1895 reprinted a circular from the chief Surveyor about special marks, which included rock marks. The 1901 regulations for Licensed Surveyors has more details on special marks.[2]

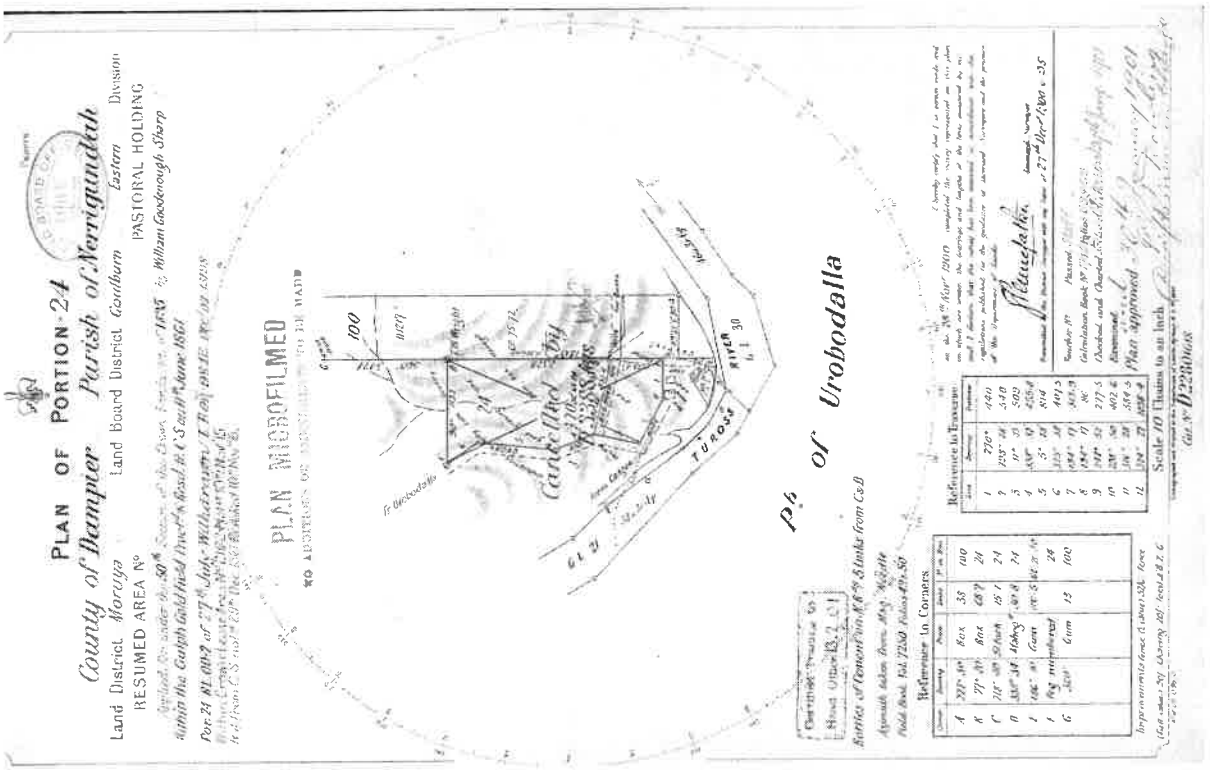
It appears that in the Counties of St Vincent and Dampier Jed first used special marks in 1893. The 1895 circular in *The surveyor* must have struck a chord with Jed because most of his plans from 1895 have special marks. Some of his post 1895 plans do not have special marks, the reason for this is unclear.

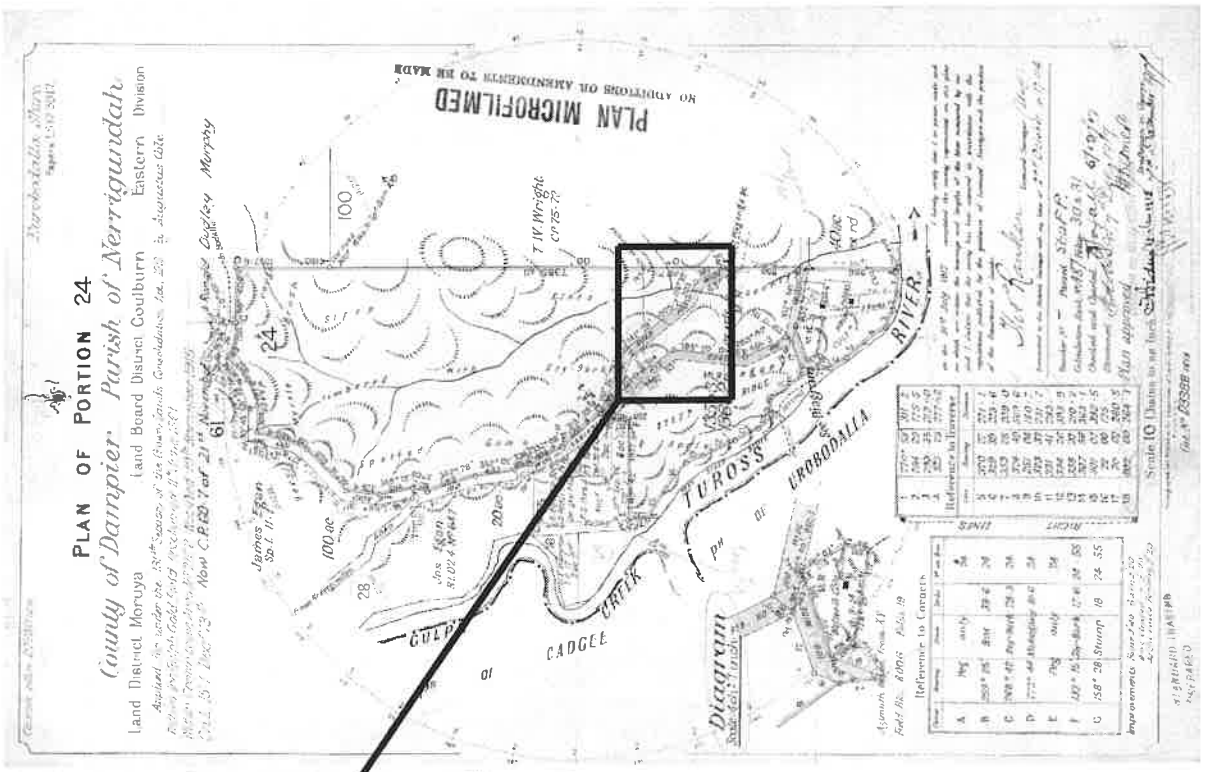
In the Counties of St Vincent and Dampier Jed prepared at least 400 parish portion surveys (and road plans). In about 200 of these special marks were placed. Most are bottles, so Jed must have used at least 400 bottles. An interesting question is... where did all these bottles come from. It is difficult to know what sort bottles these were--- whisky or tomato sauce? How were they carried on horseback? Several modern surveyors appear to have "souvenired" some of these bottles and replaced them with galvanised iron pipes. This may be a good move as although bottles do not rust they are inevitably broken when digging the hole to find them again.

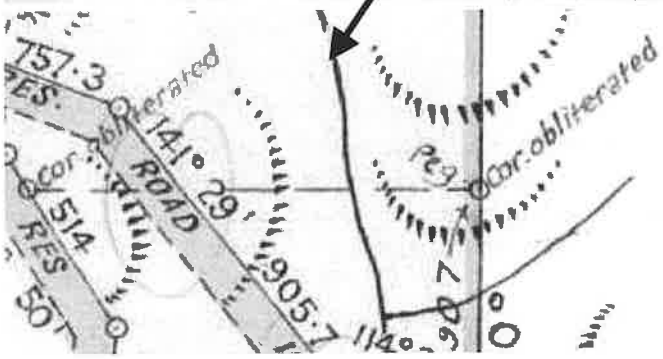
The information on the plan of the location of these special marks is some times hard to "find". The corners to which these special marks refer are denoted on the plan with a double circle and usually a letter. On the plan the text describing the special marks must be looked for carefully as it does not always appear in the same place. As shown in some of the following examples some modern surveys have failed to refer to the special marks shown in Jed's plans.

EXAMPLES OF JED'S PLANS

1



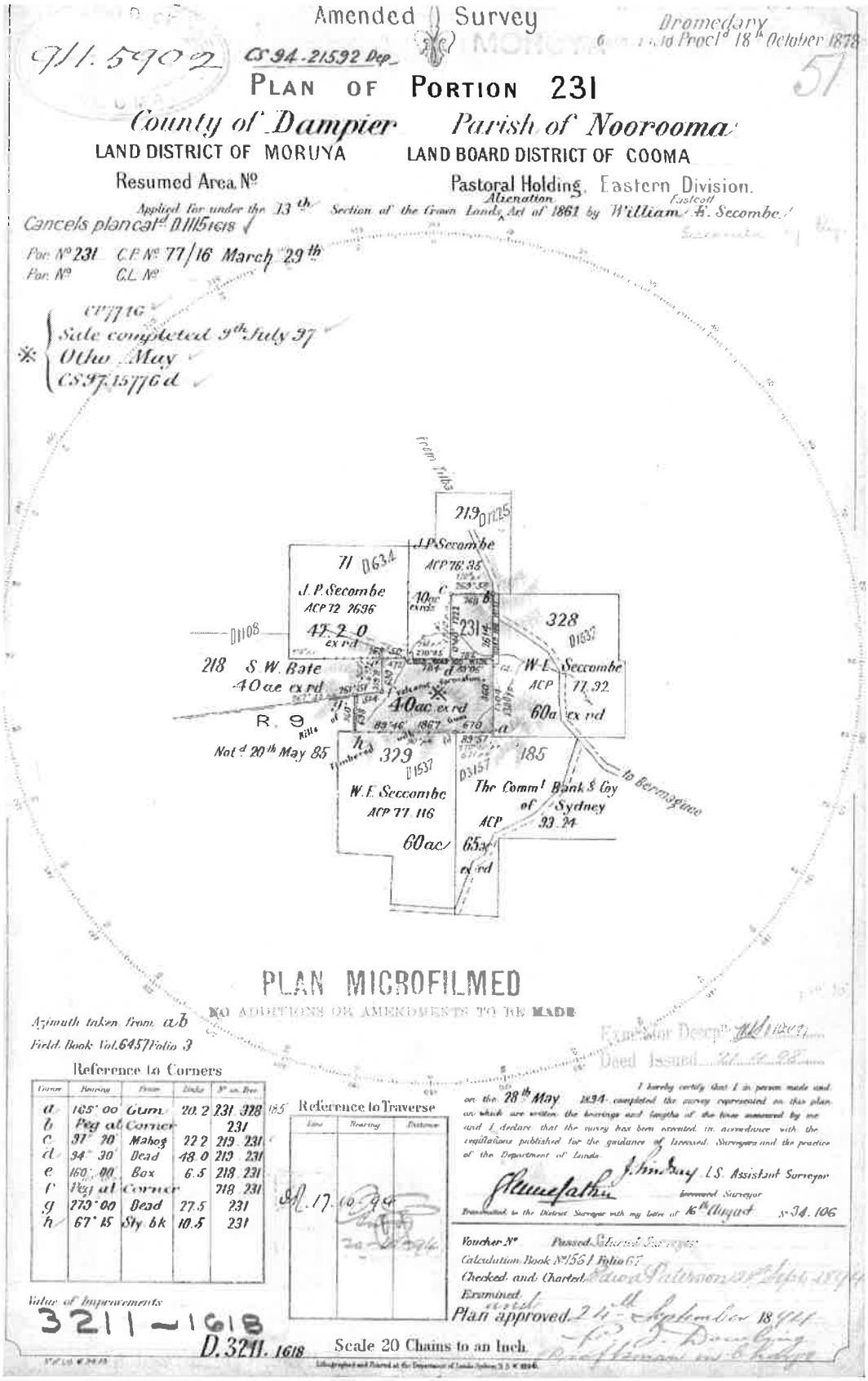




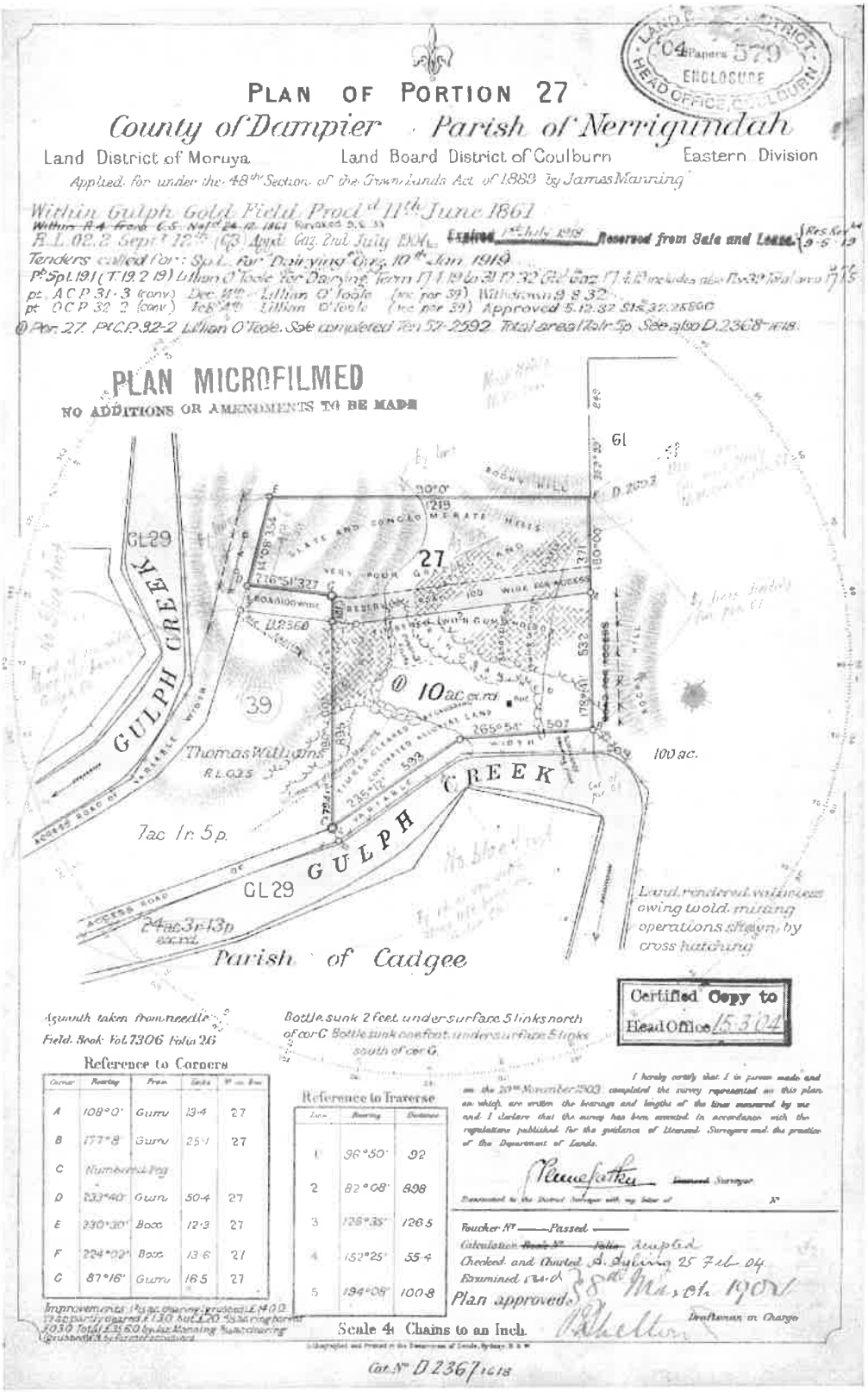
Plan 1 shows Jed's plan D2280 which was cancelled 17 years after it was completed by D3388 which covered a much larger area of land. Of interest here is that the new plan shows the corners where Jed placed bottles as special marks not merely being gone but obliterated!

I have visited the site of this survey and although there was gold mining nearby I could not see why the corners would be obliterated.

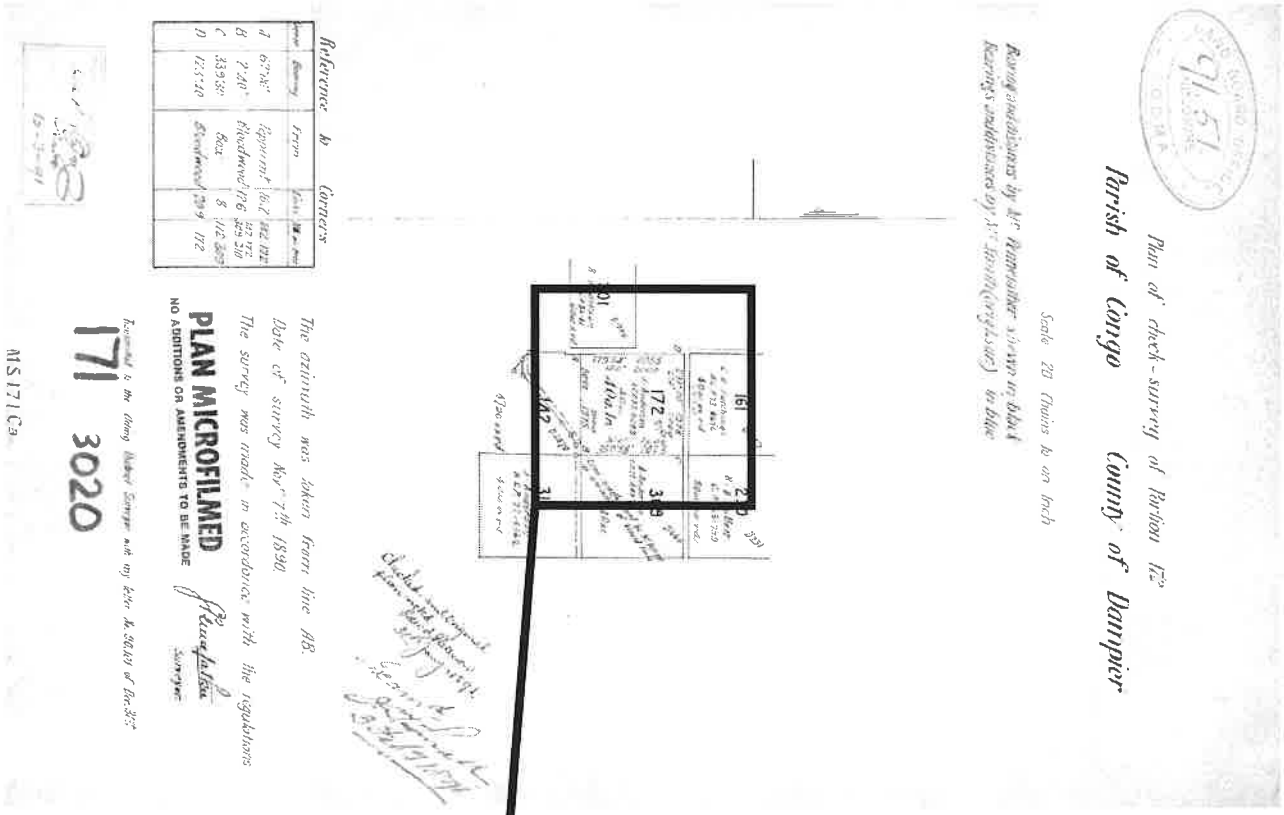
2



This plan is of interest as it has also been signed by J Lindsay, "L.S. Assistant Surveyor". I have found 20 other plans done in the Counties of Dampier and St Vincent that are signed by both Pennefather and Lindsay. This may indicate that Lindsay was being trained by Jed. Also of interest is that on the plan form the word Licensed where Jed signed his name is ruled through presumably because Jed was a staff surveyor. However some of Jed's plans do not have the word Licensed ruled through.



This is an interesting plan especially when seen in colour. The fine line work to do the hill shading and the pattern to show the "land rendered valueless owing to old mining operations" must have taken some time to do. I am sure he would have been annoyed to find a drop of ink had formed a blotch on the middle right hand side of the plan. To me it raises the question as to whether Jed alone would have done all the work. I assume that the note as part of the plan form, below the signature "Transmitted to the District Surveyor with my letter of….." means that the plan would have been prepared by Jed (and/or his assistant) in Moruya and then sent by mail to the Land Board office at Goulburn. Also note that one of the special marks is 2 ft (0.6m) under the surface. This is probably because Jed thought that as the mark was near the Gulph Creek it could be washed away.



Plan 171-3020, dated 1890, is a check survey of portion 172 Parish of Congo. The original survey of portion 172 was done in 1873. Jed appears to have found the four original reference trees and used these to fix the corners of portion 172. He then shows the dimensions he measured between the corners compared to the original plan. Jeds's survey shows shortages of about 5 m in the north and south boundaries and excesses of about 5 m in the east boundary and 10m in the west boundary. The plan states that the original surveyor was Mr. Smith but the plan of portion 172 appears to be signed by a Mr Lindo.

Papers

PLAN OF PORTION 463

11552

County of Dampier Parish of Noorooma

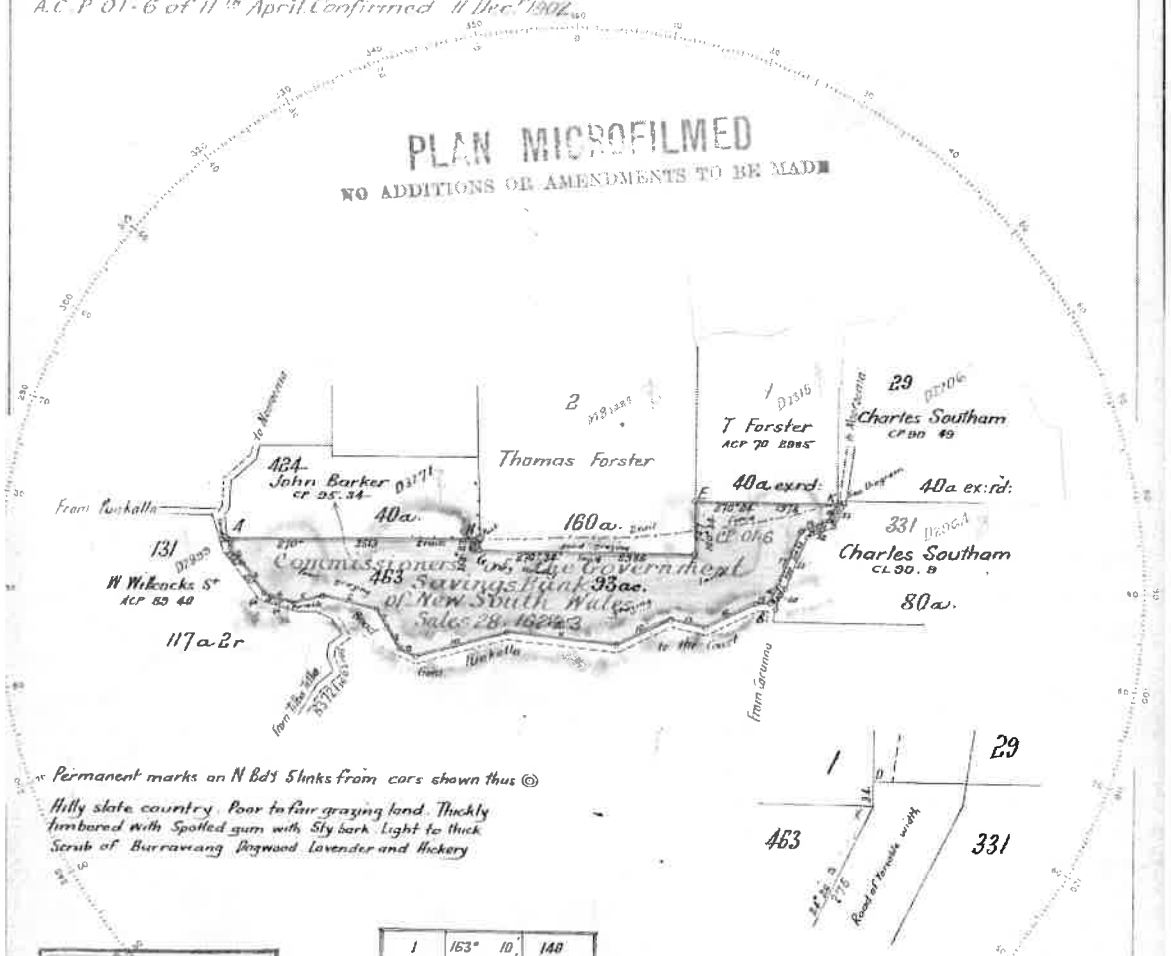
Land District of Moruya Land Board District of Goulburn Eastern Division

Applied for under the 42nd Section of the Crown Lands Act of 1884 by John Barker

Within the Dromedary Gold Field Proc'n 18th October 1878

A.C.P. 01-6 of 11th April Confirmed 11 Dec'r 1902

PLAN MICROFILMED
NO ADDITIONS OR AMENDMENTS TO BE MADE



Permanent marks on N Bdy 5 links from cors shown thus ◎

Hilly slate country. Poor to fair grazing land. Thickly timbered with Spotted gum with Sly bark. Light to thick Scrub of Burravang Dogwood Lavender and Hickery

Certified Copy to Head Office 8.10.02

Azimuth taken from Magnetic N H

Field Book Vol. 7280 Folio 34

Reference to Corners

Corner	Bearing	Prom.	Links	No. on Prc.
A	218° 40'	Spot Gum	20·5	424 463
B	114° 40'	Spot Gum	6·7	463
D	222° 50'	Spot Gum	30	29
E	209° 40'	Spot Gum	36·6	1 463
F	324° 50'	Spot Gum	21·8	2 463
G	85° 20'	Spot Gum	33·3	2 463
H	286°	Spot Gum	46·5	424 463
K	149° 14'	Spot Gum	23·6	1 463

Improvements 20 Ch. old 2 rail fence £3

8 Ch 2 rail fence £2 total value £5.

1	163°	10'	148
2	141°	50'	284
3	145°	05'	522
4	106°		442
5	74°	53'	407
6	103°	24'	787
7	149°	06'	296
8	151°	13'	344
9	114°	58'	260
10	74	11	1275

Reference to Traverse

Line	Bearing	Distance
11	96° 17'	1532
12	64° 51'	852
13	102° 18'	492
14	63° 52'	801
15	91° 39'	198
16	28° 01'	261
17	22° 08'	833
18	68° 21'	398
19	24° 26'	275
20	115 04	100
21	22° 08'	795·5
22	68° 21	394
23	25° 43	371
24	254 53	193·5

Scale 20 Chains to an Inch.

I hereby certify that I in person made and on the 6th August 1902 completed the survey represented on this plan on which are written the bearings and lengths of the lines measured by me and I declare that the survey has been executed in accordance with the regulations published for the guidance of Licensed Surveyors and the practice of the Department of Lands.

J Pennefather Licensed Surveyor

Transmitted to the District Surveyor with my letter of 28th August 1902 S-57

Voucher No Passed

Calculation Book No 2102 Folio 92

Checked and Charted Edward Paterson 13th Sept 1902

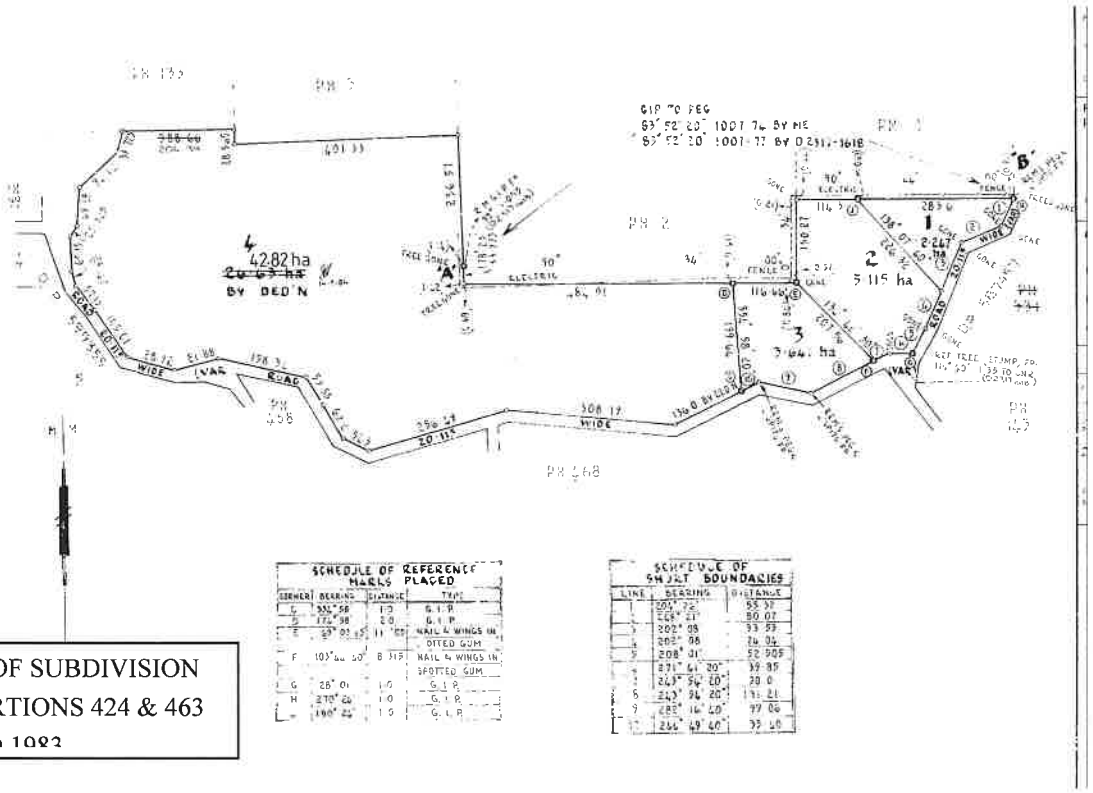
Examined and 24th Sept 1902

Plan approved

Draftsman in Charge

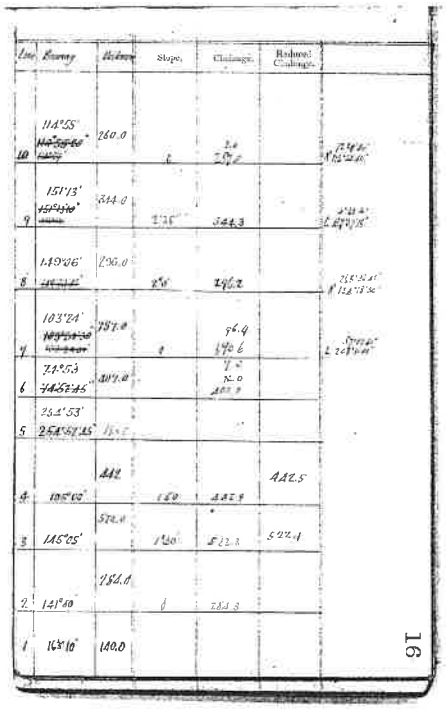
Lithographed and Printed at the Department of Lands, Sydney, N.S.W.

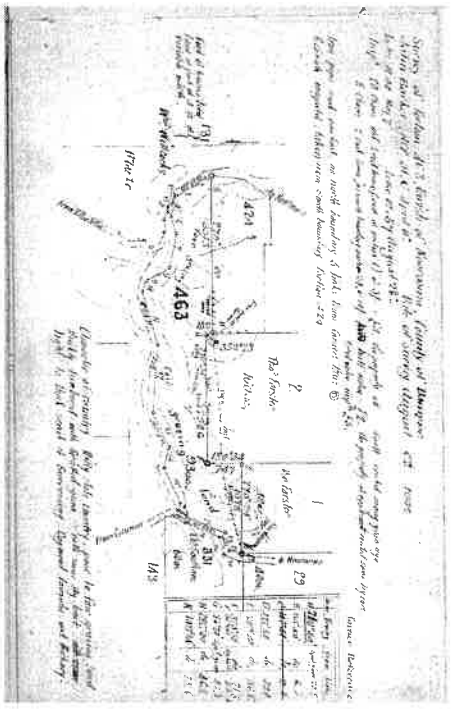
Cat. No D2317.1618

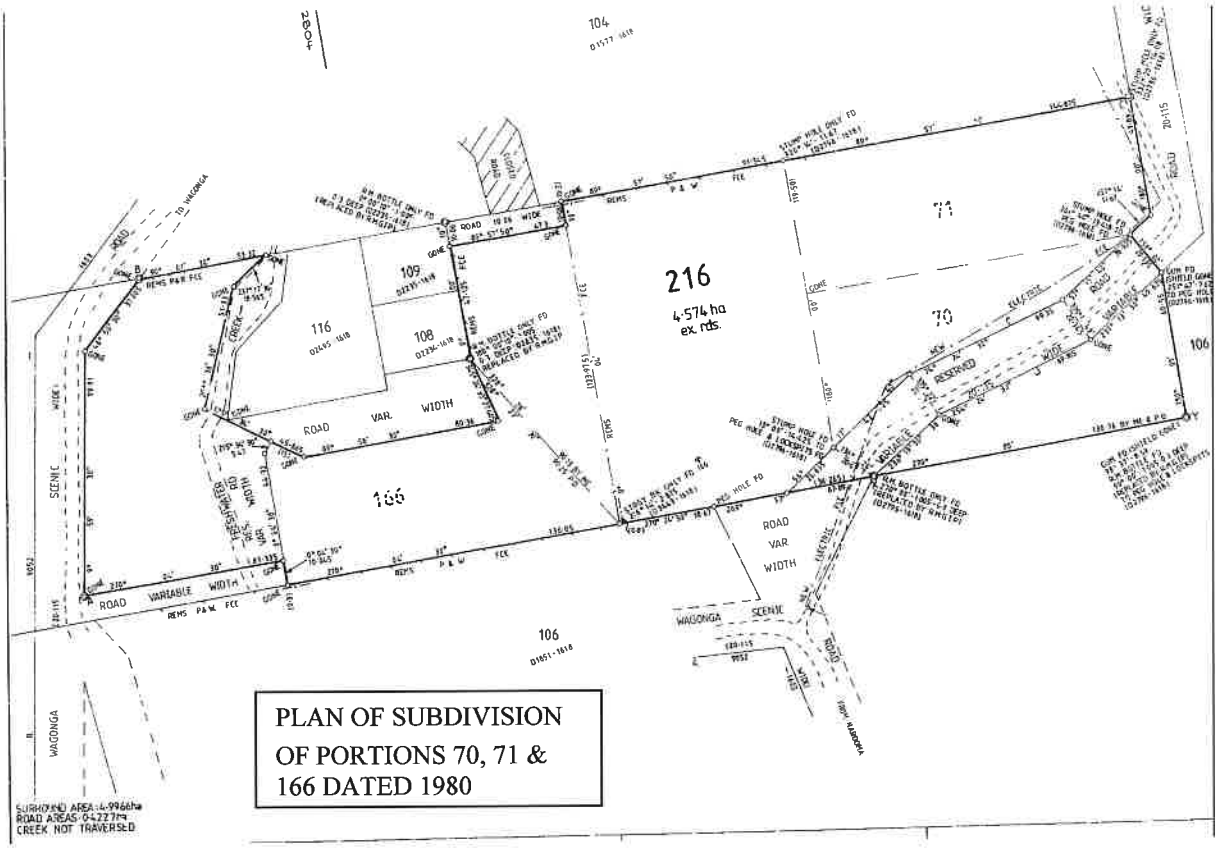


PLAN OF SUBDIVISION
OF PORTIONS 424 & 463
DATED 1983

The Deposited Plan (DP) above is the first resurvey of Portion 463, 81 years after Jed's survey. The new survey's datum line is between a special mark (GIP) and the remains of a peg and lockspits. The distance comparison is different by only 0.03m over 1000m! Other distances and bearings measured in the new survey show good comparison with Jed's survey. A close taken on Jed's plan reveals a misclose of 1.2 links (0.24m) (an accuracy of 1:16600 over the 3982m perimeter of the survey) which is insignificant given the least count of the distances is 1 link. The distances shown in D2317 are the same as Jed's field notes for the survey. That is, no adjustment of the survey appears to have been done between the field work data and the final plan. When Jed did his survey the land would have been heavily forested with spotted gum trees. So along any of the boundaries of portion 463 Jed would have found numerous spotted gum trees directly on the boundary line. In his field notes Jed only shows measurements directly along the boundary lines. Does this mean that his survey party cut down all of the trees on the boundary or did he traverse the boundary, his field notes only showing the final dimensions of the boundaries



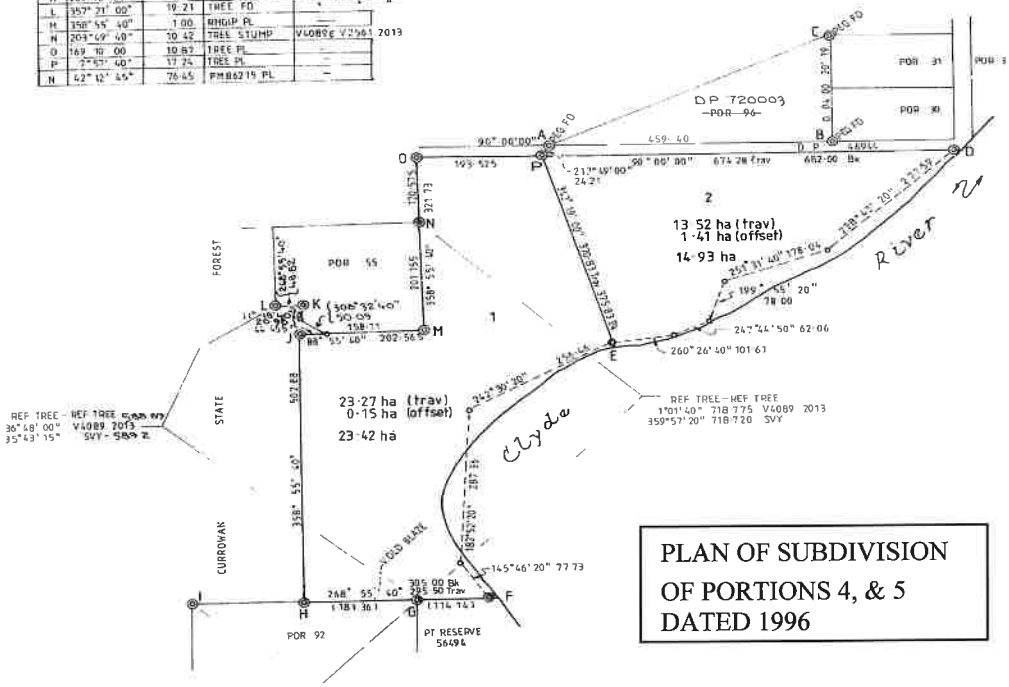


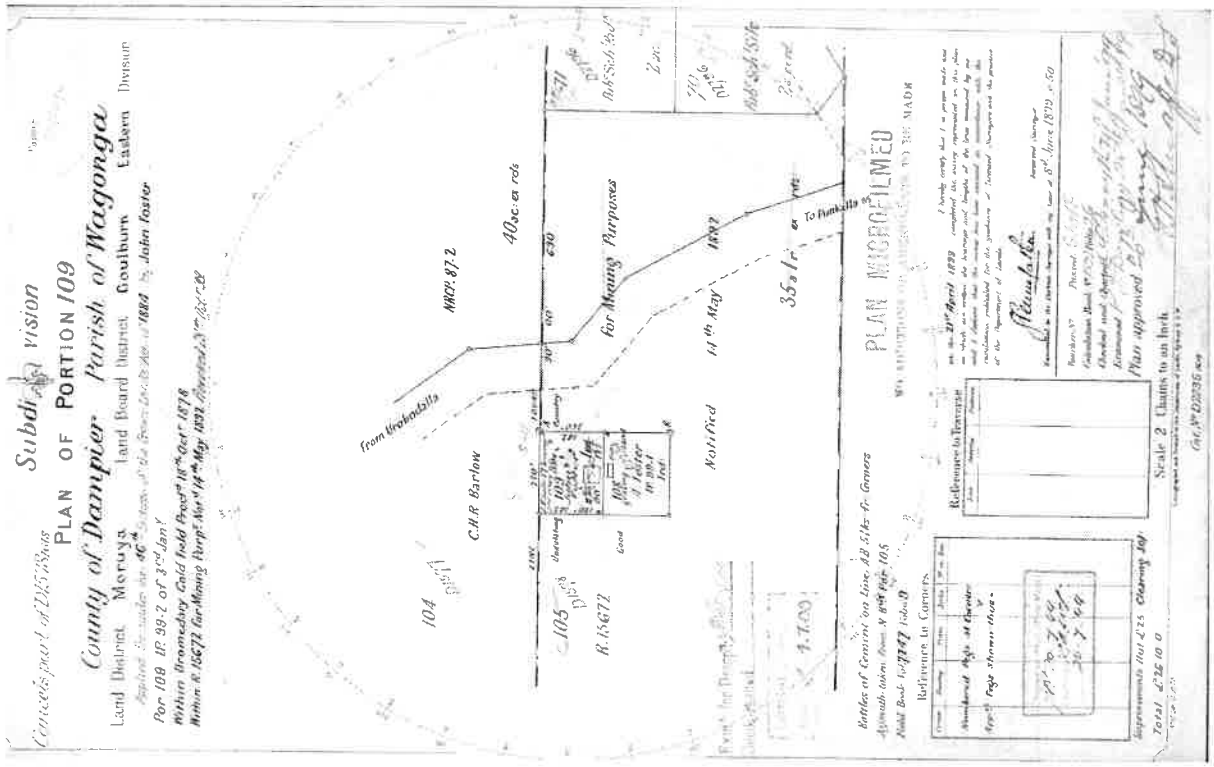


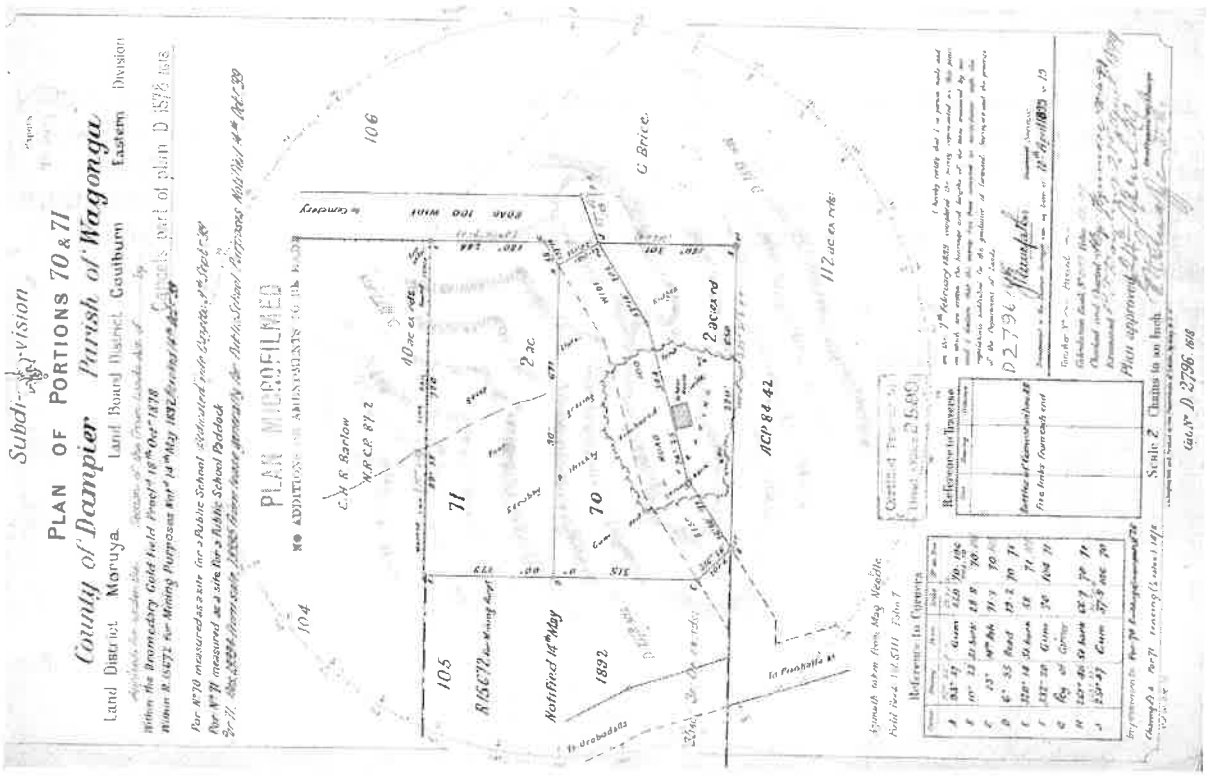
7

V2561 dated 1896, shown on the next page, is a plan to create portion 55. It is based on a plan of portions 4 & 5, C1-1254 dated 1844. There was a corn crop growing across the northern boundary of portion 5 so Jed could not measure his datum line directly. He shows his traverse around the crop and the direct dimension by 'cal'.This reveals an excess of 5m on the 1884 survey. The southeast corner of portion 55 is "established according to original errors in chainage equated" in other words Jed has scaled the C1-1254 distances to fit his measurements.

CNR	BEARING	DISTANCE	FROM	PLAN
A	78° 49' 00"	6·99	TREE A 96	DP720003
B	300° 57' 00"	24·70	"	"
C	93° 11' 00"	4·32	"	"
D	270° 00' 00"	1·00	RMGIP PL	—
E	342° 19' 00"	1·59	PM 86216 PL	—
F	180° 27' 30"	9·20	TREE PL	—
G	292° 54' 40"	13·68	TREE A 92	V4089 2013
H	288° 21' 30"	11·96	TREE PL	—
I	313° 19' 00"	8·29	STUMP HOLE FD	V 4089 2013
J	108° 00' 00"	13·26	TREE PL	—
K	209° 36' 00"	2·11	DEAD TREE FD	V4089 & V2561 2013
L	357° 21' 00"	19·21	TREE FD	" "
M	358° 55' 40"	1·00	RMGIP PL	—
N	209° 49' 40"	10·42	TREE STUMP	V4089 & V2561 2013
O	169° 10' 00"	10·87	TREE PL	—
P	2° 57' 40"	17·24	TREE PL	—
N	42° 12' 45"	76·45	PM 86215 PL	—





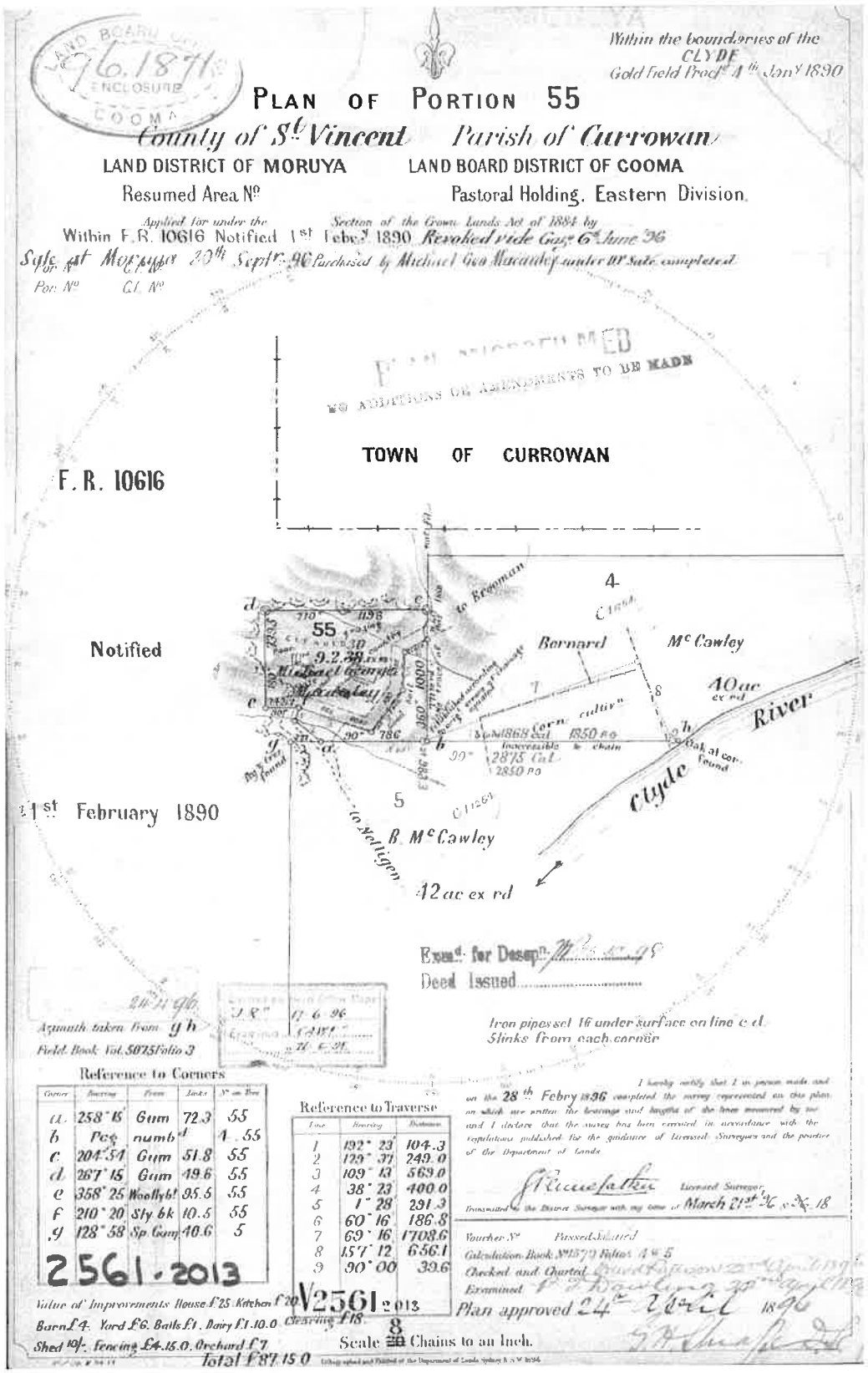


The DP, dated 1980, shown on the next page, is a subdivision of portions 70,71 & 166. Most of the reference trees, marked by Jed in his survey of portions 70, 71 & 109 are shown as gone or stump holes in the new DP. The new survey shows all of the four special marks (bottles) placed in Jed's survey and replaces them with galvanised iron pipes. Did the surveyor of the DP extract all the bottles with out breaking them? They would make an interesting historical artefact.

Comparison of distances between Jed's plans and the 1980 DP shows only small differences. On the southern boundary of portion 70 the distances are the same, the northern boundary of 71, 145m long, is 40mm different, the sum of the eastern boundaries of portions 108 & 109, 57m long is different by 50mm. There is basically no difference in the angular measurement.

The recent subdivision of portions 4 & 5, shown above, shows a reference tree (stump) found at the north eastern corner of Jed's survey but fails to show the special mark which Jed also placed at this corner. I have done some survey work in this area and have found the special mark which would make a small difference to the position of the northeastern corner of portion 55. Given the location of this land this difference (about 0.1m) may not be significant but the special mark provided better evidence to the location of the corner than the stump.

There appears to be no difference in the dimensions (both angular & distance) between the new DP and Jed's survey for the southern and eastern boundaries of portion 55. This may be because the new DP has been able to fit Jed's dimensions to the reference trees. The new DP does not state that it found any broad arrows on the trees so a precise comparison is not possible.



12/3/97
Glo 114 6

Plan

of part of the Road from Punkalla to Noorooma

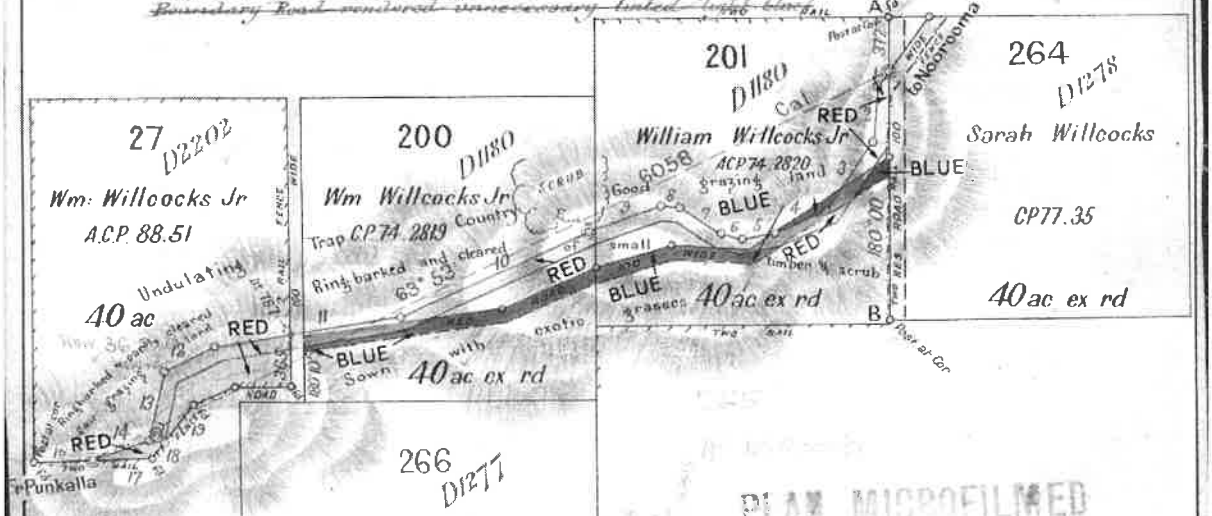
Within portions 27. 200 and 201

Parish of Noorooma County of Dampier

LAND DISTRICT OF MORUYA

Parts tinted red Proposed to be resumed under 42nd Clause of the Crown Lands Act of 1889 in lieu of parts of road tinted blue, Proposed Road ~~to be opened~~ one chain wide ~~shewn by red band~~

~~Boundary Road rendered unnecessary tinted~~



PLAN MICROFILMED

Proposed Resumption Notified in Gov. Gaz. of 1st May 1897 fol. 3098
Resumption do do 11th Aug. 97 fol. 4458
Declared Road for Public Traffic do 8th Sept. 97 fol. 5160

Reference to Traverse

LINE	BEARING	DISTANCE	N	S	E	W
1	216° 20'	128.0		103.1		75.8
2	183° 53'	387.4		386.5		26.2
3	214° 07'	575.3		476.1		322.7
4	245° 45'	381.9		156.8		348.1
5	261° 20'	235.1		35.3		232.4
6	284° 38'	150.6	35.0			145.7
7	302° 58'	330.8	180.0			277.6
8	275° 25'	131.2	12.1			130.6
9	250° 05'	526.6		179.3		495.1
10	245° 52'	1403.8		573.9		1281.0
11	261° 00'	1291.7		202.0		1275.8
12	242° 51'	375.8		171.4		334.3
13	192° 32'	493.1		481.3		107.0
14	251° 10'	409.2		132.1		387.3
15	268° 38'	396.3				
17	88° 38'	402.5				
18	37° 11'	140.2				
19	37° 11'	328.8				
20	96° 22'	100.6				

Calculation Book 1578 Folio 73

Scale 10 Chains to an Inch

Azimuth taken from AB. Field Book Vol: 5074 folio 43

Date of survey 5th December 1896

Surveyed and marked according to regulations

Iron pipes sunk on lines 1. 10 & 14. 5lks from stations shewn thus ©

Check'd & Chart'd 19-2-97

Examined P. A. Dowling 22nd Feb 1897

Plan Approved 22nd February 1897 [illegible]

J Pennefather Surveyor

Transmitted to the District Surveyor with my letter of the 31st Dec. No 96. 87

Prepared for proclamation 19th March 97 T.L.D.

Initialled Good 22-2-97

STANDARD TRACING PREPARED

R 5594 1603

Charted T.L.D. 22-3-97

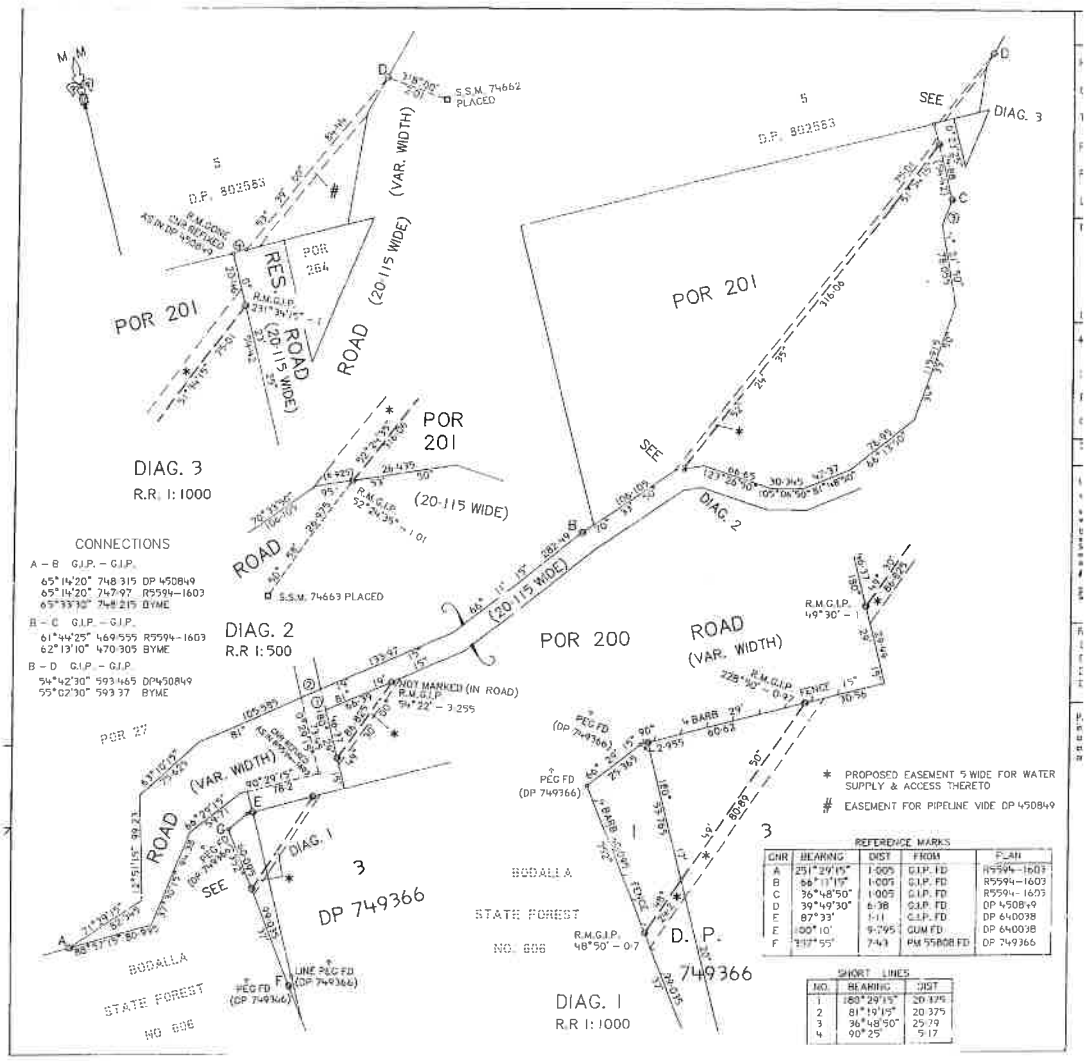
Plan R5594 is a road opening and closing survey. There are a number of amendments that appear to have been made to the plan after it was first completed. (The plan needs to be seen in colour to see these amendments). Number 16 to 20 in traverse table is in blue ink, Jed may have forgot to change pens or these traverse lines are an amendment to the plan. It appears the road at the south of portion 27 was going to be 20.115 wide. This would have left residue south of road. It appears the road has been changed to a variable width hence the blue numbers in the traverse table. It appears that some of the dimensions of the fenced boundary at the south of portion 27 are missing.

Also of note is the changes in details of road open closing particulars at the top part of plan "Boundary Road …tinted light blue" is ruled through . The southern part of boundary road between 27 & 200 may have been light blue but appears to have been changed to pale brown

The DP, shown below, dated 1992, is a plan for the creation of an easement. It shows three iron pipes Jed placed in R5591 and a comparison of the dimensions between them. The first comparison shows a difference in the distance of 0.25m (excess) over 750m. The distance between these two marks must be difficult to determine both from Jed's plan and on the ground. This easement plan and another recent survey show the distance according to R5594 as 747.97 or 748.0. Three new plans, in this area, show their measured distance as 748.1, 748.215, or 748.315,….take your pick!

The second comparison shown in the DP shows a 0.75m excess over 470m. The angular difference is about 10 minutes different than the first comparison.

The reason for these differences is hard to determine. Perhaps Jed was not always the 'perfect ' surveyor, perhaps the iron pipes have been disturbed.



CONCLUSION

With limited time and resources it has not been possible to do an in depth investigation in to the personal and working life of the Pennefathers.

Information on Gerald's personal life is difficult to find. Cecil's other interests, such as his writing and involvement in Bonalbo, would provide more documented information. An in depth investigation into their working life based on their survey plans would be possible. It would be interesting to see, if they still exist, the letters transmitted to the District Surveyors that accompanied each plan the Pennefathers produced (all surveyors in this era had to send such letters).

As seen in the examples of Jed's plans almost all of his surveys proved to be reliable and accurate. If Jed's plan shows a special mark and there is no apparent reason why it would be destroyed then it will be there.

Working with surveys produced by other previous land surveyors shows that, naturally, there is a range in the standard of their work. After working in an area for some time modern surveyors get to know the standard of work done by the surveyors who worked in the same area in the past. When examining old plans to be used in a new survey the name of a 'bad' surveyor on a vital plan often brings pessimistic thoughts, but this is never the case when Pennefather's name is on the bottom of the plan.

ACKNOWLEDGMENTS

The descendants of Gerald and Cecil. In particular David Pennefather of Townsville who has prepared a detailed documented family history.

Les Gardner & the Department of Lands staff who colour scanned the Pennefather plans (but it cost me $150)

The Institution of Surveyors NSW office for access to and photocopying of back copies of the Australian Surveyor.

Moruya Historical Society Inc

Mary Battis of Casino & District Historical Society Inc

Mary Ralston of West of the Range Historical Society Inc

REFERENCES

Bunaw:Lbu Bonalbo Compiled by Mary Ralston for the West of the Range Historical Society Inc 1987

Marking The Landscape Board of Surveyors of New South Wales

State Records Authority of New South Wales

The History of Surveying in N.S.W. by P.W. Beaver The Australian Surveyor June 1953