BORDER INCIDENTS NSW - SA

(Border Determination and ReSurveys)

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ABOUT THE AUTHOR

DAVID VINCENT completed the Surveyors Board Examination and was registered as a Surveyor on 20 March 1961 after early service as a Cadet Draftsman in Photogrammetric Division of the Central Mapping Authority (CMA) and five years under articles. Upon registration, was transferred back to CMA as a Trigonometrical Surveyor rising to Senior Trigonometrical Surveyor in 1970. In 1973, he transferred to Integration Surveys Division, Crown Lands Office (now Survey Control Branch, Land Information Centre).

Since 1961, he has been involved in mapping control, cadastral surveys, trigonometrical surveys and lately, control surveys of all types. Also during this time, he has resurveyed and remarked the NE, SE and NW corners of the State and been involved in Border matters generally.

Joined the Institution of Surveyors NSW Division as an Associate in 1961, becoming a Member in 1963 and elected to Fellow in 1985. After many years on Committee and, Vice President and Hon. Treasurer, was elected President of the NSW Division in 1987.

Since 1990, David has been involved with exemption requests from compliance to the Survey Practice Regulation 1990.

On 16 May 1994, he was presented with the New South Wales Service Medallion.

Involvement and member of the New South Wales Staff Surveyors Association since 1955.

BORDER INCIDENTS

Preamble

The purpose of this paper is to trace the efforts of early and not so early surveyors to determine and consequently redetermine the N.S.W. - South Australian Border from the Murray River to the 29th Parallel of Latitude (known as Cameron Corner). To give you the reader an idea of the timing of each event in the history of European Australia each significant event will be dated by year with other significant events also noted. For the events involving the author the detail of each survey will be given in greater detail, it is noted that a years arduous and important work is so often relegated to a bare few lines in official reports, and as a result personal insights and endeavours are lost.

1836

Malayan - born Colonel William Light, fifty, was appointed Surveyor General of the proposed colony of South Australia and on 24th December 1836 approved the site for Adelaide.

Major Thomas Mitchell left Orange, followed the Lachlan & then the Murray River to where it joined the Darling River then continued on to reach Victoria's Western District calling the country "Australia Felix".

19th February - His Majesty King William 4th by letters patent fixed the boundaries of the State of South Australia the relevant eastern boundary being the 141st meridian of East Longitude.

28th December - Governor Sir John Hindmarsh R.N. proclaimed the colony of South Australia.

1846

Ludwick Leichhardt reached Port Essington and returned to Sydney on the schooner "Heroine" on the 29th March, this was at the conclusion of his first expedition.

Major Mitchell's fourth expedition ends on a false triumphant note.

Survey commenced on the marking of the 141st meridian boundary by Mr. Henry Wade (NSW representative) and Mr. Edward White (S.A. representative) at a point 1 mile 42 chains 50 links from the western point of the mouth of the Glenelg River - thence running north to the banks of the Murray River where a large cairn of stones was erected on the Southern bank.

1864

George Dalrymple finds the Herbert River and establishes Port Cardwell (Queensland).

Frank and Alexander Jardine and Archibald Richardson drive cattle overland up Cape York.

In June 1864 the South Australian Surveyor General George Woodruff Goyder requested the Commissioner of Lands (SA) Charles Bunney to allocate funds for the definition of the eastern border from the Murray River to the 26th Parallel of Latitude.

On 15th December the Chief Secretary (S.A.) wrote to the New South Wales Colonial Secretary Henry Parkes (Later Sir Henry Parkes) suggesting a joint practicipation in a proposal to push the eastern province boundary onto the 26th Parallel.

1865

John McKinlay explores Arnham Land and recommends Anson Bay as a suitable site for settlement.

The Colonial Secretary replied to above maintained letter on 31st January to the effect that, although the proposal was not unfavourably received, suggested a desire to delay the venture until, with the use of telegraphic time signals a more accurate positioning of the 141st meridian could be made. This proposal was contained in a Department of Lands memo and a report by the New South Wales Surveyor General W.R. Davidson both of which accompanied the letter of 31-1-1865. The South Australian Surveyor General on being asked to comment stuck to his original proposal of producing the Victorian/SA border line northward.

1866

Peter Warburton discovery Lake Howitt and the Warburton River.

George Strong Nares begins the survey of the east and north-east coasts of Australia and Torres Strait in HMS Salamander.

The Chief Secretary A.C. Blyth (SA) forwarded to the Colonial Secretary of N.S.W. (19-6-1866) a memorandum by S.G. Goyder (SA) advocating the confirmation of the existing boundary line and its projection northward.

Assuming acceptance by the N.S.W. and Queensland Governments the Commissioner of Crown Lands (SA) instructed the Surveyor General to check the northern part of the completed survey south of the Murray and produce the Border northward.

Mr Surveyor Ebenezer MacGeorge duly carried out this work and produced the border northward for 60 miles (96 Kms) before having to abandon the work on 2nd November 1866. This abandonment was caused by a letter from the Colonial Secretary (NSW) to the Chief Secretary of South Australia (17-9-1866) reiterating the previous preference for a more accurate determination of the 141st meridian.

1868

Population of Australia 1,540,000. 9th January - The Sailing Ship Hougomont arrived in Fremantle with 279 convicts bringing to an end the days of transportation of British convicts to the colonies.

13th March. Prince Alfred, the Duke of Edinburgh, was shot in the back by Henry J. O'Farrell whilst attending a "Sailors Home" Picnic at Clontarf.

28th December. An Eastwood woman has discovered a new specimen of apple which appears to have great potential for cooking her name was Maria Ann Smith.

28th December. South Australian's Surveyor General George Goyder leaves Adelaide to form a settlement in the Northern Territory.

Mr. C. Todd, Observer and Superintendant of Telegraphs for South Australia and Mr. G.A. Smalley, Government Astronomer for NSW were directed by their respective Governments to obtain with the aid of telegraphs time signals, an accurate positioning of the 141st meridian at the Murray River as a starting point for continuing the boundary survey northwards.

These observations required considerable preparation by Messrs Todd and Smalley, as is evidenced by the copious amount of correspondence, and culminated with the taking of simultaneous star observations between the border and Sydney on the 9th and 10th May, and between the border and Melbourne on the 13th and 14th of May 1868.

The point chosen for the observation was 6½ Km north of the River Murray on the production of the Victoria - South Australian boundary (use was made no doubt of Surveyors MacGeorges survey of 1866). The longitude of this point was found to be 140° 57' 19".8 E. and its distance west of the 141st meridian put at 2 miles 44 chains and 68¼ links.

An obelisk was erected on the 141st meridian and during a later visit to the spot by Messrs Todd & Smalley in November 1868 was formally accepted by both on behalf of their respective Governments as being the Province Boundary.

This obelisk was described as a brick truncated stepped pyramid 13 feet 6 inches high and 5 feet 8 inches square at the footing with the words "Province Boundary" on the north and south faces, "NSW G.R. Smalley" on the east face and "SA Charles Todd" on the west face.

1869

Population of Australia 1,592,000

6th February. Mr. John Deeson and Mr. Richard Oates found the "Welcome Stranger" nugget weighting 2284 ounces at Moliagul, Victoria.

7th May. The Great Southern Railway between Sydney and Goulburn opened.

18th October. The Lithgow Zig Zag Railway was opened, the innovative line was the work of Mr. John Whitton the Engineer-in-Chief for the Railways.

18th November. The Suez Canal was opened - mail from London can now be delivered to Australia within 30 days.

Charles Sturt died aged 74 on 16th June.

A Parliament Paper (No. 182 of 1869) was published by the S.A. Government detailing the entire project of setting out the 141st meridian.

Correspondence during this year indicated that both States share the costs but the survey itself should be carried out by South Australia. Accordingly a letter was sent by the S.A. Chief Secretary on 19-7-1869 advising the Colonial Secretary of N.S.W. that a Surveyor had been selected and the survey would begin immediately.

Initial instructions for the border survey were issued on 3rd August 1869 by Deputy Surveyor General Arthur Cooper to Surveyor Thomas Evans, these covered aspects of the survey concerning clearing, azimuth control and latitude observations.

On the 11th August 1869 a second instruction was issued to Evans by Cooper concerning the marking of the survey and indicating that the origin of the border was to be the centre of the River Murray, further instructions concerned provisioning and the likely hazards to be encountered.

In a letter dated 13th September 1869 Evans indicated that the astronomical side of the work was beyond him and as the Deputy Surveyor General did not wish the work to proceed without adequate control he sent Surveyor William Pearson to replace Evans.

The problems encountered by both Evans and Pearson during the last months of 1869 - drought being the worst worry - led to Evans being invalided home and Pearson taking over on or about 8th October 1869. In relation to the lack of water one of the party reported.

"Washing our clothes was quite out of the question; only a very meagre allowance of water could be spared for the purpose of cleansing our faces and it was afterwards used for grinding our axes. The excitement for the day was in tossing up for the privilege of first wash. The last man had to contend himself with a very dirty wash."

He also reported on the following incident when supplies failed to arrive.

"The cook ... took the bones, which were horribly flyblown, mixed in the rice, the residue of pickles etc putting in a bucket of water and boiled all together. When the party of six hungry men came back for the evening meal, ... The soup was served and all went well till one of the men caught sight of what he thought was rice with black spots on the grains. The cook explained - 'I put in all the rice I had, thinking that you would not detect the difference .... 'The incident ended with a laugh and a tightening of belts."

Pearson took over at the 76th mile of the survey and from stellar observations taken on 23rd. October found no major blunders in the chaining and need for only a three minute bend in Azimuth to put the line on course. This was done between the 79th and 80th mile posts.

It may be opportune at this point to give a description of the instruments used and marking undertaken.

The alignment was carried out with a 5" Y theodolite and distance by Gunters Link chain. Observations were taken every 20 miles (32 Kms) with a 5" transit theodolite, stars at elongation being used for Azimuth.

The boundary line was marked by pickets each of which was surrounded by a mound not less than five feet in diameter, each alternate picket had trenches cut about 3 feet 6 inches long and 9 inches deep. Mile posts were inserted at every mile with trenches which were dug about 5 feet long and 9 inches deep and except where at the time the water was too deep to allow of such being done each post had a mound of from 8 to 10 feet in dimeter around it; each post had a zinc plate securely nailed on with copper nails, the broad arrow, the letters P.B. and the number of miles were cut on the plates the mileages being taken from the centre of the River Murray.

1870

Population of Australia 1,648,000
26th May. Captain Thunderbolt (Frederick Ward) was shot dead near Uralla by Constable Alexander Walker.

15th September. The first pole for the Overland Telegraph was erected in Port Darwin. South Australian Postmaster General Charles Todd was supervisor on the line running almost 2000 miles following John Stuarts track explored 8 years previously.

23rd August. British troops finally pulled out of NSW aboard the "Silver Eagle" the force comprised Royal Artillery and two companies of the 18th Regiment.

Pearson's party reached a point 200 miles 20 chains from the river on 15th January at this time the party was exhausted and returned to Adelaide following a recall from the Deputy Surveyor General.

From field notes it would appear work recommenced in April with Mr. E.A. Harris (Evans replacement) joining the party at the 212 miles post and continued with them to the 348 mile post.

By the 19th May they had passed the 282 mile post, the drought had broken, the horses were grazing on native grasses and wild fowl appeared in abundance.

On 28th June, at the 348 mile post stellar observations for Latitude giving a mean value of 28°57'50" confirmed that the 29th parallel had been reached and passed. It is to be noted that Pearson did not mark the 29th parallel this would be left to Mr. J.B. Cameron eleven years later.

From a perusal of the field notes all of the azimuth corrections, as he proceeded northwards, were clockwise suggesting that there was a small constant instrumental error causing the line to drift westwards. Another point evident from a perusal of line data and observation calculations is that the azimuth of the line appears to have been adjusted less than the elongation observations indicated that it should be.

The method of observing and the selection of the stars with rather large polar distances supports the view that the observations were made more as a precaution against blunders. The same can be said for the Latitude observations which were used to detect gross blunders in chainage.

The course of the border line is not straight but a compounding of a slight but constant drift westwards with occasional correction eastwards.

Based on the Australian spheroid (1966) the latitude and longitude values for the Obelisk and Cameron Corner are:-

	Lat	Long
Obelisk	33°55'51."6	141°00'05."6
Cameron Corner	29°00'02."2	140°59'52."9

These values mean that relative to the 1966 spheroid the border at the Obelisk is about 144 metres east of the 141st meridian and at Cameron Corner is approximately 192 metres west of the 141st meridian.

1880

Population of Australia - 2,232,000.

20th January - Captain Moonlite (Andrew George Scott) was hanged. A Phrenologist Mr. McGill who examined the Bushranger's head after the execution said the shape of his skull suggested he was devoid of all moral courage and found it impossible to tell the truth.

5th September - first meeting of the Salvation Army held in Adelaide's Botanic Gardens.

11th November - the Kelly era came to an end at 10.05 a.m. at Melbourne goal, Ned Kelly was captured on 28th June at Glenrowan.

The intersection of the 29th parallel of latitude with the 141st meridian was achieved on 30th September 1880 when John Brewer Cameron completed the 29th parallel survey from Barringun.

In the words of Cameron.

"I intended to erect a stone obelisk at the intersection with the South Australian bdy on a/c (sic) of there being no stone in the neighbourhood, I was obliged to erect a post 8 feet high with large mound".

The hardships of these early surveyors was again illustrated by Cameron.

"When at the 250 Miles post I sent one of the assistants Mr. B.C. Boys for mail and beef to "Fort Grey" and to get information re water etc, in the dark he (Boys) crossed the track leading to "Fort Grey" and meandered about the lower Cooper Creek flats for <u>three days</u> and nights without food or water until his horse died, he (Boys) then carried his saddle and mail bag and tracks east and struck a cattle track about 18 miles south of the station. When he got to the station Mr. Crozier kindly attended to him and lent him horses to return to camp with beef and mail".

1911

Population of Australia - 4,455,000
2nd January - The Commonwealth Government assumed control of the Northern Territory from South Australia.

1st May - As of today, one penny will be the uniform cost of sending a letter to anywhere in the Commonwealth of Australia, United Kingdom and other destinations within the Empire.

18th November - Parramatta pilot Mr. William Hart became the first qualified pilot in Australia. He is also credited with the longest flight in the southern hemisphere when he flew from Penrith to the Sydney Showground a distance of 47 miles.

2nd December - The first Australian Polar expedition led by Adelaide scientist Douglas Mawson left Hobart for Macquarie Island.

In 1911 immediately prior to the opening of the "disputed boundary" case in the High Court between South Australia and Victoria, a party was sent from Adelaide to determine the distance between the SA - NSW Boundary and the disputed SA - Vic. Boundary. The fixing of Todds Obelisk was first checked from a temporary observatory set up at the Obelisk and connected by Telegraph to Sydney and Adelaide.

Obervations were taken between 10th and 21st February 1911 and the longitude of Todds Obelisk calculated to be 141°00'03."9, at the completion of the observation the Obelisk was repaired.

The party comprised George Frederick Dodwell, Government Astronomer, Henry Jacob, Government Surveyor, Frank James Burgoyne, telegraph operator, Hurtle Willsmore S.A. Observatory staff and --- Condon, Survey Department Cook.

The height of the truncated pyramid had been lowered and some time after the observation a stone top was placed and engraved with the names
G.F. DODWELL
H. JACOB
F.J. BURGOYNE
1911.

This configuration of the pillar in 1911 was and is today
1.25 m x 1.25 m at the base and 0.61 m x 0.60 m at the top.
It is 2.05 m high.

Other than cadastral surveys abutting the Border during the period 1870 - 1960 no work of a border refixing kind occurred until 1969.

1969

Population 12,407,000.

3rd June - The Australian aircraft carrier HMAS Melbourne collided with and cut in half the US Destroyer Frank E. Evans with the loss of seventy four sailors.

29th November. Broken Hill saw the opening of the standard guage rail line stretching from Sydney to Perth.

17th March. Brisbane is Australia's first state capital to receive natural gas from the Moonie oilfields.

At the meeting of the National Mapping Council in Adelaide S.A. on 8th to 10th April 1969 the Surveyors General of South Australia, H.A. Bailey Queensland, A.B. Yeates, and New South Wales, L.N. Fletcher agreed on a suggestion by the Surveyor General of S.A. that the point at Latitude 29°, longitude 141° the point common to the three states, should be adequately marked in a similar manner to the Northwest corner of South Australia.

In consequence of the above, arrangements were made to verify and restablish if necessary the boundary mark placed by John Cameron in 1880 and erect thereon a monument to specification supplied by the South Australian Lands Dept.

A party to carry out the necessary surveys and construction work, compared of personnel from the N.S.W. and Queensland Lands Departments and the Broken Hill Water Board was organised and Mr David Vincent, Trigonometrical Surveyor of the NSW Lands Department placed in charge of operation. Assisting him were:

From N.S.W. Lands Dept.
Mr. G. Phillips - Assistant Trigonometrical Surveyor.
Mr. R. Duggie, Fieldhand.

From Queensland Lands Dept.
Mr. D. Barsby, Surveyor.
Mr. M. Gale, Assistant Surveyor.
Mr. P. Little, Field Assistant.

From Broken Hill Water Board.
Mr. J. Battle.

The N.S.W. element of the party assembled at Broken Hill on Tuesday 6th May 1969. On Thursday 8th May the party with two landrovers and trailers departed Broken Hill and arrived in the evening at "Fort Grey" Shearers Quarters, their base for operations. Approximately the same journey took the explorer Sturt nearly 3 months in 1844-45 and his Depot Glen where he was imprisoned because of drought conditions for six months lies about 60 miles to the South East of "Fort Grey" homestead.

John Camerons original boundary post was located but because of previous bull dozing activities in the area it appeared to have been disturbed.

Re-establishment was made by a reliable connection from an astronomical station (E208) mile by the Royal Australian Survey Corps in April 1961 which marking had remained undisturbed. Connection were made to mile posts found on Camerons (1880) traverse of the 29th parallel (NQ280 and NQ276) and also to the 348 Mile post on
Mr. W. Pearson's traverse of the 141st meridian (1870).

No reliable connection was made to the Geodetic traverse station T1/7139 as the main mark was not found, however, a connection was made to the centre of a circular locksplit found Stellar observations (Trianguli Australis) were made for azimuth comparison.

The Queensland party assisted in locating marks and effected an independent traverse without distance measurement.

Wild T2 Theodolite and Model 6 Geodimeter were used for angle and distance measurement respectively (this compares with the 5 inch Y type theodolite and Gunters chain used in the original SA border (1869 - 70) survey.

A new concrete monument was erected as per specification on the old position of the boundary post placed by Cameron. The concrete pipe was topped by a plate indicating the positions of the States (prepared by the South Australian Lands Dept). A name plaque on the sides of the monument showing the name "Cameron Corner" and the names of the Ministers for Lands and the Surveyors General of the three states was prepared by the Public Works Dept. N.S.W. The marking and survey tasks were completed on 14th May 1969.

In conjunction with an inspection of wild dog fences along state boundaries a ceremony was arranged for the official unveiling of the monument on 11th June 1969 by the Hon. T.L. Lewis M.L.A., Minister for Lands NSW, Hon. V.B. Sullivan M.L.A., Minister for Lands Queensland and Hon. D.N. Brookman R.D.A. M.P., Minister for Land South Australia. Also present were L.N. Fletcher Esq. Surveyor General of NSW, A.B. Yeates Esq. Surveyor General Queensland and GHC, Kennedy Esq. Surveyor General of South Australia.

The place was officially gazetted the name "Cameron Corner" by the Geographical Names Board of NSW on 27th June 1969.

1985

Population 15,901,000
17th August - Final preparations are made to cut formal legal links with the United Kingdom.

26th October - The Australian Government hand over the title deeds to Ayers Rock (Uluru) to the Mutitjubu people.

2nd November - Australia's first Formula One Grand Prix took place in Adelaide.

Victoria celebrates its 150th Anniversary.

An approach was made by the Acting Surveyor General (S.A.) Donald Morrison Grant to the Acting Surveyor General (NSW) Charles Robert Champion about the reinstatement of the NSW/SA Border together with a draft agreement between the Surveyors General regarding redeliniation of the Border in its original position.

1987

Population 16,384,000
5th February Dennis Conner skipper of "Stars and Stripes" successfully regained the America's Cup from Iain Murray and "Kookaburra III". The series of races was sailed off Fremantle.

30th April. Dick Smith became the first person to reach the North Pole by solo helicopter.

The resurvey of the section from the Murray River northwards to just north of Cockburn (229 Kms) was commenced by the South Australian Lands Dept. The Surveyor in charge was Mr. John Joseph Kean.

Because of almost total lack of original marking the need to accurately locate the existing fence was realised which resulted in fence offsets being taken every 100 metres with permanent marks being placed about every 1½ Kms. Where secondary NSW cadastral marks were found these were also surveyed. (No cadastral marks were placed on the border in consequence of cadastral surveys on the S.A. side).

The fence being accurately located was plotted and the border fixed by 13 best fit lines with the secondary marks being ignored.

On advice from Mr. Kean the surveying procedure for the N.S.W. survey was amended with offsets to the fence only needed every 1 Km to 1½ Km and less permanent marking.

The time taken for the 227 Km survey was about 440 man days this based on 3 man with 2 cars for 147 days. A total of 145 permanent border reference marks were placed.

In contrast the NSW section of 327 Kms took 242 man days this based on 22 men with 11 cars for 11 days.

1988

Population in Australia 16,672,000
26th January - Australia celebrates it's Bicentennial.

9th May - Queen Elizabeth II opened the new Australian Parliament House in Canberra.

14th March. The "Sun" Newspaper ceased publishing in N.S.W. after seventy seven years.

On Monday 5th September 1988 a reconnaissance of the Border was commenced which lasted for four days from 7th to 10th September the personnel being D.A.K. Vincent, Senior Surveyor, G.M. Aide, Surveyor, and R. Dudley Field Assistant. Three nights were spent on the border utilising "flying camps".

Two 4WD, long wheel base vehicles were used extra water and fuel etc being transported, a Royal Flying Doctor portable radio was also carried for emergency use.

A full description of this reconnaissance is contained in Appendix A.

Suffice to say that from visual inspection only 3 certain mile posts (225, 226 and 228m) were found and 3 possible mile posts were found (266, 284 and 304m) no other ground level marks were found. Fencing then was to play a significant part in the reinstatement of the border.

The conditions along the 327 Kms of the border driven were very good with plenty of ground cover and evidence of recent rains this contrasted sharply with the extremely dry conditions experienced in 1969 replacing "Cameron Corner" post.

Following this reconnaissance a report was prepared recommending and endorsing Mr. Jack Kean's proposed division of the project into 3 segments.

(a) The border traverse survey.
(b) The cadastral boundary survey.
(c) The emplacement of monuments on the adopted border itself this report also provided a costing for the resurvey of the border based on two observing parties, one target party and one marking/clearing party with 4 x 4WD vehicles.

Accommodation would be "flying camps" - caravans and total field time estimated at 8 weeks, the total cost was estimated at $33500 this was for the traverse - part of the survey.

In a subsequent report 1989 the Surveyor General sought and received approval to complete the Border Survey as envisaged by Kean with a total cost of $110,000.

As this money was only approved for the 1989 - 90 Financial Year the urgency to complete the traverse/marking was apparent, this leads to the events in 1990.

1990

Population 17.169,000
13th February - Carmen Lawrence became Australia's first female Premier (W.A.).

13th August - Australian troops left for the Persian Gulf. Four hundred sailors have been despatched on the HMAS Brisbane, Adelaide Success, Darwin and Sydney.

On 26th February - Pillar Construction Overseer B. McGillivary and Field Assistant T. Utakea commenced the permanent marking of the border 13 Km north of Cockburn of thirty seven deep driven rods/State Survey marks each of these marks will have two unique numbers, one being the South Australian number and one the SSM number the pairs of permanent marks were placed approximately 10 Kms apart or at cadastral boundaries. It is noted that the first 40 Kms were already marked with SSM's having been surveyed in 1980 (Mundi Mundi cadastral surveys).

On the 5th March 1990, D. Vincent and R. Cubis left for Broken Hill to organise and report on accommodation, access and logistics for an 11 party assault on the border. 7th, 8th and 9th were spent on the access and times required to reach the Border from Broken Hill and Tibooburra, returning to Sydney on 10th March.

The time map is shown in Appendix B.

From 12th to 16th March briefing and issue of instructions were given to all survey personnel, this indicated essential contact numbers and names and phone numbers of all property lessees on the NSW side of the border.

This then brings us to the actual survey which commenced on Monday 19th March with most parties departing Sydney/Bathurst for the drive to Broken Hill.

The survey was under the overall control of David Vincent (1)* R.S. with the field operations being controlled by Roger Cubis (1) R.S. (Tibooburra) and Basil McCann (4) R.S. Broken Hill the survey parties under Roger Cubis were:-

Chris Starkey (1)
Julian Kwasnica (1)
Tony Duffy (3)
Greg Aide (1)
John Cassidy (1)
and under Basil McCann (4)
Greg Cross (2)
John Sutton (2)
Peter Gilson (4)
Punkadj Bamola (2)

Each party had one field assistant.

(1) Staff from Survey Control Branch - Sydney, Pt. Macquarie and Wyong.
(2) Staff from Land Information Centre - Bathurst.
(3) Staff from Land Information Centre - Murwillumbah.
(4) Staff from Crown Lands Service - Metropolitan and Nowra.

For the survey each party had a total station with PC/down loading facilities at Broken Hill and Tibooburra.

In order to maintain compatibility for all parties the following observing and Survey routine was implemented.

1. 3 rounds (H) (Total Stn.) (6 rounds H if T.2).
2. Measure E.D.M. every line both ways.
3. HI and HR to be taken always.
4. Measure and book (record) all offsets and connctions to mm.
5. Always point south for initial R.O. (for border).
   Always point west for initial R.O. (for cadastral E.W.).
6. Observe and book magnetic reading for every line and offset.

7. Pick up for plotting - intermediate E.W. fences - all E. cadastral boundaries will be traversed.
8. A traverse station must be placed or adopted near cadastral boundaries.
9. Each party to start and finish on a pair of SSM's (and measured both ways).
10. All original survey marks found to be referenced by marks in concrete.

The survey proper began on Wednesday 21st March. for Broken Hill parties and Thursday 22nd March for Tibooburra parties and was completed on Monday 2nd. April with all personnel returning to Sydney etc by Wednesday 4th April. Each party were allocated about 35 Kms of border with relevant cadastral E. boundaries. A daily journal was also required and one from John Cassidy is attached (Appendix C). A common theme in all the journals is flies, heat, shimmer, the ever present dust and punctures.

As can be imagined the survey was a tribute to all personnel who not only had to carry out the survey itself but had is some cases to travel up to 400 Kms a day with the consequent long days in the field.

The compilation and preparation of the survey plans of the border was given to Roger Cubis who over the next 2 years (off and on) completed a very tedious and complicated redefinition of not only the border but on all the cadastral boundaries adjoining.

The task of checking azimuth on the completed survey was given to a GPS survey (in 1991) which occupied six pairs of SSM's as shown in Appendix (D), in addition a series of daylight star observation for azimuth was also carried out by John Judge from L.I.C. Bathurst.

The redefiniton of the border from Cockburn to Cameron corner was based on secondary cadastral marks found, primary marks found and fence lines observed and connected, in most cases the fences (especially the "dog" fence) has followed the same line for it least 90 years with earlier (1880's) reports suggesting most fence lines have maintained this configuration with the original survey marks.

Finally we come to the final "incidents" (to date) on the border.

1993

On 25th January 1993 - the Deputy Surveyor General (NSW) Mr. Paul Kelly met with Mr. Chris Lunnay and Mr. Jack Kean (S.A.) to finalised the redefinition of the common border.

At that meeting among other items identified was that both States have adopted each others definition of the border, detail of the signature box to be added to the final plans and the placement of two prominant border marks with appropriate plaque to commemorate the redetermination and the location of the two border marks - one at Cockburn and the other near Wentworth.

The plans were finalised by each State and preparations for the signing and unveiling of the plaques began.

Meanwhile on the 6th and 7th April 1993 Jack Kean (S.A.) placed a G.I.P. and spike on the border at Cockburn and Renmark/Wentworth road crossing respectively and forwarded copies of locality sketch plans (Appendix E).

In early May following preparation of two plaques and top plates
Mr. Harry Border - Pillar Construction Overseer and Mr. Robert Hammill - Field Assistant (Cockburn) and Mr. William McGillivary - Pillar Construction Overseer and Mr. Bruce Hall Field Assistant (Wentworth - Renmark Rd.) constructed the concrete pillars and associated works in preparation for the official unveiling.

This brings us to the final "incident" which took place on the 28th May 1993 at Cockburn when in the presence of Land Information Centre Staff, South Australian Department of Lands Staff including now retired Surveyor Mr. Jack Kean, The member for Eyre, Mr. G. Gunn.

M.P. local Broken Hill dignitaries including Gov. Departmental Officers and the Lord Mayor and the entire population of Cockburn - Burns, the plaque was unveiled by Mr. Don Grant and Mr. Chris Lunnay, Surveyor General of N.S.W. and South Australia respectively.

It is of interest that one of the attendees was Mr. Joe Battle, the same person who assisted in the placement of the pillar at Cameron Corner in 1969.

On completion of the unveiling ceremony a lunch was provided by Ross and Barbara Gibson owners and operators of the "Bordergate Truck Stop" -(across the road from the pillar) during which the plans of the border and a Declaration of Border Determination (Appendix F) were signed by the Surveyor's General.

No doubt further incidents of a border nature will occur in the future I have been priviledged to have taken some part in past incidents.

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1788 - 1988 - (Unpublished) by David Taylor 1993.

Parliamentary Paper No. 182 South Australia on the "Boundary of New South Wales and South Australia" by Charles Todd, Superintendent of Telegraphs S.A.

The Victorian Historical Magazine - September 1926 Vol. 11 No.2
"South Australia Boundary and its Surveyors" by A.S. Kenyon C.E.

"Australian Boundaries" (1933) by F.W.S. Cumbrae - Stewart
K.C. D.C.L.

Report of an Expedition to ascertain the Position of the 141st Degree of East Longitude, being the Boundary Line between New South Wales and South Australia by C.J. Tyers, Surveyor 1840.

Report on the South Australia - New South Wales Border by J. Kean South Australian Surveyor (Departmental report).

Surveys of the Eastern Boundaries of the Province of South Australia - by W.A. Winton - Licensed Surveyor MSAIS. Published in the Dec. 1946 - March 1947 "The Australian Surveyor".

Various Departmental reports from NSW and South Australia.

APPENDIX A

SURVEY CONTROL BRANCH

N.S.W./S.A. BORDER RECONNAISSANCE

1. During September 1988 the reconnaissance of the S.A./N.S.W. Border was completed from Cockburn to Cameron Corner.

1.1. Personnel:

D.A.K. VINCENT	Senior Surveyor
G.M. AIDE	Surveyor
R. DUDLEY	Fieldhand.

2. 1 Logistic Support:

2x4 WD vehicles (long wheel base)
5x20 Lt. water cans.) Courtesy
4x20 Lt. "jerri" cans.) R.A.S.C.
1 car fridge
Camp gear
Food etc.
1 R.F.D. portable radio (for emergency use).
Maps, plans, photographs (aerial).

3.1 Daily Log.

Monday 5th-Sydney to Nyngan (travel).
Tuesday 6th-Nyngan to Broken Hill (travel).
Wednesday 7th-Broken Hill to Border commence Recce.
Thursday 8th-Border
Friday 9th-Border
Saturday 10th-Border to Cameron Corner-Tibooburra-Broken Hill.
Sunday 11th-Free day
Monday 12th-Broken Hill to Dubbo
Tuesday 13th-Dubbo to Sydney

4. Findings arising from Reconnaissance.

4.1. Scrub cover - clearing.

4.1. 1 From the end of the S.A. Traverse (SSM 50500) at the S. Western corner of lot 4784 to the north west corner of lot 4781 (40 Kms) virtually no clearing is required (this line was traversed in 1980 all traverse stations-steel rods in concrete-were found.

0 to 39.9 Km.

4.1. 2 North of Lot 4781-through Lot 4598 to Northern boundary of Lot 587 a distance of approx. 25 Kms. scrub and small trees will have to be cleared for most of this section. Two boundary fences are extant about 5 metres apart. Clearing between these fences would be appropriate.

39.9 Km to 64.9 Km.

4.1. 3 at the north boundary of WL 587 to Cameron Corner (262 Kms) little or no clearing is required as both sides of the Vermin proof fence is regularly cleared by the Wild Dog Destruction Board.

64.9 Km to 327.0 Kms.

5.1. Access

5.1. 1 From Cockburn a good track exists on the South Australian side of the border to at least the border gate (New Quinyambie) 117 Kms north of Southern boundary of Lot 4784.

5.1. 2 from this gate best running is along the N.S.W. side of border to Cameron Corner (210 Kms).

5.1. 3. Fair access tracks to the border from the east & crossing, north of Cockburn are listed hereunder (mileages refer to 0.0 at S. boundary Lot 4784.)

1. Mundi Gate at 7.3 Km
2. Gate at 23.7 Km
3. "Mulga Valley" at 58.2 Km
4. "New Quinyambie" Gate at 117 Km
5. "Brougham Gate" at 123 Km
6. "Pine View" at 138 Km
7. Turleys Gate at 171 Km
8. "Old Quinyambie" Gate 192 Km
9. Smithville Gate 208 Km
10. Hawker Gate 241 Km
11. Munkartie Gate 275 Km
12. "Whitecatch" Gate 301 Km
13. Cameron Corner Gate 327 Km

These gates are not locked several other border gates are available and will be of use in cadastral connections. Only one border gate was observed locked that being at mileage 199.6 on Cathajerry Plain.

5.1. 4. The track from Cockburn to Cameron Corner can be driven in two wheel drive vehicle, care is needed on sand hill crossings in the northern portion. Four wheel drive vehicles however are essential for off track operation. In common with the far western part of the state as little as 10 mm of rain can close all dirt roads, this would make vehicle access very difficult along the border.

5.1. 5. Petrol is available at Broken Hill, Packsaddle and Tibooburra (Packsaddle cash only). However such could be arranged at Smithville (208 Kms) which is the field headquarters of the Wild Dog Destruction Board. Stores and food are also delivered to Smithville from Broken Hill. Broughams Gate House (123 Km) could also receive stores, supplies and petrol in drums.

6.1. Cadastral Marks (N.S.W.)

6.1. 1. No cadastral boundary marking on the border was located, a more thorough search however may locate marks on the southern part of the border. Of the area under the control of the Wild Dog Destruction Board constant bulldozing and grading of the NSW & SA side of the border most probably has destroyed the witness marks-searches carried out failed to find these witness marks.
Although not specifically searched the marks easterly along the east-west boundaries of the lots have a reasonable chance of being extant. Connections to the border can then be made which will confine the search area at the border.

There are 30 cadastral boundaries connecting to the Border.

7.1. Border fencing.

7.1. 1. From the northern boundary of lot 4785 to the northern boundary of lot 4781 (0 Km to 40 Km) mostly new wire fence is found. However in places there are two to three fences in evidence.

7.1. 2. From mileage 40 Km to 65 Km there are two fences about 5 m. apart the newer fence being wire only. (No mesh).

7.1. 3. From the 65 Km. mark a new wire fence is in course of erection for 6.5 Km, the new fence will be 1 m west of the present vermin fence.

7.1. 4. From the 71.4 Km mark to Cameron Corner (327 Km) there exists only one fence (2.4 m approx high), it is in reasonable to good condition, for most of the distance it appears to have followed the original fence.
There are a few deviations but all appear to return to the original line. The deviations are caused by "lakes"and sandhills.
These deviations are listed.

87.8 to 88.4 (WL 3782).
163.8 to 167.4 (WL 3460 - Starvation Lake).
212.0 to 214.0 (WL 3457 - Lake Boolka).
238 to 240.0 (Hawker Gate WL 2555).
292.3 to 292.8 (Sturt National Park).
300.4 to 300.8 (Sturt National Park).
301.5 to 303.4 (White Catch House WL 2553-Big Ben Sandhill).
308.0 to 308.7 (Sturt National Park).
317.0 to 317.9 (Sturt National Park).

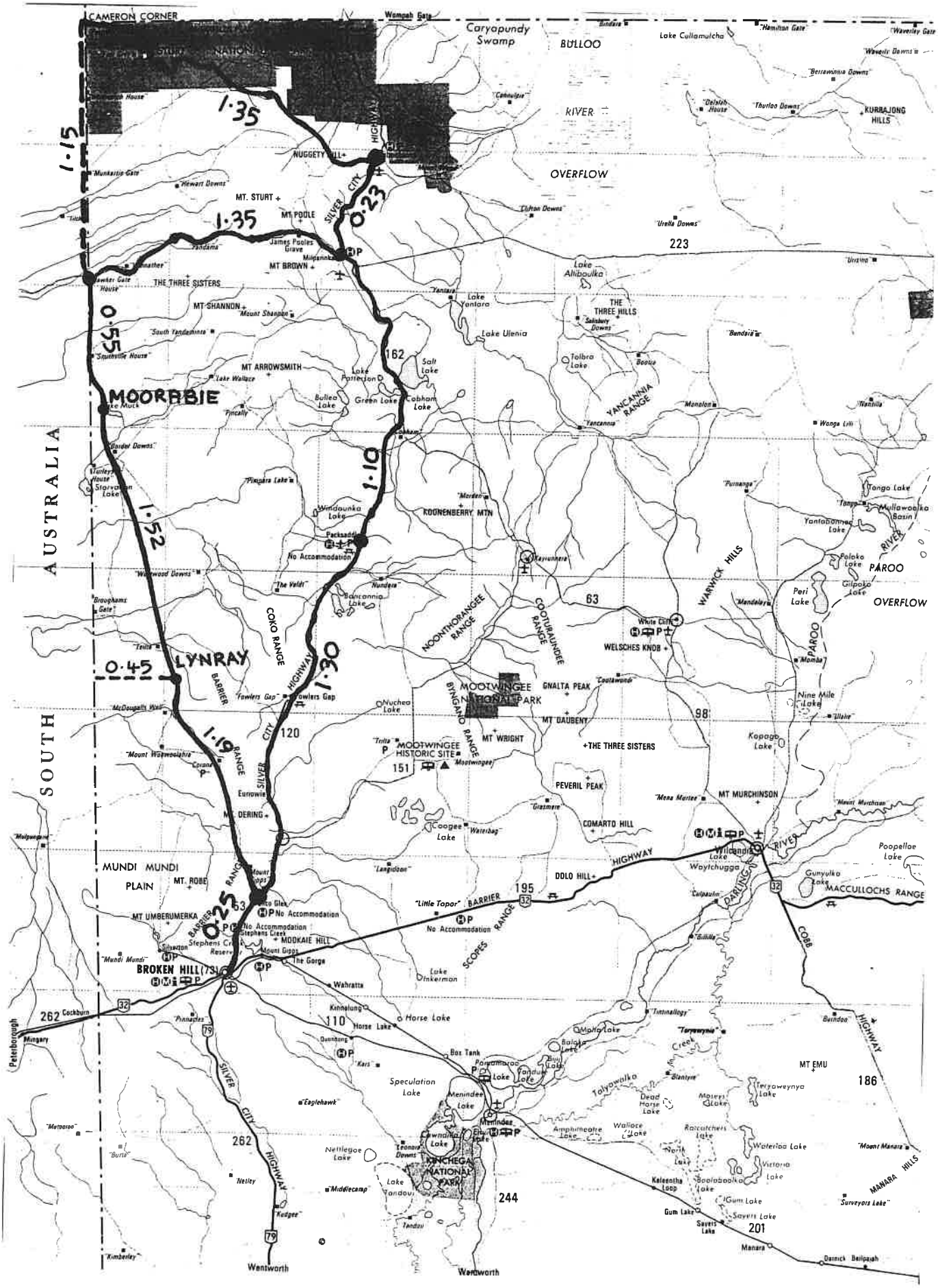
8.1. Cadastral/Border marking

8.1. 1. Three certain miles posts 225, 226, 228 and three possible posts 266, 284, 304 were found and painted yellow, a witness ("Feno" mark) was placed at 225 miles post. These posts were on the existing vermin fence line.

9.1. Geodetic Control

9.1. 1. Only one mark of the T series (South Aust.) traverse was found -T 27134 RM only fd. A detailed search for each may locate other marks (from observation and comments on the recovery diagram any above ground markers were lost in 1969) as without distance measure marks will be extremely difficult to find.
No search was made of the marks inside South Australia.
From about the 75 Km mark the range at Mount Woowoolahra was seen. 22 Kms to the east.
At the northern western corner of WL 4781 (40.0 Kms) Mt. Robe can be seen. 31 Kms to the east.
If GPS operations are planned in the area it would be advantageous to fix Burns Astro, Cameron Pillar and a point midway (near Turleys' Gate) between Burns & Cameron.

APPENDIX "B"


CAMERON CORNER
Wompah Gate
Caryapundy Swamp
BULLOO
Lake Cullamulcha
Hamilton Gate
Waverley Gate
RIVER
KURRAJONG HILLS
OVERFLOW
NUGGETY HILL
MT. STURT
MT. POOLE
SILVER CITY HIGHWAY
MT BROWN
THE THREE SISTERS
MT SHANNON
MT ARROWSMITH
MOORABBIE
LYNRAY
AUSTRALIA
SOUTH
Lake Yantara
Lake Ulenia
Lake Alibouka
THE THREE HILLS
Salt Lake
Lake Patterson
Bullea Lake
Green Lake
Cobham Lake
YANCANNIA RANGE
Yancannia
Monolon
Wanilla
Wonga Lill
Tango Lake
Mullawoolka Basin
Yantabonnee Lake
RIVER
PAROO
Peloke Lake
Gilpoke Lake
OVERFLOW
Peri Lake
Mandelyra
WARWICK HILLS
Windaunka Lake
KOONENBERRY MTN
Packsaddle
No Accommodation
Kayenneira
Nundora
Bancannia Lake
COKO RANGE
COOTABUNDEE RANGE
NOONTHORANGEE RANGE
63
White Cliffs
WELSCHES KNOB
Momba
BARRIER HIGHWAY
Fowlers Gap
MOOTWINGEE NATIONAL PARK
GNALTA PEAK
Coutawunda
Nuchea Lake
BYNGANO RANGE
MT DAUBENY
98
Nine Mile Lake
Ulake
MOOTWINGEE HISTORIC SITE
MT WRIGHT
+THE THREE SISTERS
Kopago Lake
151
PEVERIL PEAK
Mena Murlee
MT MURCHISON
Mount Murchison
Eurowie
MT. DERING
Coogee Lake
Waterbag
COMARTO HILL
Willcania
RIVER
Poopelloe Lake
MUNDI MUNDI PLAIN
MT. ROBE
Langidoon
DDLO HILL
HIGHWAY
Waytchugga
Gunyulka Lake
MACCULLOCHS RANGE
DARLING
"Little Topar"
BARRIER
195
MT UMBERUMERKA
No Accommodation
Stephens Creek
Stephens Creek Reserve
MOOKAIE HILL
SCOPES RANGE
COBB
Mundi Mundi
BROKEN HILL (73)
Mount Gipps
The Gorge
Lake Tinkerman
Wahratta
Kennelung
Horse Lake
110
Quandong
Box Tank
Pomamaroo Lake
Yandama Lake
Bimbi Lake
Speculation Lake
Menindee Lake
Menindee
Lake Tyrrell
Talyawalka
Dead Horse Lake
Mosers Lake
Terrawewnya Lake
MT EMU
186
Waterloo Lake
Victoria Lake
Boolaboolka Lake
Kaleentha Loop
Gum Lake
Sayers Lake
201
Manara
Mount Manara
Surveyors Lake
MANARA HILLS
Cockburn
Peterborough
Mungary
Pinnacles
262
Eaglehawk
Metaroo
Burra
Nettlegoe Lake
Leonora Downs
KINCHEGA NATIONAL PARK
Lake Tandou
Tandou
Middlecamp
Nelley
Kedgee
Kimberley
Wentworth
244
Swanwater
Yandama
James Pooles Grave
Mulgunnia
Hawker Gate House
Mount Shannon
Southville House
Lake Wallace
Lake Muck
Pincally
Garden Downs
Tarilpa House
Storrendon Lake
Pinnigara Lake
Wilgewood Downs
Broughams Gate
The Veldt
Tenita
McDougalls Well
Mount Wareowishia
Corona
Mount Hopes
Mount Gipps Reserve
Silverton
Mundi Mundi
Malgunguna
Wilson Glen
Pinnacles
Metaroo
Burra
Nettlegoe Lake
Nelley
Middlecamp
Kedgee
Kimberley
Wentworth
Tandou
Lake Tandou
Leonora Downs
Cawndilla Lake
Eleu Lake
Menindee
Lake Menindee
Amphitheatre Lake
Wallace Lake
Raccatchers Lake
North Lake
Gum Lake
Sayers Lake
Surveyors Lake
Manara
Darnick Beilpajah
Tintinnalogy
Tarrawenya
Buindoo
Creek
Blantyre
Mosers Lake
Terrawewnya Lake
Waterloo Lake
Victoria Lake
Boolaboolka Lake
Kaleentha Loop
Gum Lake
Sayers Lake
Manara
Mount Manara
Surveyors Lake
MANARA HILLS
HIGHWAY
Buindoo
Tintinnalogy
Tarrawenya
Creek
Blantyre
Mosers Lake
Terrawewnya Lake
MT EMU
186
Waterloo Lake
Victoria Lake
Boolaboolka Lake
Kaleentha Loop
Gum Lake
Sayers Lake
201
Manara
Mount Manara
Surveyors Lake
MANARA HILLS
Darnick Beilpajah
1·15
1·35
1·35
0·23
0·55
1·10
1·52
1·30
0·45
1·19
0·25
223
162
120
63
98
151
195
32
79
262
110
244
201
186

APPENDIX "C"

DAILY JOURNAL
OF
SOUTH AUST. – N.S.W. BORDER SURVEY
BY JOHN CASSIDY

Mon 19 March, 1990

Departed Clovelly 0700 Hrs, picked up Fieldhand at Strathfield travelled to Nyngan, arriving 1640 Hrs. 519 Kms travelled.

Tues 20 March, 1990

Departed Nyngan 0730 Hrs, travelled to Broken Hill, arriving 1400 Hrs. Arranged gear and received job instructions. 625 Kms travelled.

Wed 21 March, 1990

Departed Broken Hill 0800 Hrs, purchased Jerry Can at Broken Hill then travelled to Tibooburra arriving 1500 Hrs. Had a flat tyre half way which I had repaired at Whiteheads store, Tibooburra for a $20.00 charge. Accompanied R. Cubis to Ranger Headquarters to see what arrangements would suit N.P.& W.S. staff with regard to using their compound for fuel and stores. It was decided to use fuel from their gravity feed above ground tank and reimburse them at the end of the job, rather than pump from 44 gallon drums. 346 Kms travelled.

Thurs 22 March, 1990

Departed Tibooburra 0700 Hrs. Accompanyed R. Cubis and T. Duffy on reconnaissance of border starting at Cameron's Corner. Assist in selection of traverse stations for T. Duffy's section. Returned to Tibooburra arriving at 1840 Hrs, 399 Kms travelled.

Fri 23 March, 1990

Departed Tibooburra 0630 Hrs, travelled to Hawker Gate with R. Cubis. Selected traverse stations South to Smithville Gate. Started traversing with 6 stations occupied, some lines selected were too long for the conditions after about 1000 Hrs which forced me to break long lines in half, giving two short lines of about 1,500m when I could have observed up to 2,200m. Note the ET-1 was capable of measuring more than 3,000m but you couldn't see the target because of haze. It would have been preferable to select traverse stations as you go. Returned to Tibooburra arriving at 1930 Hrs, 371 Kms travelled.

Sat 24 March, 1990

Departed Tibooburra 0645 Hrs, travelled to Smithville Gate area and traversed 7 stations. Returned to Tibooburra arriving at 1830 Hrs, 390 Kms travelled.

Sun 26 March, 1990

Day of rest.

Mon 26 March, 1990

Departed Tibooburra 0630 Hrs, travelled to Smithville Gate area and traversed 7 stations. Very windy conditions with a lot of sand in the air, making observations difficult. Returned to Tibooburra arriving at 1830 Hrs, 366 Kms travelled.

Tues 27 March, 1990

Bob Hammil travelled to Broken Hill today to pick up Greg Aide, so I asked him to purchase a coolite water bottle and two freezer blocks whilst there, as one water bottle is only just enough to last 2 men a day in the conditions encountered at the border. Departed Tibooburra 0645 Hrs, travelled to Smithville Gate area and traversed 8 stations. Returned to Tibooburra, arriving at 1900 Hrs, 370 Kms travelled.

Wed 28 March, 1990

Found flat tyre first thing in the morning, changed tyre and took flat to Whiteheads Store for repair. Had to wait for Mr Whitehead to have his breakfast and ablutions before he would fix the tyre. $20.00 charge for plug in tyre, puncture caused by a piece of bone. Departed Tibooburra 0900 Hrs, hit full grown Emu on way to Border causing minor damage (broken indicator lamp on bull bar) but would have been much worse if the vehicle was not fitted with a bull bar. Traversed 5 stations then returned to Tibooburra, arriving at 1830 Hrs, 309 Kms travelled.

Thurs 29 March, 1990

Departed Tibooburra 0630 Hrs, travelled to Border and traversed 7 stations. Today was even windier than Monday, and around midday could almost be described as a sandstorm, very poor observing conditions. Returned to Tibooburra arriving at 1800 Hrs, 345 Kms travelled.

Fri 30 March, 1990

Departed Tibooburra 0630 Hrs, travelled to Border and traversed 7 stations. Returned to Tibooburra arriving at 1805 Hrs, 400 Kms travelled.

Sat 31 March, 1990

Departed Tibooburra 0630 Hrs, travelled to Border and connected 284 post. Laid in and found iron spike and peg on Northern boundary of WL 3457. Searched for reference marks at Border on Southern and Northern boundaries of WL 2556. Returned to Tibooburra arriving at 1610 Hrs, 359 Kms travelled.

Sun 1 April, 1990

Played 25 over game of Cricket with Tibooburra locals, who were so worried they split us up. The team comprising C Starkey, G Aide, T Duffy, R Woodward, R Spinks, myself and various locals won by a large margin, with the score being 10 for 152 against all out for 98.

Mon 2 April, 1990

Departed Tibooburra 0830 Hrs, travelled to Mt Wood station at invitation of N.P.& W.S. Ranger then continued on to Broken Hill arriving at 1600 Hrs, 391 Kms travelled. Met with Southern group for discussions about job. Fixed Basil McCann's problem with the field book program.

Tues 3 April, 1990

Departed Broken Hill 0830 Hrs, travelled to Trangie arriving at 1630 Hrs, 673 Kms travelled. Ran out of fuel 5Km north of Trangie, luckily we had a Jerry Can of fuel.

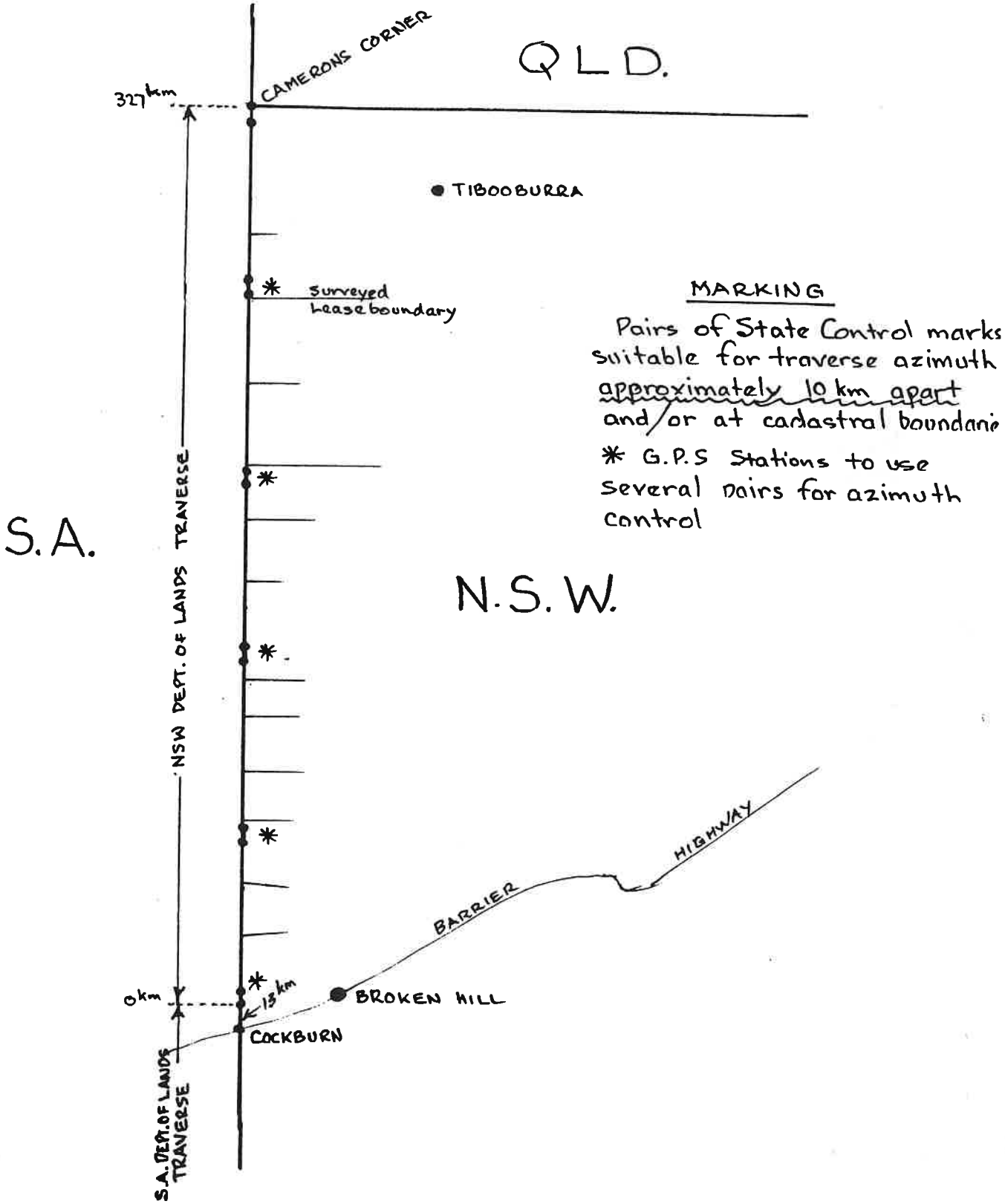
Wed 4 April, 1990

Departed Trangie 0800 Hrs, travelled to Sydney arriving at 1530 Hrs, 492 Kms travelled.

APPENDIX "D"

N.S.W/S.A. BORDER SURVEY

SECTION: COCKBURN TO CAMERONS CORNER
APPROX. 327km



FAX : SHEET 3 OF 3

APPENDIX "E"

PM's and SSM's placed under Survey Practice Regulations 12 and 55B are required to have a Locality Sketch Plan lodged with the Deposited Plan at The Land Titles Office.

D.P. .....

PM .....

SSM .....

Description LONG GI PIPE
E. 499 990.
N. 6 450 750.

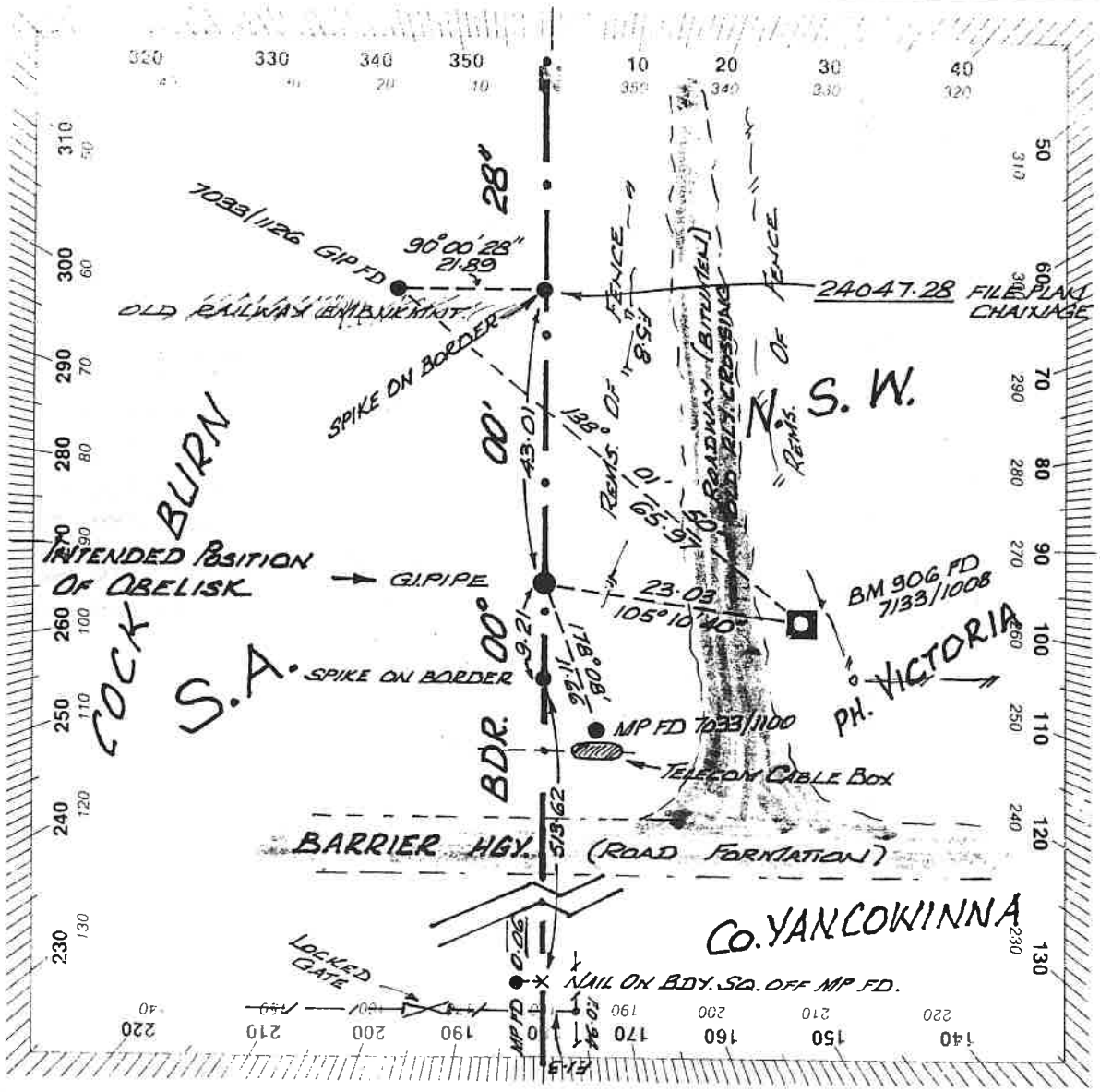
LOCALITY SKETCH PLAN FOR BORDER OBELISK

Parish ..... County ..... Town/Suburb/Locality ON BARRIER HIGHWAY

Municipality or Shire ..... C.M.A. Map Sheet .....

Measurements are in metres

Zone ..... / AMG



GIP
Organization placing Marks ..... S.A. DEPT OF ENV. & LAND MNGMT.

Ref. SHEET 16 OF FILE PLAN 29412

The Surveyor General is to be notified of ISG/AMG Co-Ordinates and/or AHD Levels determined by survey for mark placed.

I certify that the Mark or Marks have been placed and numbered as detailed hereon.

PM .....

SSM ..... GIP Mark placed 6 / 4 /1993

Replaces PM .....
SSM .....

S.O. 2019

0.06
1.45

FAX.: SHEET 2 OF 3

PM's and SSM's placed under Survey Practice Regulations 12 and 55B are required to have a Locality Sketch Plan lodged with the Deposited Plan at The Land Titles Office.

D.P. .....

PM/SPK

SSM .....

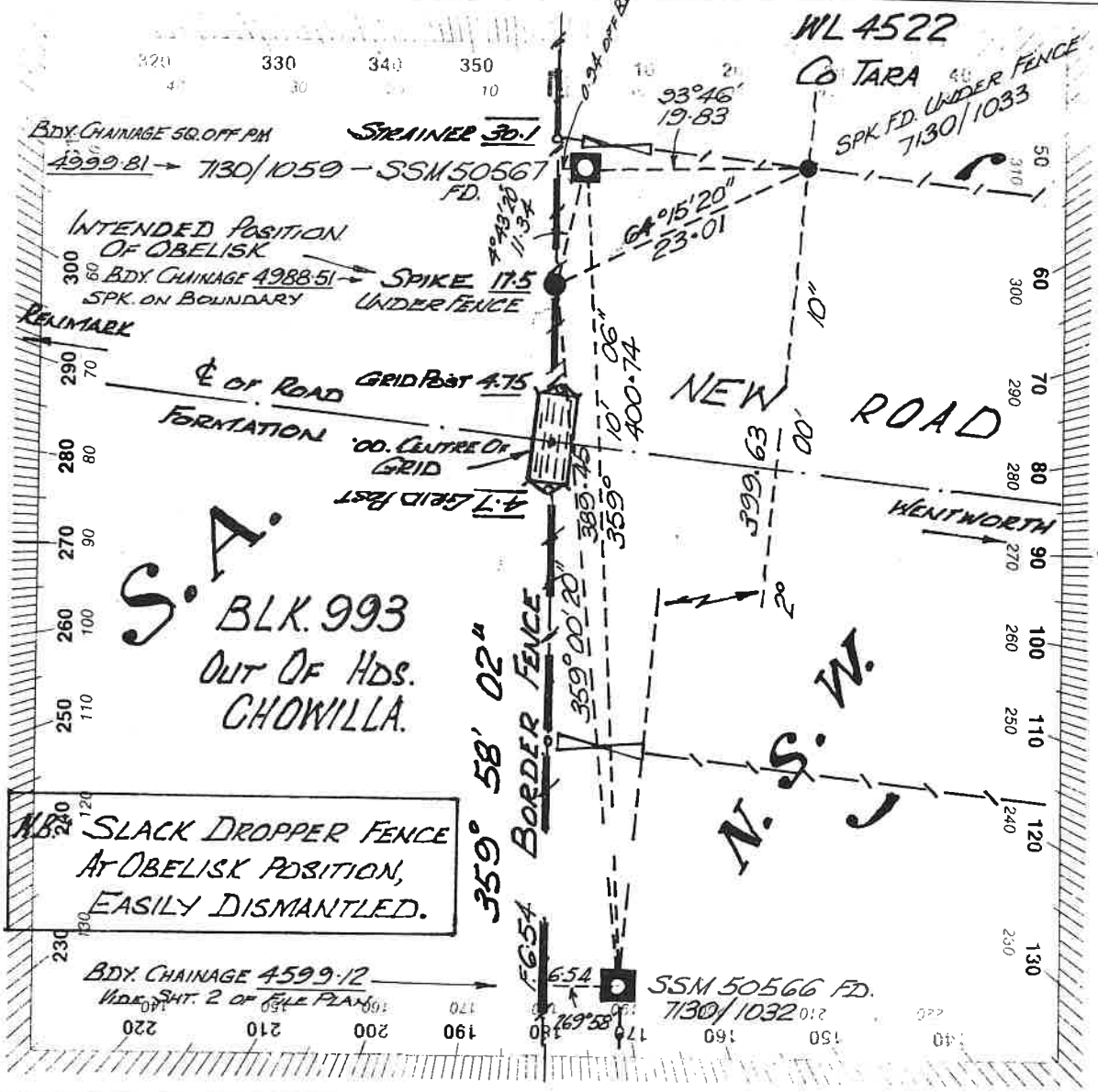
Description SPIKE 9 INCH.
E. 500 150.
N G 250 480.

LOCALITY SKETCH PLAN FOR BORDER OBELISK

Parish ..... County ..TARA..... Town/Suburb/Locality ON RENMARK ROAD.

~~Municipality or Shire~~ ..... C.M.A. Map Sheet .....

Measurements are in metres Zone ..54../ AMG



Organization placing Marks ....S.A. DEPT OF ENV. & LAND MNGMT.

Ref. ....FP 29412 (SA PLAN) SHEET 2.

The Surveyor General is to be notified of ISG/AMG Co-Ordinates and/or AHD Levels determined by survey for mark placed.

PM/SPK

SSM .....

I certify that the Mark or Marks have been placed and numbered as detailed hereon.

Signature .....

SPK ~~Mark~~ placed 7 / 4 /1993

Replaces PM .....
SSM .....

S.O. 2019

APPENDIX F

SOUTH AUSTRALIA - NEW SOUTH WALES

BORDER DETERMINATION

After completing a joint investigation and resurvey of the common boundary between New South Wales and South Australia, the Surveyors General of both States have redetermined the position of the border.

The section of border redetermined starts at the River Murray and proceeds generally northwards, on or about the 141° East meridian of longitude, to Cameron Corner at the intersection point of the New South Wales and Queensland border.

The lines adopted for the border follow as closely as possible, using remaining historical evidence, the original position as determined by Smalley and Todd in 1868 and subsequently adopted by the Colonies of New South Wales and South Australia as their common boundary.

Survey marks found, current occupations on or near the border, the position of the border and marks placed during the resurvey are shown on plans FP29412 (South Australia) and RP4617 (New South Wales).

Promulgated this day, 28th May 1993.

C W LUNNAY
Surveyor General
of South Australia

D M GRANT
Surveyor General
of New South Wales