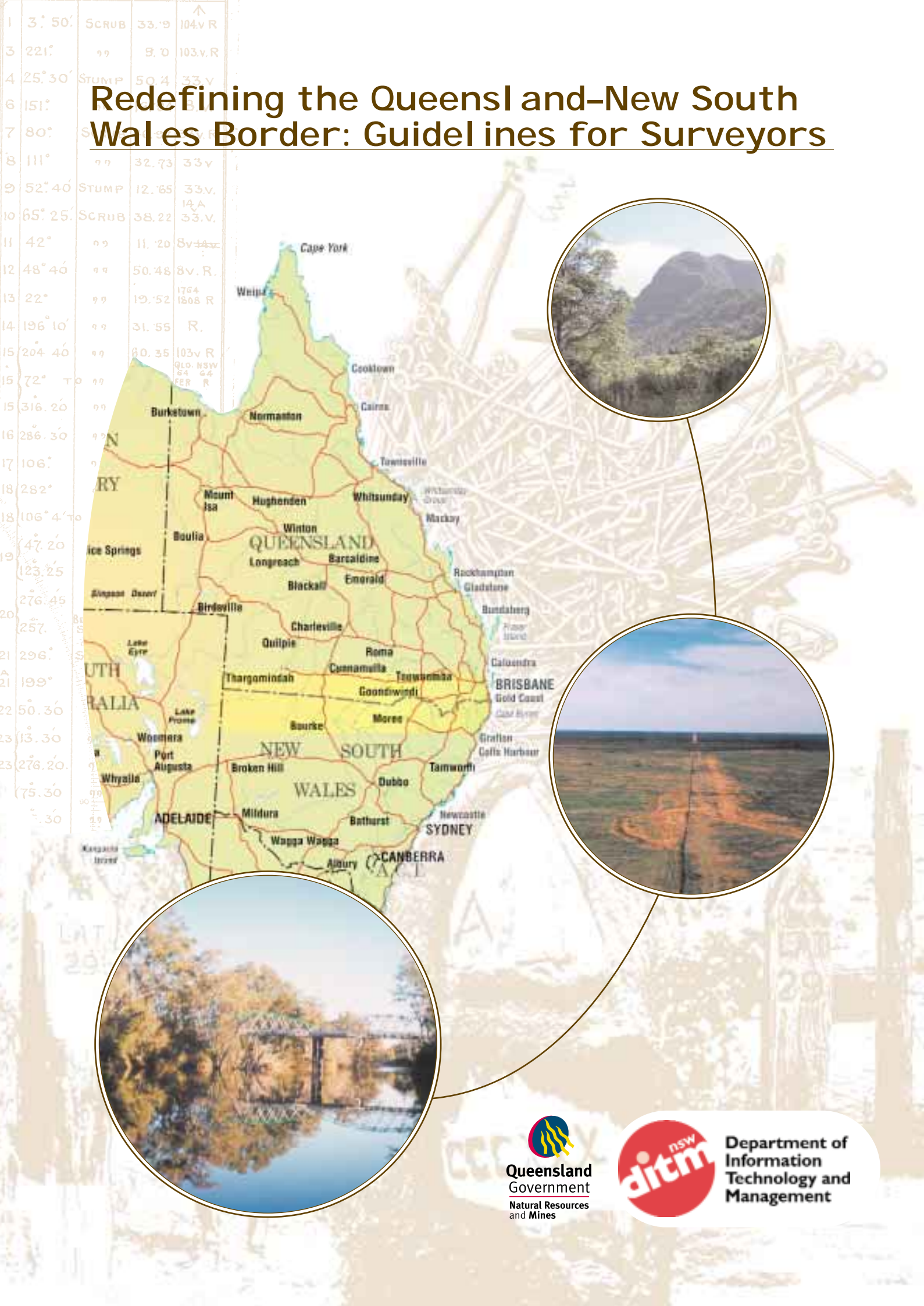
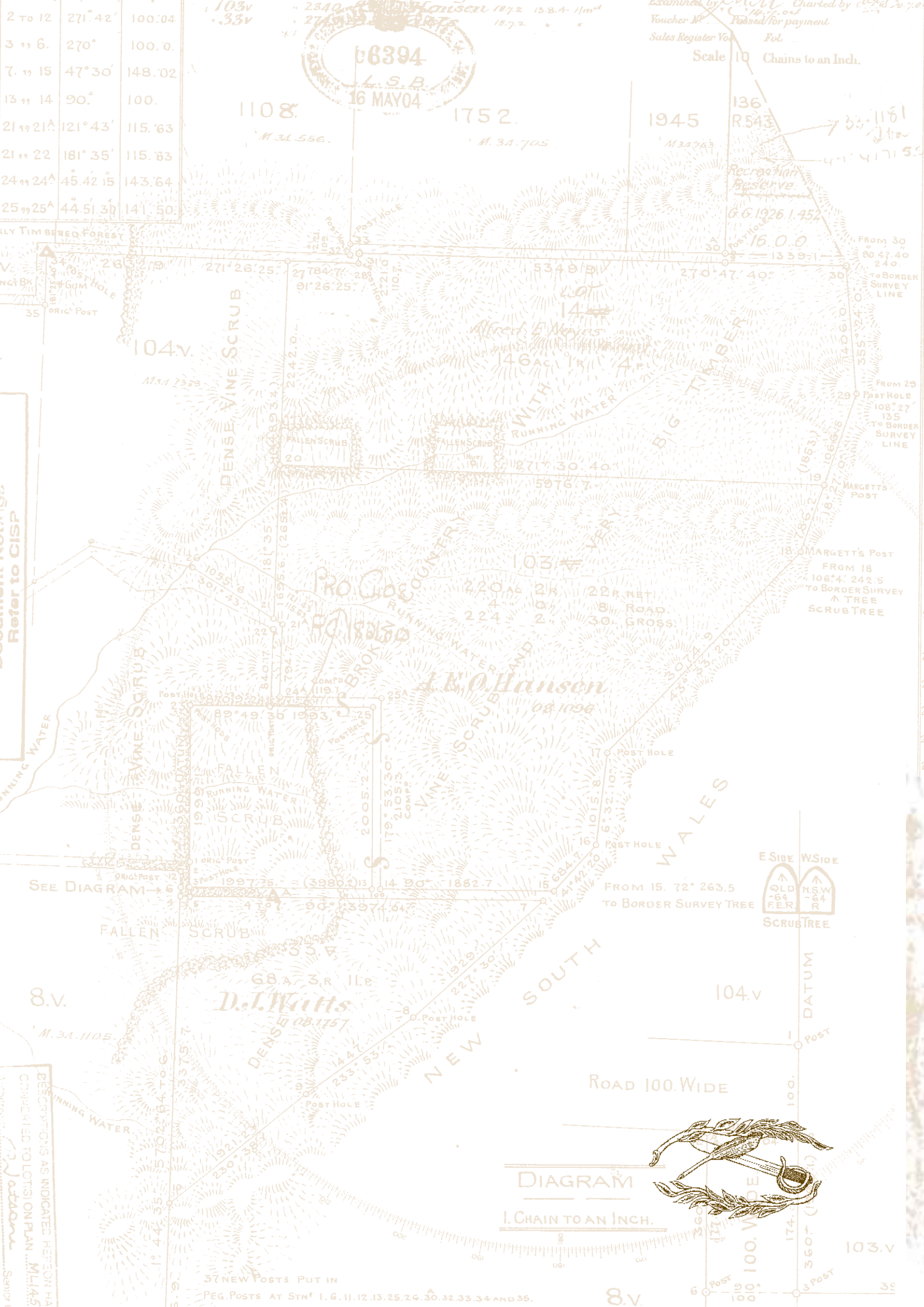


Redefining the Queensland-New South Wales Border: Guidelines for Surveyors



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**Redefining the Queensland–New South Wales
Border: Guidelines for Surveyors**

Year 2001

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Contents

| | |
|--|----|
| Foreword | iv |
| Acknowledgments | v |
| 1. Introduction | 1 |
| 2. Border description | 1 |
| 3. History | 1 |
| 3.1 The Gladstone colony | 1 |
| 3.2 J. D. Lang's new colony | 2 |
| 3.3 The final decision | 2 |
| 3.4 The surveys | 3 |
| 4. Legal framework | 8 |
| 4.1 Relevant statutes | 8 |
| 4.2 Relevant legal documents since Federation | 10 |
| 4.3 Case histories | 11 |
| 5. Boundary definition guidelines | 14 |
| 5.1 Watershed | 14 |
| 5.2 River section | 14 |
| 5.3 Latitude 29°S | 14 |
| 6. Survey requirements | 15 |
| 7. Approval process for border definition | 15 |
| Appendix 1: Instructions to surveyor I. Rowlands (NSW) | 17 |
| Appendix 2: Instructions to surveyor F. E. Roberts (Qld) | 18 |
| Appendix 3: Copy of Queensland plan ML 145 | 19 |
| Appendix 4: John Cameron's abbreviated report | 20 |
| Appendix 5: Proposed survey of Portion 122—CP No. 83–10 | 22 |
| Appendix 6: Portion 122 Parish Terranora, County Rous | 23 |
| Bibliography | 24 |

Foreword

There is a saying ‘good fences make good neighbours’. This may apply as much to the demarcation of State borders as it does to suburbia. Some would argue that the border is the most significant cadastral boundary in the State, yet it seems to be the one that is known with least precision.

One hundred and forty years ago, surveyors painstakingly undertook the task of marking the border on the ground, in accordance with the letters patent of Queen Victoria. They endured the hardships imposed by subtropical rainforest and waterless deserts, rugged mountain terrain and vast featureless plains, while working at extreme distances from civilisation, family and the comforts of home. Through their efforts, they have left a valuable legacy to today’s generations.

This publication provides both an authoritative reference for information on the history and legal aspects of the establishment of the border and guidelines for present-day surveyors needing to determine its location with confidence. The need for these guidelines has been clearly demonstrated in recent years as the pressure of land development and land use has encroached onto areas adjacent to the border that previously were considered ‘out of the way’.

A small team consisting of surveyors from both State jurisdictions, with help from legal advisors, has worked diligently to produce this document. We believe this will provide a valuable reference, not only for surveyors, but also for anyone with an interest in the Queensland–New South Wales border. The team has done an excellent job. We would recommend this book to surveyors and others when considering the redetermination of the Queensland–New South Wales border.



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1. Introduction

The purpose of this document is to provide guidance and advice to cadastral surveyors for defining the position of the border between Queensland and New South Wales. A brief history on the formation of the border provides both a historical perspective and resource information. Legal aspects and boundary definition guidelines are included to assist surveyors in providing consistent and defensible boundary determinations along the border. The process for the registration and lodgment of plans is also outlined.

2. Border description

Letters patent dated 6 June 1859 separated Queensland from New South Wales, pursuant to section 7 of the *New South Wales Constitution Act 1855*, published in the *London Gazette* of 6 June 1859. The *New South Wales Government Gazette* proclaimed the establishment of the new colony of Queensland and described the boundaries of the new colony on 1 December 1859. The *Queensland Government Gazette* followed on 10 December 1859. The letters patent described the border separating Queensland and New South Wales as follows:

...Now know you, that we have, in pursuance of the powers vested in us by the said Bill and Act and of all other powers and authorities in us that behalf vested separated from Our Colony of New South Wales and erected into a separate colony so much of the said Colony of New South Wales as lies northward of a line commencing on the sea coast at Point Danger, in latitude about twenty-eight degrees eight minutes south and following the range thence which divides the waters of the Tweed, Richmond and Clarence Rivers from those of the Logan and Brisbane Rivers, westerly to the dividing range between the waters falling to the east coast and those of the River Murray following the great dividing range southerly to the range dividing the waters of Tenterfield Creek from those of the main head of the Dumaresq River following that range westerly to the Dumaresq River and following that river (which is locally known as the Severn) downwards to its confluence with the Macintyre; thence following the Macintyre River which lower down becomes the Barwan [sic] downwards to the twenty-ninth parallel of south latitude, and following that parallel westerly to the one hundred and forty first meridian of east longitude which is the easterly boundary of South Australia together with all and every the adjacent islands, their members and appurtenances in the Pacific Ocean: and do by these presents separate from our said Colony of New South Wales and erect the said Territory so described into a separate Colony to be called the Colony of Queensland.

3. History

In 1822, Commissioner Bigge, who had been sent from Britain to report on the state of the colonies of New South Wales and Van Diemen's Land made recommendations, one of which suggested that penal settlements be established at points around the Australian coast. These included Moreton Bay, Port Curtis and Port Bowen. John Oxley inspected the first of these sites in 1823 and as a result, a penal settlement was established at Redcliffe on Moreton Bay in 1824. This eventually led to the formation of a new colony from the northern part of New South Wales. Some years later, in 1839, Lord John Russell, Secretary of State for the Colonies from 1839 to 1841, proposed that a new colony be established in Australia for the purpose of transportation and secondary punishment. Sir Richard Bourke, the then Governor of New South Wales, endorsed his suggestion. Lord Stanley, who succeeded Lord John Russell as Secretary of State for the Colonies (1841–1845), was also in favour of a new colony in north Australia as this would enable the Government to send liberated convicts to this colony after discharge. There, with comparatively little aid from the Government, they would be able to maintain themselves by the cultivation of lands assigned to them for that purpose. In 1842, the Imperial Government passed an Act for the Government of New South Wales and Van Diemen's Land in which provision (s 5.1) was made to partition the territory of New South Wales, provided always that no part of the territories lying southward of 26°S be detached from the said colony (5 & 6 Vic.c.76, see section 4).

The Moreton Bay District was established under the 1839 Squatting Act. The definition of the district, reported in the *New South Wales Government Gazette* of 10 May 1842 was as follows, and determined, for the first time, the bounds of the district in terms of natural features:

Bounded on the south by the ranges which separate the sources of the rivers Brisbane and Logan from those of the Richmond and Clarence; on the west...

This eventually became the southern boundary of the new colony of Queensland.

3.1 The Gladstone colony

In 1845, Lord Stanley, once again pressured by the large number of pardoned convicts in Van Diemen's Land, reinitiated the idea of a north Australian colony. When Mr Arelian Ewart Gladstone succeeded Lord Stanley in 1846, he lost no time in translating the theory of North Australia into actual fact. Colonel Barney was appointed as Lieutenant Governor of North Australia in the *London Gazette* of 8 May 1846. In September 1846, Barney set out in the *Cornubia* on a preliminary cruise along the coast to discover the best site for the settlement of North Australia. Port Curtis was chosen and the official party landed there in January 1847. The first *Government Gazette of North Australia*, issued on 30 January 1847, proclaimed that all land lying north of 26°S should be known as North Australia. In a letter dated 6 October 1846, Deputy Surveyor-General to the Colonial Secretary, S. A. Perry, wrote that he had directed 'Mr. Warner in the Northern District to proceed to trace the watershed of the Brisbane and Boyne Rivers, a certain distance on each side, and having ascertained the principal sources of the latter river to trace it down to the 26th parallel of latitude, then to run that latitude to the coast etc.'. In a further letter dated 12 October 1846, Perry assigned 26°S as 'being the parallel assigned for the Northern boundary of this Colony [New South Wales]'. Warner carried out Perry's instructions and, at 26°S, a tree on Barambah Creek, marked on four sides, appears on his plan (M107664) of 1846. When the Peel government was replaced by the Russell government in 1846, Stanley's policy on the renewal of transportation was abandoned, and Earl Grey (Secretary of State for the Colonies 1846–1852) issued instructions that the new settlement be abandoned. On 9 May 1847, the *Thomas Lowry* headed back to Sydney with most members of the settlement on board.

3.2 J. D. Lang's new colony

The Presbyterian clergyman, John Dunmore Lang was prominent in colonial political life and was a strong advocate for Protestant immigration to Australia. He was also an advocate for the separation of Moreton Bay and Port Phillip Bay settlements from New South Wales. In 1847, Reverend J. D. Lang visited England to promote Protestant emigration to New South Wales, and particularly to Moreton Bay. One of his main objectives was the separation of the Moreton Bay and Port Phillip Bay districts from New South Wales, and their erection into distinct and

independent colonies. In an interview with the Select Committee of the House of Commons he postulated that the colony needed free-labour, Protestant-farmer types. In that year, 1847, Lang published a work entitled *Cooksland, in North Eastern Australia, the Future Cotton Field of Great Britain*. During the next three years, Lang remained in England and was able to influence the drafting of 'An Act for the better Government of Her Honourable Majesty's Australian Colonies 1850' (13 & 14 Vic.c.59). Section 34 of this Act allowed for Her Majesty to erect into a separate colony, territories that lay northward of 30°S provided a petition was received from the inhabitants of that area.

In 1855, the squatter government of New South Wales (annoyed by Lang's insistence that the foregoing section be inserted into the Imperial Act of 1850, which saw the southern boundary of any new colony as 30°S) had inserted the following proviso into the Constitution Act of 1855:

Provide that always that nothing herein contained shall be deemed to prevent Her Majesty from altering the boundary of the colony of New South Wales on the north as to Her Majesty shall seem fit.

By the insertion of this proviso, the squatter government hoped that the southern boundary of any new colony proposed would not be fixed at 30°S as proposed by Lang. This would, of course, have positioned the Queensland–New South Wales border just south of Grafton. During the 1850s the debate continued, with numerous petitions being presented to the home government in England both for and against a new colony north of latitude 30°S.

3.3 The final decision

When Sir William Denison became governor of New South Wales in 1855, he was not in favour of a new colony north of 30°S. In this matter, he was backed by the squatter class of New South Wales.

On 11 November 1856, Denison informed Henry Labouchere, the Secretary of State for the Colonies (1855–1858), about resolutions of the Legislative Assembly of New South Wales regarding separation of the Moreton Bay district and recommended a boundary:

Starting from Cape Danger and following the range of hills which now separate the district of Clarence River from that of Moreton Bay, it should continue along the ridge forming the boundary of the basins of the Richmond and the Clarence until it reaches the Parallel of 29° of south latitude, along which it should continue westward till it reaches the meridian of 141° East...

In a petition to the Queen, dated 26 November 1856, from Henry Buckley, John Richardson and Gordon Sandeman, members of the Legislative Assembly of New South Wales for the northern district of the colony, it was suggested that:

...the agitation recently got up against the thirtieth parallel as the proper boundary of the two conterminous colonies, has originated chiefly with persons residing considerably southward of that parallel, and particularly with non-resident proprietors in Sydney holding extensive pastoral runs with large flocks and herds in the northern districts, who find that their social and political influence in Sydney would be seriously compromised and diminished if these districts were separated from New South Wales.

Over the next few years the debate continued as to the location of the boundary, but in 1859 Denison and his supporters won the day, and on 6 June 1859 a new colony, Queensland, was proclaimed by letters patent.

3.4 The surveys

The border has three components: the watershed from Point Danger to the Dumaresq River; the river section known in part as the Dumaresq, the Macintyre and the Barwon; and the 29th degree of south latitude. The parallel of latitude and the watershed sections have been surveyed. The river section did not require survey as it is a natural and readily identifiable feature.

The watershed survey from Point Danger to the Dumaresq River

In 1862, the Colonial Secretary of New South Wales wrote to his counterpart in Queensland to initiate a joint survey of the boundary line of the two colonies from Point Danger west to the Dumaresq River (formerly known as the Dumaresque) in accordance with the letters patent. Surveyors Isaiah Rowland from New South Wales (see figure 1) and Francis Edward Roberts from Queensland (see figure 2) were chosen for the project. They were instructed by their respective surveyors-general to survey a practical line of demarcation on the earth's surface, being the colonial border from Point Danger to the Dumaresq River as assigned by the letters patent (see appendixes 1 and 2).

Surveyor Roberts' instruction from the Queensland Surveyor-General, A. C. Gregory, states that, in order to define the watershed, the boundary should be marked 'as a succession of straight lines of as great a length as practicable without altogether departing from the watershed summit of the Range'. Gregory goes on to say that 'both surveyors should

separately observe the angles and measure the lines with their own instruments'. Rowland's instructions from his surveyor-general were less specific, but Roberts later complained in 1864 that Rowland's lines were 'inconveniently short'.



Photo courtesy V. Robbison

Figure 1: Isaiah Rowland



Photo courtesy John Oxley Library

Figure 2: Francis Edward Roberts

The surveyors met at Point Danger in June 1863 to start their survey. It was reported that they got on well together at first as Roberts says in his official correspondence, 'I am happy to say my colleague, Mr Rowland works very amicably with me'. This state of affairs did not last very long, as a few months later, Roberts, in a letter to his surveyor-general, stated that he could not find many of Rowland's marks and that the marks he did find were not made in a 'workman-like manner'. He also stated that he could not coincide with Mr Rowland's measurements.

Both Roberts and Rowland used a Gunter's chain for measuring their distances. When comparisons have been made between Roberts' distances and later adjoining cadastral surveys, invariably excess has been found. This excess has varied from one to four links per chain. Initially, both men used a circumferentor (compass) for direction, but Roberts later went back on Gregory's instruction and read theodolite angles along the total length of the traverse, from Point Danger to the Dumaresq River.



Figure 3: Roberts' Station 1375

Starting from Point Danger in 1863, the surveyors marked a rock with their initials, a colony abbreviation and the last two digits of the year. This rock mark was lost at the turn of the century, probably when Point Danger was quarried. Angles in the traverse were marked with posts or cairns of rocks (see figure 3) or trees (see figure 4). Where a tree marked the angle in the traverse, the shield faced the relevant colony. Where the corner was a post or cairn, reference trees were surveyed. Where a tree marked the angle in the traverse or was used to reference the angle, every fifth station was branded with a broad arrow (↑) and station number; every tenth station with a broad arrow (↑), station number, initials of surveyors, a dash (-) and the last two digits of the year of survey, e.g. (1250 FER-66). All the other trees were marked

with a broad arrow (↑) only. Although two separate surveys were carried out, in many instances both surveyors used the same tree to mark the corner (see appendix 3).

Rowland finished his survey in 1865 and Roberts finished his in 1866. The field notes for the last section of Rowland's survey have been missing for many years and it is believed that these records were destroyed in the Garden Palace fire of 1883.

Examination of the original field notes reveals that Roberts and Rowland did not consistently traverse the same lines, and consequently have in part defined the border in different positions. From the commencement of the survey at Point Danger to Roberts' station No. 449, (located near Richmond Gap, north of the town of Kyogle), Roberts' and Rowland's surveys do not correspond. From Roberts' station No. 450 to station No. 1231, the surveys align, except for the occasional additional station of Roberts. From Roberts' station No. 1232, to the completion of the survey at the Dumaresq River, it is unclear if the surveys coincide as Rowland's field notes have been lost or destroyed. Why Roberts and Rowland did not survey a common boundary for the entire length of the watershed is a mystery.



Figure 4: Station CCCXXX

There is documented evidence of instances where surveyors Roberts and Rowland deviated from the exact definable position of the watershed in the course of their surveys. It appears that Roberts deviated in order to maintain longer traverse lines, as indicated by this communication from the Queensland Under Secretary of the Premier and Chief Secretary's Department in 1956:

His [Roberts'] survey does not adhere strictly to the crest of the Range as, in order to avoid the numerous twists and turns of the actual water divide, he surveyed longer lines which in places cross and recross the crest, being sometimes partly on the Queensland side and at other times on the New South Wales side of the divide.

Examination of plans on public record, searches of correspondence and documentation held by the New South Wales Government and the Queensland Government indicate that both States have essentially adopted the survey by Roberts, in preference to that by Rowland. The Queensland Under Secretary stated in 1956 that:

Roberts' survey is regarded officially as defining the actual border of the State.

In 1934, the New South Wales Under Secretary for Lands wrote:

Inspection of the earliest editions of departmental compiled maps indicate that Mr. Roberts definition was adopted for the common boundary ... For all practical purposes the definition referred to might be considered to have been accepted by this Department immediately after receipt of Mr. Roberts' plan.

Three sections of the border—Mount Lindesay, Wilsons Peak and Bald Rock, were not surveyed by either Roberts or Rowland as the terrain is extremely precipitous. The missing section of Bald Rock was traversed by New South Wales surveyor Drummond in 1884.

When land was alienated on either side of the border, a buffer strip was often reserved adjacent to the border. This strip was generally a road of constant or variable width, or a strip of Crown land of varying status. In most of these surveys there are very few connections to the original surveys. There are, however, some instances in both States where the cadastral boundary coincides with the original survey of the border.

Surveys of latitude 29° S

Gregory's and Greaves' survey

In 1865, a survey to determine the approximate location of the border was carried out by A. C. Gregory (Surveyor-General of Queensland) and W. A. B. Greaves (District Surveyor, Armidale, New South Wales). The purpose of the survey was to give landholders in the vicinity of the border an indication of the extent of their leases in either colony. W.D. Campbell reported in *The Surveyor* in 1895:

In 1865, an arrangement was made between New South Wales and Queensland for the fixing of the position of the intercolonial boundary line, the 29th parallel of latitude, at the intersections of the Rivers Barwon, Mooni, Bokhara, Narran, Biri and Culgoa, to enable the Governments of the respective colonies to adjust the rents of leases of the several pastoral runs affected, some of which were partly in both colonies, and in order to enable land to be sold in New South Wales under the 1861 Crown Land Act. Two representatives were appointed, viz., Messrs A C Gregory, Surveyor-General of Queensland, and W A B Greaves, of Armidale, District Surveyor of the northern portion of New South Wales; and in October 1865, these gentlemen met by appointment at Mungindi, on the Barwon. Each had a complete party and equipment. The instruments comprised a 12 inch sextant, with quicksilver trays for astronomical observations, and a 6 inch theodolite for reference lines, &c. The position of the Observatory was selected for its local suitability and the difference of latitude to the 29th parallel was determined and measured off. The marking of the border was done with steel pins one inch in diameter and two feet long, driven a few inches below the surface, [see figure 5] radial reference bearings being taken to trees adjacent, which were marked with a [↑ letter (in this case B) in a] triangle thus \triangle [see figure 6]. This process was repeated at each of the abovenamed rivers, and the work was completed in five or six weeks.

Other determinations

Campbell further reported that:

During subsequent years, several approximate determinations of the 29th parallel were made when feature surveys were executed by the surveyors employed in the occupation of the New South Wales Crown Lands branch, as in the case of Messrs George Arthur, A. Dewhurst and E.A. Harris.

Queensland surveyor C. T. Gregory also carried out determinations of the 29th parallel



Figure 5: Iron pin on west bank of Culgoa River



Figure 6: ↑B reference tree on west bank Barwon River

The final determination (the official survey)

The official survey of the 29th parallel was conducted by J. B. Cameron (New South Wales) and G. C. Watson (Queensland) in the period 1879 to 1881. An account of the survey of the 29th parallel reported by W. D. Campbell in *The Surveyor* in 1895 states:

The final determination for the 29th parallel was commenced in 1879 on the responsibility of the Occupation Crown Lands Branch. The annual report of that branch for the year 1879 stated that 450,000 acres on the Queensland border cannot be leased until the position of that border has been determined. Preliminary work was undertaken by Mr. W J Conder, superintendent of the trigonometrical survey, New South Wales, who observed the latitude of Barrington, a border township on the Warrego River with a zenith telescope, having a 2¼ inch objective glass and 30 inch focal length. The latitudes, of three other stations were also observed and connected with it by traverse, and the mean of a large number of observations for the value of each station was deduced. The difference in longitude between this

station and Sydney was then determined by telegraphic interchange of star observation and clock signals with the Sydney Observatory.

The position for the border and the longitude of a point on it having been thus fixed, and the direction of the true meridian being found by azimuth observations of stars, the work was continued by Mr. John Cameron, Geodetic Surveyor, New South Wales [see figure 7], in conjunction with Mr. George Chale Watson, representing Queensland. These gentlemen started the survey westerly on 15th September 1879, from a point on the east bank of the Warrego River. There the surveyors erected the zero obelisk [see figure 8]. The first five mile chord was then produced westerly and the mile posts off-setted from this chord to the arc, and so continued until the 141st meridian was reached, a distance of 285 miles 24.96 chains. The latitudes of five stations, averaging fifty miles apart, were also taken with the zenith telescope with an average error of 1¼ seconds between the observed value and surveyed line; every part was chained at least twice and some portions several times. The line was marked by well squared posts at every mile, concrete obelisks at the extremities of the initial five mile chords, east and west and two brick obelisks at Hungerford, and permanent marks at all important points (refer *First Annual Report, Department of Lands, Votes and Proceedings 1881*, vol. 3, p.1.)



Photo courtesy N. Haughton

Figure 7: John B. Cameron



Figure 8: Zero obelisk

A transcript of Cameron's account of his survey from Barrington to the intersection of the South Australian border (Cameron corner) is included in appendix 4. The original post at Cameron corner (see figure 9) was replaced by a concrete pillar and was unveiled by the Ministers for Lands from New South Wales, Queensland and South Australia on 6 June 1969 (see figure 10). Examples of the marking of this section of the border are shown in figures 8 to 11.

Following the completion of the survey from Barrington to Cameron corner, the work was then continued in an easterly direction to the Barwon River, a distance of approximately 199.5 miles (320 km), using Cameron's method.

W.D. Campbell's report continues:

Check observations for latitude by means of the zenith telescope were made at intervals of about 5 miles. The chainage was made by an oval steel wire $2\frac{1}{2}$ chains long, carefully adjusted and tested at the Observatory and in addition to the squared post at every mile, a smaller post was sunk into the ground at every 20 chains, extra large posts being used at the intersections of all main roads, marked with the broad-arrow over the words 'lat. 29'. Mr. Cameron reported on 18th February 1882 that 'the line passed $68\frac{1}{2}$ links north of Gregory and Greaves' steel connection pin on the Culgoa River ... the greatest distance the line was from Gregory's 29th parallel being about 3 chains on the MacIntyre River'.

A one-ton post (see figure 12) was placed on the west bank of the Barwon River to mark the end of the survey. It was marked 'QL' on the north side, 'NSW J Cameron GS' on the south side and '↑Lat 29' on the west side.



Figure 9: Cameron Corner as originally marked



Figure 10: Cameron Corner as currently marked



Figure 11: ↑NQ 276 Mile post



Figure 12: One ton post placed by surveyor Cameron near the Barwon River

4. Legal framework

4.1 Relevant statutes

A number of statutes provided authority for the boundaries of Queensland and New South Wales before Federation. These include the following:

New South Wales Constitution Act 1842 (UK)

Section 51 of the *New South Wales Constitution Act 1842 (UK)* empowers the Crown, by letters patent, to define the limits of New South Wales and to establish new colonies to the north, but territories lying south of 26° S are not to be detached.

The section reads as follows:

And whereas the said Colony of New South Wales is of great Extent, and it may be fit that the Territories now comprised within the said Colony should be divided into separate Colonies, and Provision should be made for the temporary Administration of the Government of any such newly erected Colony as, not being comprised within the Limits herein-after mentioned, may not possess a sufficient Population for the immediate Establishment therein of the Form of Government herein-before provided, be it therefore enacted That, any thing herein-before contained to the contrary notwithstanding, it shall be lawful for Her Majesty by Letters Patent, to be from Time to Time issued under the Great Seal of the United Kingdom of Great Britain and Ireland, to define, as to Her Majesty shall seem meet, the Limits of the Colony of New South Wales, and to erect into a separate Colony or Colonies any Territories which now are, or are reputed to be, or hereafter may be comprised, within the said Colony of New South Wales; Provided always, that no Part of the territories lying Southward of the Twenty-sixth Degree of south Latitude in the said Colony of New South Wales shall by any such Letters Patent as aforesaid be detached from the said Colony.

The form of government in any such new colony is provided for in section 52 of the Act. The process was by letters patent issued by the Queen authorising not less than seven colonies.

Australian Constitutions Act 1850 (UK)

In the *Australian Constitutions Act 1850 (UK)* for the better government of Her Majesty's Australian colonies, clause XXXIV provides as follows:

And whereas by the said firstly-recited Act of the Sixth Year of the Reign of Her Majesty Power is reserved to Her Majesty by Letters Patent to be from Time to Time issued under the Great Seal of Great Britain and Ireland to define the Limits of the said Colony of New South Wales, and to erect into a separate Colony or Colonies any Territories which

then were or were reputed to be or thereafter might be comprised within the Colony of New South Wales, provided that no Part of the Territories lying Southward of the Twenty-sixth degree of South Latitude in the said Colony of New South Wales should by any such Letters Patent as aforesaid be detached from the said Colony; and whereas it is expedient that the Power reserved to Her Majesty as aforesaid should be extended over certain Parts of the said Territories lying Southward of the twenty-sixth degree of South, Her Majesty from Time to Time, upon the Petition of the Inhabitant Householders of any such of the Territories in the said recited Proviso mentioned as lie Northward of the Thirtieth degree of South Latitude, to detach such Territories from the Colony of New South Wales, and to erect such Territories into a separate Colony or Colonies, or to include the same in any Colony or Colonies to be established under the Powers of the last-mentioned Act; and all the Powers and Provisions of the last-mentioned Act in respect to any new Colony or Colonies to be established under such Act shall extend to any new Colony or Colonies to be established under this Enactment.

Clause XXXV provides that legislative councils may be established in the newly erected colonies.

New South Wales Constitution Act 1855 (UK)

The *New South Wales Constitution Act 1855 (UK)* was assented to on 16 July 1855.

Clause V11 of the Act provides as follows:

It shall be lawful for Her Majesty, by Letters Patent to be from Time to Time issued under the Great Seal of the United Kingdom of Great Britain and Ireland, to erect into a separate Colony or Colonies any Territories which may be separated from New South Wales by such Alteration as aforesaid of the Northern Boundary; and in and by such Letters Patent or by Order in Council to make Provision for the Government of any such Colony, and for the Establishment of a Legislature therein, in manner as nearly resembling the Form of Government and Legislature which shall be at such Time established in New South Wales as the Circumstances of such Colony will allow; and full Power shall be given in and by such Letters Patent or Order in Council to the Legislature of the said Colony to make further Provision in that Behalf.

Clause V111 provides that:

This Act shall be proclaimed in New South Wales by the Governor hereof, within One Month after a Copy thereof shall have been received by such Governor, and this Act and the said reserved Bill, as amended as aforesaid (such Bill being first assented to by Her Majesty in Council), shall take effect in the said Colony from the Day of such Proclamation.

Clause XLVI of the schedule of the Act provides as follows:

Boundaries of the Colony. For the Purpose of this Act, the Boundaries of the Colony of New South Wales shall, except as herein-after excepted, comprise all that Portion of Her Majesty's Territory of Australia or New Holland lying between the One hundred and twenty-ninth and One hundred and fifty-fourth Degrees of East Longitude, reckoning from the Meridian of Greenwich, and Northward of the Fortieth Degree of South Latitude, including all the Island adjacent in the Pacific Ocean within the Latitude aforesaid, and also including Lord Howe Island, being in or about the Latitude of Thirty-one Degrees Thirty Minutes South and the One hundred and fifty-ninth Degree of East Longitude, reckoning from the said Meridian of Greenwich, save and except the Territories comprised within the Boundaries of the Province of South Australia and the Colony of Victoria, as at present established: Provided always, that nothing herein contained shall be deemed to prevent Her Majesty from altering the Boundary of the Colony of New South Wales on the North in such Manner as to Her Majesty may seem fit, nor from detaching from the said Colony that Portion of the same which lies between the Western Boundary of South Australia and the One hundred and twenty-ninth Degree of East Longitude, reckoning from the said Meridian of Greenwich.

Letters patent 1859

Letters patent were made by Queen Victoria pursuant to clause V11 of the *New South Wales Constitution Act 1855 (UK)*. The letters patent give a description of the border between Queensland and New South Wales (see page 1).

Australian Colonies Act 1861

According to sections 2, 5 and 6 of the *Australian Colonies Act 1861* (sometimes called the *Queensland Government Act 1861*), governors of contiguous colonies on the Australian continent may, with the advice of their executive councils, determine or alter the common boundaries of the colonies. On the proclamation of the Crown such boundaries, once agreed on, become the true boundaries of the colonies. The Crown is empowered to attach to any other Australian colony any territory that might have been detached from New South Wales under the *New South Wales Constitution Act 1842 (UK)*.

Section 5 in detail provides as follows:

Whereas the Boundaries of certain of Her Majesty's Colonies on the Continent of Australia may be found to have been imperfectly or inconveniently defined, and it may be expedient, from Time to Time, to determine or alter such Boundaries: Be it therefore further enacted as follows:

It shall be lawful from Time to Time for the Governors of any contiguous Colonies on the said Continent, with the Advice of their respective Executive Councils, by any instrument under their joint Hands and Seals, to determine or alter the common Boundary of such Colonies; and the Boundary described in any such Instrument shall be deemed to be, within the Limits there laid down, the true Boundary of said Colonies, so soon as Her Majesty's Approval of such Instrument shall have been proclaimed in either of such Colonies by the Governor thereof.

Letters patent 13 March 1862 made under the *Australian Colonies Act 1861* (UK)

By letters patent dated 13 March 1862, issued pursuant to section 2 of the *Australian Colonies Act 1861* (UK), Queen Victoria annexed to the Colony of Queensland 'so much of Our Colony of New South Wales as lies to the northward of the 26th parallel of south latitude, and between the 141st and the 138th meridians of east longitude, together with all and every of the adjacent islands, their members and appurtenances in the Gulf of Carpentaria.' These letters patent were published in Brisbane by government notice dated 21 June 1862.

Letters patent of 1872 and 1878

By deed poll on 22 August 1872, the Governor of Queensland, exercising the powers conferred on him by letters patent dated 30 May 1872, and on the request of the Legislative Council and Assembly of the colony, transferred to the colony of Queensland 'all the islands lying and being within sixty miles of the coast of the said Colony'.

By proclamation on 18 July 1879, the Governor of Queensland, exercising the powers conferred on him by letters patent dated 10 October 1878 and in pursuance of the *Queensland Coast Islands Act of 1879* (Qld), proclaimed that from and after 1 August 1879, the Torres Strait Islands should be annexed to and become part of the colony of Queensland.

***Colonial Boundaries Act 1895* (UK)**

The *Colonial Boundaries Act 1895* (UK) authorised the Crown to alter the boundaries of any colony, provided that in the case of a self-governing colony, this should not be done except on the petition of the legislature of that colony.

This Act provided as follows:

(1) Where the boundaries of a colony have, either before or after the passing of this Act, been altered by Her Majesty the Queen by Order in Council or letters patent the boundaries as so altered shall be, and be deemed to have been from the date of the alteration, the boundaries of the Colony.

(2) Provided that the consent of a self-governing colony shall be required for the alteration of the boundaries thereof.

(3) In this act 'self-governing colony' means any of the colonies specified in the Schedule to this Act.

The schedule includes Queensland and New South Wales.

4.2 Relevant legal documents since Federation

The Constitution of the Commonwealth of Australia

The covering clauses of the *Commonwealth of Australia Constitution Act 1900* (UK), in section VIII provide that the *Colonial Boundaries Act 1895* (UK) shall no longer apply to any colony that has become a State of the Commonwealth, but that, for the purposes of the Act, the Commonwealth shall be taken to be a self-governing colony.

Section 123 of the Commonwealth Constitution provides as follows:

The Parliament of the Commonwealth may, with the consent of the Parliament of a State, and the approval of the majority of the electors of the State voting upon the question, increase, diminish, otherwise alter the limits of the State upon such terms and conditions as may be agreed on, and may, with the like consent, make provision respecting the effect and operation or any increase or diminution or alteration of territory in relation to any State affected.

Letters patent of 29 October 1900 (proclaimed on 1 January 1901) and letters patent of 10 June 1925

These letters patent constituted the office of Governor of the State of Queensland and its dependencies in the Commonwealth of Queensland. In the letters patent of 29 October 1900, the State was deemed to comprise the territories described in the letters patent of 6 June 1859 and the islands annexed by the deed poll of 22 August 1872. This omitted the territory annexed by the letters patent of 13 March 1862 and the islands annexed by the proclamation of 18 July 1879.

The letters patent of 29 October 1900 were revoked by letters patent of 10 June 1925 reconstituting the office of Governor of the State of Queensland, where the State was deemed to comprise the territories and islands described in the letters patent of 6 June 1859 and annexed by the letters patent of 13 March 1862, the deed poll of 22 August 1872 and the proclamation of 18 July 1879.

Queensland Boundaries Declaratory Act 1982 (Qld)

The preamble to the *Queensland Boundaries Declaratory Act 1982 (Qld)* Act reads as follows:

Whereas by letters patent made 6 June 1859, which erected into the Colony of Queensland the territory described therein, the land boundaries of the colony were defined in part by reference to the latitude 29 degree south and by reference to the longitude 141 degree east:

And whereas by letters patent made 13 March 1862 there was annexed to the Colony of Queensland the territory lying northward of the latitude 26 degree south and between the longitudes 141 degree east and 138 degree east:

And whereas the difficulties associated with the location upon the surface of the earth of a boundary defined by reference to a parallel of latitude or a meridian of longitude required the delineation and determination of that boundary by marking it upon the surface of the earth:

And whereas pursuant to agreements and arrangements made the locations of the land boundaries of the Colony of Queensland defined in the letters patent by reference to parallels of latitude or meridians of longitude have been ascertained by survey and have been permanently fixed by marking them upon the surface of the earth and those locations have been accepted and acted upon for generations:

And whereas the Colony of Queensland, having become part of the Commonwealth of Australia, is now the State of Queensland:

Section 3 of the Act provides as follows for State land boundaries:

Each land boundary of the State in so far as it is defined in the Letters Patent by means of a reference to a parallel of latitude or a meridian of longitude is and always has been the boundary that in relation to that parallel or median has been permanently fixed by marking it upon the surface of the earth before the year 1900 notwithstanding any map, chart, document or writing of any kind whatever that purports to show the boundary elsewhere than as so permanently fixed.

Regarding the construction of instruments section 4 of this Act reads :

In any Act or instrument:

a reference (in whatever words expressed) to a land boundary of the State, being a boundary defined in the Letters Patent by means of a reference to a parallel of latitude or a meridian of longitude, or to any part of such a boundary; or

a reference to a parallel of latitude or a meridian of longitude referred to in Letters Patent; shall be taken to be a reference to that boundary of the State that has been permanently fixed by marking it upon the surface of the earth before the year 1900 and, where the reference is in an Act enacted or instrument made before the commencement of this Act, shall be taken to have been such a reference since the enactment of the Act or, as the case may be, the making of the instrument.

New South Wales– Queensland Border Rivers Act 1946 (Qld)

The *New South Wales–Queensland Border Rivers Act 1946 (Qld)* ratifies certain agreements made between the States of Queensland and New South Wales relating to the Severn, Dumaresq, Macintyre and Barwon border rivers. The agreements were to facilitate the construction of water conservation, water supply and irrigation works on parts of those rivers which constitute part of the boundary between the States of Queensland and New South Wales. The agreements provided for the distribution of water (see section 33).

‘Border rivers’ is defined in the agreement as the median line of the rivers in question—the Dumaresq, Macintyre and Barwon rivers constituting part of the boundary between the States of Queensland and New South Wales.

4.3 Case histories

The following cases help to illustrate legal precedents applicable to the Queensland–New South Wales border.

Case history 1: Discrepancy between the Roberts and Rowland surveys

The first noted discrepancy of the definition of the border occurred in 1884 when surveyor Johnson was instructed to survey a 40-acre Conditional Purchase (No. 83–10) adjacent to the border at Tweed Heads (see diagram in appendix 5). Johnson was also instructed to re-mark the border as a straight line from the south-west corner of portion 37 in the New South Wales Parish of Terranora,

County of Rous, through to the Main Range. This proposal was consistent with Rowland's survey of the watershed.

Surveyor Johnson reported on 23 August 1884 that he could not mark the colonial border as a straight line from the south-west corner of portion 37 as it would include land subdivided, marked on the ground and sold by the Queensland Government. Johnson also reported that the Queensland survey (which was consistent with Roberts' survey) followed the watershed more strictly than the line proposed from the southwest corner of portion 37. Johnson surveyed a 40-acre portion in accordance with Roberts' definition of the border (see portion 122 shown in appendix 6).

Case history 2: Land titles extending across the watershed

In the 1930s, the New South Wales Department of Agriculture was endeavouring to restrict the spread of ticks into New South Wales by erecting stock fences along the watershed. A survey carried out by surveyor Hindmarsh along the McPherson Range revealed that some Queensland titles extended across the watershed (New South Wales Plan Ms 2238 3050). The titles had been created by subdivisions based on the definition of the border by surveyor Roberts.

On 22 February 1933, the Premier of New South Wales wrote to the Premier of Queensland and requested that the watershed as traversed by Hindmarsh be accepted for the definition of the State border. The Queensland Land Administration Board advised the Premiers Office that it was unable to accept Hindmarsh's survey as constituting the border:

In 1865 Mr. Surveyor Roberts, acting under instruction from the Queensland Government, ran a line defining the boundary, and a copy of his survey was transmitted to the New South Wales Government. The Queensland Government thereafter acted in the belief that Mr. Surveyor Roberts' line constituted the boundary of the State, with the acquiescence of both Governments, and the various titles that have been issued in Queensland adopt that line as the boundary.

The New South Wales Government further investigated this issue and determined that New South Wales had also acted in the belief that Roberts' survey constituted the border, and concluded that any litigation against Queensland would be unlikely to succeed. In 1934, the New South Wales Crown Solicitor stated:

If there has been no express agreement here, there has been a tacit acceptance for about 68 years and so far as information has been given me, not merely a tacit acceptance, but an acting upon that line as the boundary by both Governments.

In the same year, the New South Wales Under Secretary for Lands acknowledged that:

Inspection of the earliest editions of departmental compiled maps indicates that Mr. Roberts' definition was adopted for the common boundary ... For all practical purposes the definition referred to might be considered to have been accepted by this Department immediately after receipt of Mr. Roberts' plan.

The Queensland Government resumed 20 areas from 10 titles totalling approximately 4 hectares of land that extended across the watershed (*Queensland Government Gazette* 16 May 1936). The land was not transferred to New South Wales as the States since Federation do not have the power to transfer lands to another State. The severed lands are currently held in the Queensland cadastre as Unallocated State Land. Survey plans detailing the encroachments are Ms 2238 3050, Ms 2305 3050 and Ms 3010 3050 in New South Wales, and Wd 1633 in Queensland.

Case history 3: River boundary

The letters patent describe the river section of the border as 'following that river (which is locally known as the Severn) downwards to its confluence with the Macintyre; thence following the Macintyre River which lower down becomes the Barwan [sic], downwards to the twenty-ninth parallel of south latitude...'. The border along the river is a natural feature boundary and has not been defined by survey. Extensive searches of both States' records were unable to find any documentation as to what part of the river was proposed as the border at the time of the letters patent.

There is a presumption at common law that, in the absence of any evidence to the contrary, the bed of non-tidal streams belongs to adjoining owners up to the centreline of the stream. This presumption is referred to as the *ad medium filum aquae* rule. There is nothing in the wording of the letters patent that precludes this presumption.

The Crown Solicitor in New South Wales has on numerous occasions advised that the boundary between the States of Queensland and New South Wales is the middle thread of the relevant rivers.

In 1882 he stated that:

I concur with the opinion given by previous Crown Solicitors that in so far as the boundary between New South Wales and Queensland is formed by the Dumaresq and MacIntyre Rivers, the boundary line between the two States is the middle thread or line of those rivers as they are presently constituted.

The location of the middle thread can move over time, provided that the movement has occurred by natural, gradual and imperceptible means.

The New South Wales Crown Solicitor added further that:

I can find nothing in the provisions of the Letters Patent of 1859, which would preclude the operation of the common law principles of erosion and accretion.

Extensive searches of both States' records have revealed only one opinion contrary to the view that the border between the States is the middle thread of the rivers. In an opinion dated 5 January 1899, the New South Wales Attorney General, Mr Want, expressed the view that the 'boundary line touches the southern bank of the Dumaresq River and following that Bank would touch the northern bank of the MacIntyre'. It was suggested by the New South Wales Crown Solicitor in 1938 that it does appear that this opinion had been put forward largely on the grounds of convenience.

In 1946, the Premiers of both States signed an agreement on matters pertaining to the common boundary along the river section of the border. This agreement, and two subsequent agreements in 1968 and 1993 have been included in the schedule of the *New South Wales–Queensland Border Rivers Act 1946* (Qld). The agreement states:

Border Rivers—means the parts of the actual border for the purposes of this Agreement being the median line of the river in question Dumaresq, Macintyre and Barwon Rivers constituting part of the boundary between the States of New South Wales and Queensland.

(*New South Wales–Queensland Border Rivers Act 1946*, schedule 1, part IX, section 51)

The term 'median' is described in the Macquarie Dictionary (1997) as 'denoting or relating to a plane dividing something into two equal parts' and 'situated in or relating to the middle'. The median line is to be interpreted as the middle thread.

Case history 4: The State of South Australia v. The State of Victoria

The High Court (1911) 12 CLR 667; The Privy Council (1914) 18 CLR 115

This case concerned the boundary between the States of South Australia and Victoria. In 1847, by authority of the governors of New South Wales and South Australia, and with the knowledge and approval of the Secretary of State, a line was located and marked on the ground as the 141st meridian. It was discovered later, in 1869, that the line was in fact, approximately 2 miles (3.2km) west of that meridian. The marked line was proclaimed by the respective governors as the boundary and was the de facto boundary from that time. From 1869 onwards, the Government of South Australia protested against the continuation of the error in the marking of the boundary and sought to have it rectified, but without result. The High Court found that South Australia had no right to the land adjoining the boundary and in the de facto occupation of the State of Victoria.

The High Court stated (though it was not necessary for the decision in the case), that if the initial settlement of the boundary line had been made by the first two governors or ministers of the two colonies without authority, the subsequent acceptance and recognition of the boundary line by the two colonies might be sufficient. The principles of prescription and acquiescence are applicable in precluding effective challenge to the location on the terrain of a settled boundary line between contiguous colonies (1911) 12 CLR 704.

The above case in the High Court went on appeal to the Privy Council. It was held that the letters patent establishing the Province of South Australia on 19 February 1836, issued under the authority of an Imperial Act, must be taken to have contemplated that 'the boundary between the colonies of New South Wales and South Australia, namely 141st degree of east longitude, should be ascertained and represented on the surface of the earth so as to form a boundary line between the two colonies and to have impliedly given to the executive of the two colonies power to do such acts as were necessary for permanent fixing of such boundary'. It was held, therefore, that the line, marked out partly in 1847 and partly in 1850 under the authority of the executives of the two colonies, and with the intention that, as so marked out, it should be finally fixed as the statutable boundary between the two colonies, was in point of law the statutable boundary, and is now the statutable boundary between the States of South Australia and Victoria.

5. Boundary definition guidelines

5.1 Watershed

The original intention for the location of the border (as described in the letters patent dated 6 June 1859) was that the border should ‘follow the range that divides the waters....’ (See p.1).

Principles for redefining the border along the watershed are detailed below:

- The original border survey by Roberts is to be adopted as the interpretation of the watershed boundary for the terrain. This is to be adopted despite any minor deviations from the actual watershed detected in the reinstatement of Roberts’ corners.
- Plans of survey that have redefined the position of the border must be adopted, provided there is strong evidence of agreement to that definition by both States.
- Cadastral survey plans that have reliable connections to the border as originally surveyed by surveyor Roberts can be used to reinstate the border.
- Freehold titles that have been issued in either State must be honored as pertaining to that State, irrespective of the location of the watershed, provided there is no overlap of titles between the States.
- Occupations, such as fencing, can be adopted for the reinstatement of the border only if there is strong evidence from plans on public record to substantiate their adoption.
- If the border cannot be redetermined from existing plans on public record, then the border is to be treated as a lost boundary. In this case, the watershed must be adopted for the border and be defined by right lines. Evidence in the form of cross-sections must be provided to substantiate the location of the border as surveyed.

5.2 River section

The boundary between the States along the river section is the middle thread. The middle thread of the river is defined as halfway between the banks of the river (Hallmann 1994). For the purpose of defining the middle thread, the bank must be defined in accordance with common law principles that were in effect at the date of the letters patent in 1859.

The definition of ‘river banks’ contained in section 172 of the *Crown Lands Act 1989* (NSW) is an adaptation of that expounded for non-tidal streams at common law in the American case *State of Alabama v. State of Georgia 1859*. The bank of a lake or stream is defined in section 172 as the limit of the ‘bed’ of that lake or stream. The ‘bed’ is defined in section 172 as ‘the whole of the soil of any lake or river, including that portion which is alternately covered and left bare with an increase or diminution in the supply of water, and which is adequate to contain the river at its average or mean stage without reference to extraordinary freshets in time of flood or to extreme drought’.

In rare cases, there may be islands within the rivers defining the Queensland–New South Wales border. In these instances, title is to remain with the State that has issued (or previously issued) titles, leases or licenses. If no previous legal occupations can be established, then the location of the main channel will be used to determine the State to which ownership belongs.

Further information on the definition of river banks in Queensland and New South Wales can be obtained from F. M. Hallmann’s *Legal Aspects of Boundary Surveying as Apply in New South Wales* (1994), *New South Wales Surveyor-General’s Direction for Survey Practice*, and A. G. Brown’s *Queensland Surveyors Operations Manual; and Law Relating to Land Boundaries & Surveying* (1980).

5.3 Latitude 29°S

The border as originally marked on the ground by surveyor Cameron defines the true position of the Queensland–New South Wales border. See pp. 6–8 for details of the original marking.

A reconnaissance survey undertaken in 1984–85 found that approximately 90 per cent of the original mile posts defining the border were no longer clearly evident. Recovery marks were placed for the remaining mile posts that were found (Queensland plan PL/D470).

In 1993, a number of the remaining mile posts were coordinated as part of a joint Queensland–New South Wales control survey. A mathematical model based on Cameron’s original observations was then established. The coordinate values of the existing mile posts that had been located were adopted as control. This resulted in establishment of coordinate values for the remaining mile posts. The coordinates established on the Geocentric Datum of Australia provide surveyors with a reliable guide for searching for evidence of mile posts for redetermining the State border. Testing of the model

found that it was suitable for finding the remains of mile posts even when excavation below the ground was required. Details and results of the survey are available in the publication: *A Mathematical Model for the State Border between Queensland and New South Wales (1999)*, Department of Natural Resources, Queensland.

If additional mile posts are found and coordinated to a suitable standard, the model can be readjusted. The new coordinate set generated would be expected to align more closely with the position of the original mile posts. For information regarding coordinate values contact the Manager, Survey Infrastructure Services, Department of Natural Resources and Mines in Brisbane.

6. Survey requirements

Surveys undertaken along the border must conform to the requirements of the State in which it is intended to lodge a plan of survey. Both States must approve plans of survey that redefine the State border. Applications for approval must be accompanied by the plan of survey and a comprehensive report detailing the following:

- methodology used to establish the position of the State border
- position of any title boundaries adjacent to the border
- position and nature of any improvements within 15 metres of the border
- photographs of the area subject to survey in the vicinity of the border
- provision of cross-sections if the position of the border has been redefined by the natural feature of the watershed, such cross-sections to be located at every angle in the border and at a maximum spacing of 50 metres.
- details of adjoining cadastral plans and parish names on both sides of the border must be plotted on the plan of survey.

Exemptions may be granted to any of the above requirements by either the Surveyor-General of New South Wales or the Director of Surveys in Queensland if they consider that any of the requirements are impractical or unnecessary. The surveyor undertaking the survey must obtain the exemption in writing.

7. Approval process for border definition

Where a survey defines or redefines the State border, the approval of both States will be required for the border definition. Prior to completing the plan of survey, surveyors should seek approval from the relevant delegated officer in each State—the Surveyor-General in New South Wales and the Director of Surveys in Queensland.

The submission for approval must include the original plan, plus three copies signed and dated by a surveyor registered or licensed in the State in which it is intended to lodge the plan. Dual registration is not required if the plan defines the extent of any land or title in a particular State. If the sole purpose of a survey is to define the position of the State border, each State may register a copy of the survey plan.

The plan must include the following statement signed by the Surveyor-General of New South Wales and the Director of Surveys in Queensland:

The location of the New South Wales–Queensland Border shown heron has been approved by the Surveyor-General of New South Wales on behalf of the State of New South Wales, and the Director of Surveys, Department of Natural Resources and Mines on behalf of the State of Queensland.

Applications for approval should be forwarded to:

Surveyor-General of New South Wales
PO Box 143
Bathurst NSW 2795

or

Director of Surveys
Department of Natural Resources and Mines
Locked Bag 40
Coorparoo Delivery Centre
Queensland 4151

An assessment of the border definition will then be made jointly by both the Surveyor-General and the Director of Surveys. If the definition of the State border is approved, the plan will proceed to registration.

Appendix 1: Instructions to surveyor I. Rowlands (NSW)

(Extracted from the register of correspondence from the Surveyor-General to surveyors, filed in the Mitchell Library, Sydney).

17 th December, 1862

Sir,

1. I have the honour to inform you that it is the intention that in concert with an officer to be detached by the Queensland Govt you shall determine the boundary separating the two colonies or that portion of it from Point Danger to the Dumaresq River, and I have therefore to request that you will communicate with the Surveyor-General at Brisbane for the purpose of intimating when, and where you will be able to meet the Queensland Surveyor, and of ascertaining whether the time and place which you may appoint will be convenient.
2. In defining the boundary, you will blaze the trees in the usual manner where timber exists and you will mark them at distances from half to three quarters of a mile with, the final figure for the year a distinguishing letter and the letters New South Wales as in the margin, on the side facing this Colony, showing their position on your plan and where necessary the bearing and distance given to the nearest traverse corner.
3. You will take observations at least every 10 miles throughout to correct the azimuth of the traverse and also cross bearings to all the most prominent hills passed, sketching the features of the country from these bearings as nearly as possible.
4. Where timber does not exist you will place posts with the marks required and raise heaps of stone $2\frac{1}{2}$ feet high; substituting mounds of earth 5 feet square by three feet high if stone is not procurable.

I have the honour etc.,
Sgd. W. R. Davidson
Asst. S.G.

Appendix 2: Instructions to surveyor F. E. Roberts (Qld)

Brisbane, 17 April 1863

It having been deemed expedient to define the boundary between this Colony and New South Wales, I have the honour to request that you will proceed to Point Danger where the boundary commences on the Sea Coast and place yourself in communication with Mr. Surveyor Rowland who has been selected by the Government of New South Wales to conduct the surveys on their behalf.

The portion of the boundary which you are to survey is defined in the Letters Patent erecting this Colony into a separate Government as "commencing on the Sea coast at 'Point Danger' in Latitude about 28° 8' South and following the range thence which divides the waters of the Tweed, Richmond and Clarence Rivers from those of the Logan and Brisbane Rivers westerly to the Great Dividing Range. The leading natural features of this part of the country being thus adopted as the boundary between the two provinces, your attention is more particularly directed to the careful selection and survey of the true Water-shed which is referred to through from the steep and mountainous character of the locality. I do not apprehend that there will be uncertainty on this subject after crossing the more level tract which lies between the coast and the Ranges.

In determining the exact starting point you should select the extreme Eastern point of Point Danger and if there be any extent of the extreme of the Point trending North and South the centre of such part should be selected, unless the adjacent features render a slight deviation expedient.

It is probable that immediately on the Sea Coast the country consists of Sandy Ridges nearly parallel to the shore and therefore not presenting any well defined line of division between the waters flowing to the north and south of Point Danger, and in such case the boundary might be marked as a true West line until it reaches the hilly land where the Watershed has a definite character.

As even the well defined Watershed may have a breadth of a chain or more it is desirable that the boundary be marked as a succession of straight lines each of as great a length as practicable without altogether departing from the Watershed summit of the Range it being inconvenient to describe curved boundaries with minute accuracy. The length of the portion of the boundary to be marked must be a subject of future instruction depending on the nature of the Ranges along which it runs and the extent Mr. Rowland may be directed to cooperate with you in the survey. A portion of the coast extending a few miles on both sides of the starting point should be surveyed and you are authorised to furnish the details of such part of the coast survey which you may make within the limits of Queensland to the Surveyor action for N.S. Wales. In marking the line after it has been measured, it is recommended that piles of stones with lockspits filled with stones should be adopted in preference to timber for defining the angles in the line and where straight lines have any considerable length they should if practicable be lockspitted at every ten chains, and where the material is available, the lockspits filled with stones. Witness trees should also be marked with consecutive numbers and their bearing and distances from the Stations at angles recorded in the same manner as is adopted in marking boundaries of lands for sale. In determining the nature of the boundary marks, you will, however, be guided by the nature of the soil and character of the materials available. It is desirable that angles to all remarkable features of the country be observed from convenient points on or adjacent to the boundary. You will make such arrangements with Mr. Rowland as may be mutually advantageous in regard to the clearing of the line for measurement, but it is expedient that both surveyors should separately observe the angles and measure the lines with their own instruments and subsequently compare results with a view to avoidance of error or uncertainty in the construction of the map. As it may occur that the weather is unfavourable for the determination of the true meridian by solar observation for some time after you arrive at the field of operation it would be convenient to commence the survey allowing 9° East variation for the magnetic needle.

As the survey ought to be continued by a series of angles the whole of the recorded readings could afterwards be reduced to the true values and the same rule will also apply in respect to the correction for the spherical figure of the earth as it does not exceed 7 minutes in 70 miles.

The features of the country on either side of the line should be sketched with as much accuracy as practicable without materially delaying the principal object of the survey.

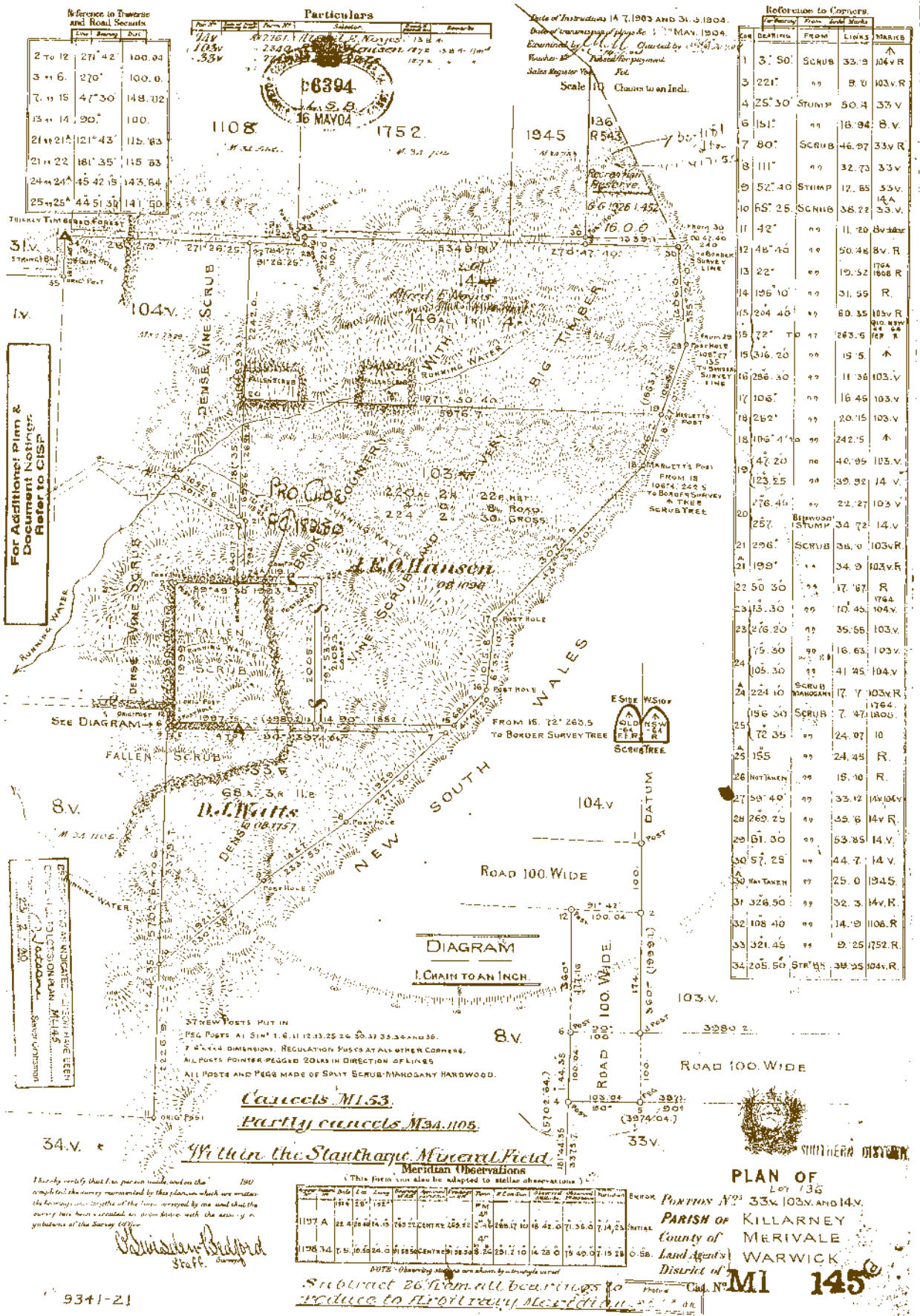
A scale of 20 chains to the inch will be convenient for the plotting of the work, and where special details require a large scale a separate plan of the particular measurements should be prepared in addition to the general plan on the smaller scale.

You will bear in mind that the boundary line marked cannot be considered as final until the same has been approved by the respective Governments of Queensland and New South Wales, and in the event of any unforeseen difficulty arising the circumstances should be fully reported to me when instructions will be prepared for your guidance.

I have etc.
(sgd.) A. C. Gregory
SURVEYOR-GENERAL

Appendix 3: Copy of Queensl and plan ML 145

Note: Connection to reference tree blazed by surveyors Roberts and Rowlands



Appendix 4: Transcript of John Cameron's abbreviated report to the Surveyor-General in 1881

Surveyor John Cameron to the Surveyor-General transmitting an abbreviated account of the progress of the Survey of the 29th Parallel of South Latitude from "Barrington" to its intersection with the South Australian boundary.

Trig Branch
17 January 1881

Sir

I have the honour to transmit the following report of the Colony boundary between New South Wales and Queensland.

(1) On the 15 September 1879 I commenced by turning the angle from the Meridian line to vanes erected on the "Warrego", took 78 angles built three concrete obelisks one on east bank of the "Warrego" one five miles west, and one five miles east.

(2) Had great difficulty in crossing creeks with the whole camp. The "Irasah", Cuttaburra and "Warrego" being flooded: - "Irasah" being one mile wide and Warrego 20 chains wide.

I had to construct two boats one of planks and another of canvas and frame: the latter being the most useful: ferried eight (8) tons with this boat in one afternoon including instruments.

(3) Dense gidyah and mulga scrub between "Warrego" and "Hungerford" (on the "Paroo") and had to cart water 25 miles on this stage.

(4) Erected latitude stations at the following sites at 54 miles, 76 miles, 156 miles, 210 miles and at 268 miles; built two brick obelisks at "Hungerford" one at 76 miles and one at 76 miles 65 chains.

(5) On the completion of the latitude observations at "Hungerford" Mr. Hely (Officer of Customs) kindly lent me a boat and which after a couple of days spent in repairs enabled us to cross the "Paroo". The men were obliged to cut the line waist deep in water for over a mile.

(6) At the 85 mile post I and a blackfellow went ahead to look for water between the "Paroo" and the "Bulloo" after three days exploring found none within 25 miles of the line.

(7) At the 100 mile post Mr. G C Watson had instructions from his department to withdraw his party owing to the waterless country ahead; and expense for extra equipage.

(8) I was determined to carry the work out at all hazards and engaged an extra team of six horses and bought two extra horses for my own camp making a total of 14 horses carting water.

(9) At the 108 mile post I started again with blackfellow to explore Westward to Wahpah Creek after traversing 190 miles we only found a little electro plated water on the clay pans left by the recent shower as this would evaporate in a few days with the sun. I sent two men ahead to drain it into small tanks; Had to cart water 53 miles at this stage. At the 140 mile post I was obliged to go ahead with all the horses by a compass bearing to "Bulloo Downs" 90 miles the nearest known water. I took four men, dray, tank, and buggy to make a track to the water if we found any. At "Bulloo Downs" we were informed that there was no water except at "Booka Booka" 18 miles north of a point on the line 188 miles from "Warrego";

On our way back found a little muddy water at the 156 post; at this point one of the hands (Lindsay) got seriously ill with scurvy and had to be carried on a stretcher. I had to send a conveyance with him to "Yancannia" 150 miles being the nearest point to the Wilcannia Hospital: immediately after his departure the assistant Mr. C V Brown and the Chainman Bryant were laid up, four others including myself just able to move about. I was obliged to chain, run the line, observe at night, help to cart water, and remove camp on account of being so short handed. I sent to "Wilcannia" and "Bulloo Downs" for medicine to cure the scurvy: on the return of the waggon that brought Lindsay to "Yancannia" I had to send it to Depot Glen with the Chainman Bryant about 80 miles. I engaged two fresh hands and continued the line west from Wanpah Creek knowing that there was no water between that creek and the South Australian boundary.

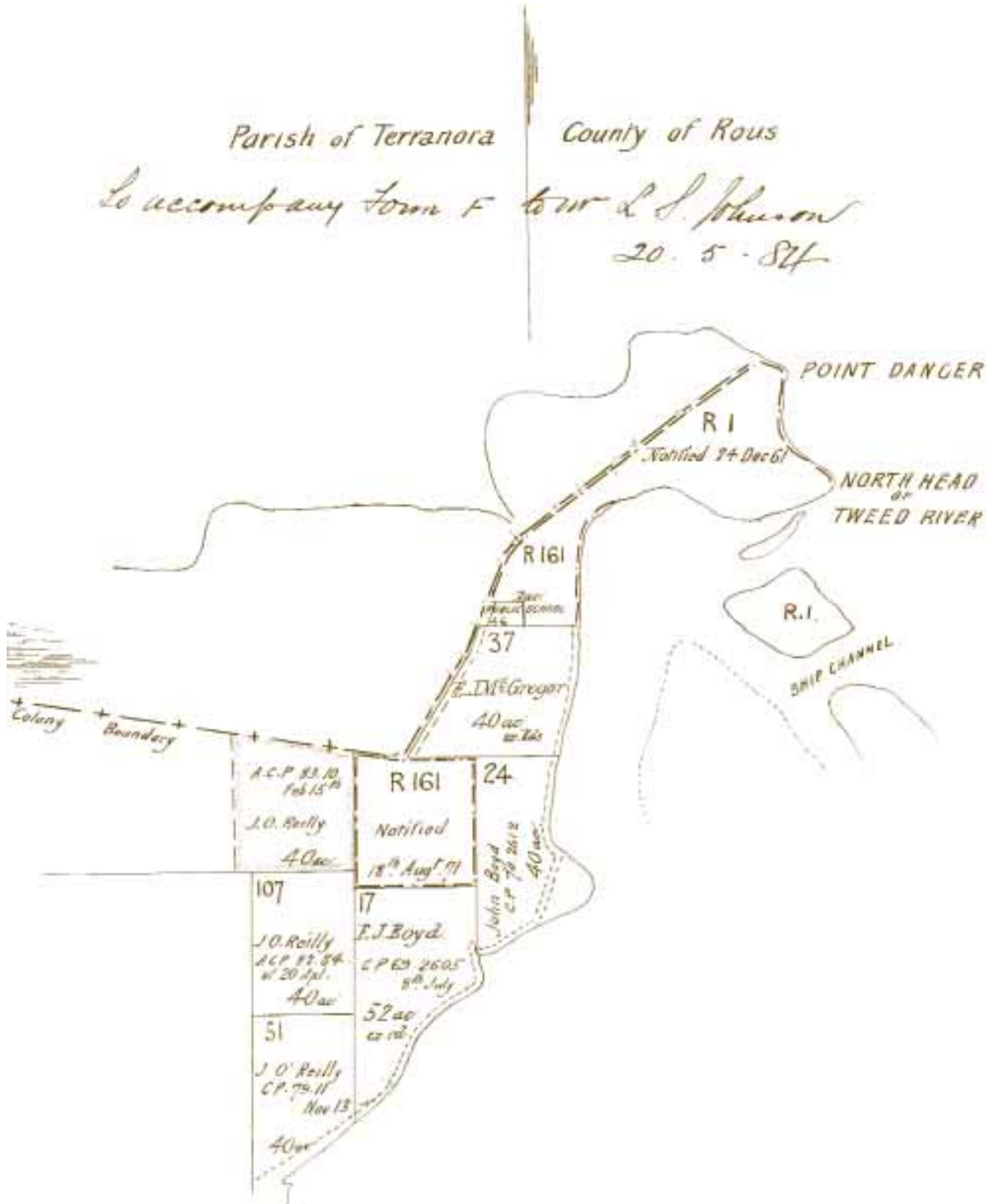
(10) The lessee's contiguous to the line had to remove their stock to Cooper's Creek for sustenance and water.

- (11) At the 235 mile post we nearly lost all our horses in one night (32) owing to the teamster and blackfellow being unable to find the waterhole. They brought the horses back to camp after having traversed 90 miles.
- Having 100 gallons of water in camp I divided 50 gallons among the 32 horses with a little oatmeal which enabled them to travel to "Warri Warri" Creek. I travelled 50 miles on my private horse before I found this water, and then only a little by digging in the sand. I was obliged to give the horses a weeks spell to recruit their strength and also cart water to the camp 22 miles with the strongest of the horses.
- (12) When at the 250 mile 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 three days 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.
- (13) From this (250 mile post) point to the end we had it very dry the only water being at "Fort Grey " and no grass for a radius of 8 miles from the Lake.
- (14) I intended to erect a stone obelisk at the intersection with the South Australian boundary on account of there being no stone in the neighbourhood I was obliged to erect a post 8 feet high with large mound.
- (15) On completion of the boundary we could not follow our line back to "Barringun" as there was a stage of 134 miles without water and we were obliged to go via "Bulloo Downs" and "Thargomindah" and even by this route there were stages of sixty miles without water.
- (16) I think the principal cause of scurvy was bad water for four months we were obliged to drink water that the horses would not drink which we purified with gypsum when we could get it.
- (17) Latitude stations were erected at an average of 50 miles, the greatest apparent error appeared at Stations No. 5 "Brindingabba Dam" 2" and at 268 miles = 2"35 the others were less than \pm one second.
- (18) Time occupied for the 287 miles 60 chains being (15th Sept 1879 to 30th Sept 1880) 12 months and 15 days.

I have the honour to be Sir'
Your obedient Servant
J B Cameron
Geodetic Surveyor

Appendix 5: Proposed survey of Portion 122—CP No. 83-10

Proposed Conditional Purchase (No. 83-10) is shown below adjoining Portion 107 and Reserve 161



Appendix 6: Portion 122 Parish Terranora, County Rous

CAT. N^o R. 3888. 1753.

LAND DIS^o

CON. SALES N^o 86.37810 Dep.

Tweed River.

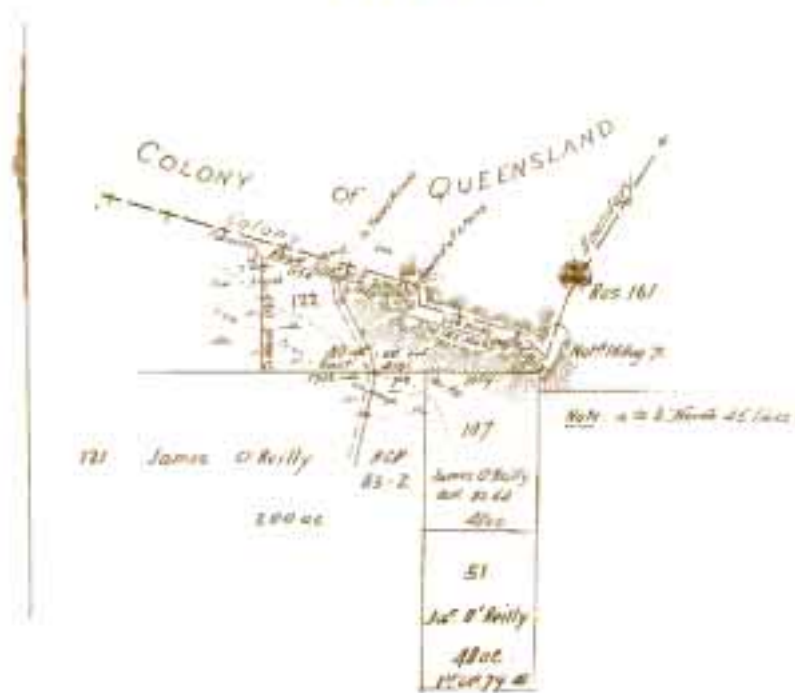
TRACING

Of portion 122 in the
Parish of Terranora
County Rous

Scale 8 Chains to an Inch

Applied for by James O'Reilly under the
22nd clause of the C. L. A. Act of 1861.

A.C.P. No. 82 10 of 15th February
1862 Per 51.



| Bearing & Distance | | | |
|--------------------|-------------|-------|------------------|
| No. | Course | Dist. | True B. or Dist. |
| A | N 15° 30' E | 600 | 48 07 11 |
| B | S 61° 15' E | 40 | 23 12 1 |
| C | S 55° 30' E | 200 | - |
| D | N 87° 30' W | 300 | - |

| Bearing & Distance | | |
|--------------------|-------------|-------|
| No. | Course | Dist. |
| 1 | S 82° 15' E | 256 |
| 2 | S 22° 10' E | 728 |
| 3 | S 65° 22' E | 226 |
| Connection | | |
| 4 | N 40° 17' E | 241 |

Dist. of Survey 20 Ap 85.

Improvements Nil.

(Signed) Edwin H. Johnson.

Traced Surveyor.

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