National Archives of Australia: A18, 2

naa.gov.au

1900

—

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

REPORT

OF

THE COMMISSIONER

ON

SITES FOR THE SEAT OF GOVERNMENT OF THE COMMONWEALTH.

Ordered by the Legislative Assembly to be printed, 30 *October*, 1900.

SYDNEY: WILLIAM APPLEGATE GULLICK, GOVERNMENT PRINTER.

1900

425—*a* [10*s*.]

National Archives of Australia: A18, 2, page1

1900.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

REPORT

OF

THE COMMISSIONER

ON

SITES FOR THE SEAT OF GOVERNMENT OF THE COMMONWEALTH.

Ordered by the Legislative Assembly to be printed, 30 *October*, 1900.

SYDNEY: WILLIAM APPLEGATE GULLICK, GOVERNMENT PRINTER.

1900.

425—*a* [10s.]

ARRANGEMENT OF CONTENTS.

COMMISSION.

VICTORIA, by the Grace of God, of the United Kingdom of Great Britain and Ireland, Queen, Defender of the Faith, and so forth,—

To Our Trusty and Well-beloved—

ALEXANDER OLIVER, Esq., M.A., President of Our Land Appeal Court.

Greeting:—

KNOW YE, That We, reposing great trust and confidence in your ability, zeal, industry, discretion, and integrity, do, by these presents, authorise and appoint you to make full inquiry as to the suitability for the Seat of Government of the Commonwealth of Australia of such tracts or areas as you may be invited to consider, to inspect all or any of such sites as you may think fit, and, after public inquiries conducted in open Court by you, and the taking of evidence thereat touching the premises, to certify such evidence, or so much thereof as you may deem relevant to the inquiry, under your hand, and report to us the conclusions you shall have arrived at as the results of such inquiries and inspections, accompanied by such explanatory or illustrative plans, sketches, estimates, and other particulars as may be desirable in your opinion: And We do, by these presents, grant to you full power and authority to call before you all such persons as you may judge necessary, by whom you may be better informed of the truth in the premises, and to require the production of all such books, papers, writings, and all other documents as you may deem expedient, and to visit and inspect the same at the offices or places where the same or any of them may be deposited, and to inquire of the premises by all lawful ways and means: And Our further will and pleasure is that you do, within six months after the date of this Our Commission, certify to Us, in the Office of Our Colonial Treasurer, under your hand and seal, what you shall find touching the premises: And We hereby command all Public Officers and other persons whomsoever within Our Colony of New South Wales that they be assistant to you in the execution of this Commission: And We declare this Commission to be a Commission for all purposes of the Act 44 Victoria No. 1, intituled "*An Act to regulate the taking of evidence by Commissioners under the Great Seal*"—to take effect from the day of commencing duty.

In testimony whereof, We have caused these Our letters to be made Patent, and the Great Seal of Our said Colony of New South Wales to be hereunto affixed.

Witness Our Right Trusty and Right Well-beloved Cousin, WILLIAM, EARL BEAUCHAMP, Knight Commander of Our Most Distinguished Order of Saint Michael and Saint George, Our Governor and Commander-in-Chief of Our said Colony of New South Wales and its Dependencies, at Government House, Sydney, in New South Wales aforesaid, this fourteenth day of November, in the year of Our Lord one thousand eight hundred and ninety-nine, and in the sixty-third year of Our Reign.

BEAUCHAMP.

By His Excellency's Command,

JOHN SEE.

ENTERED on Record by me, in Register of Patents, No. 21, page 152, this fourteenth day of November, one thousand eight hundred and ninety-nine.

For the Colonial Secretary and Registrar of Records,—

CRITCHETT WALKER,
Principal Under Secretary.

LIST OF SITES SUBMITTED.

Name of Site.	Date of Application.	Date of Inspections (if inspected).	Date of Public Inquiry.	Page.
Albury	20 October, 1899...	28, 29, 30 Oct., 1899...	2, 3, 11 April, 1900...	16, 17, 28, 31, 66
Armidale...	17 Nov., 1899...	None.	None.	8
Barber's Creek	2 „ 1899...	27 February, 1900 ...	„	20
Bathurst	17 „ 1899...	27 November, 1899 ...	2, 3 July, 1900 ...	13, 14, 28, 33, 68
Bellingen....	6 Dec., 1899...	None.	None.	
Bemboka...	22 Nov., 1899...	23 December, 1899 ...	„	20
Bombala–Eden	18 „ 1899...	20, 21 „ 1899 ...	24, 25, 26 April, 1900	20, 21, 27, 37, 71
Bowna	17 August, 1900...	None.	None.	18
Braidwood	4 Dec., 1899...	— January, 1900 ...	14, 15 June, 1900 ...	20, 28, 41, 73
Buckley's Crossing ...	28 „ 1899...	21, 23 February, 1900	None.	20, 27
Calvert. (See Millthorpe.)				
Carcoar–Garland... ...	23 October, 1899...	1, 2 December, 1899..	27 March, 1900 ...	13, 14, 27, 43, 75
Cootamundra	2 Nov., 1899...	13 December, 1899 ...	8, 9 June, 1900 ...	16, 27, 45, 75
Corowa	2 „ 1899...	31 March, 1900 ...	None.	17
Delegate	16 Dec., 1899...	21 December, 1899 ...	„	20
Don Dorrigo. (See Bellingen.)				
Eden. (See Bombala.) ...	19 October, 1899...	.....	.....	
Forest Reefs. (See Calvert.)				
Glen Innes	15 Nov., 1899...	None.	None.	
Goulburn...	18 „ 1899...	27 October, 1899; 26 February, 1900.	7, 8 May, 1900 ...	16, 17, 18, 27, 48, 80
Hay	23 „ 1899...	None.	None.	18
Howlong	19 October, 1899...	„	„	17
Inverell	23 Nov., 1899...	„	„	
Junee	29 March, 1900...	„	„	16, 28
Millthorpe	9 January, 1900...	6 July, 1900 ...	5 July, 1900 ...	13, 14, 46, 77
Molong	14 Nov., 1899...	28 November, 1899 ...	None.	
Moss Vale	6 Dec., 1899...	16 March, 1900 ...	„	20
Mount Clarence	17 Nov., 1899...	None.	„	15
Murrumburrah	6 „ 1899...	13 December, 1899 ...	„	15
Nowra	7 „ 1899...	None.	„	
Orange	17 „ 1899...	12 October, 1899; 27, 28 March, 1900.	22 to 29 March, 1900	13, 14, 15, 27, 50, 83
Port Stephens	4 Dec., 1899...	None.	None.	
Queanbeyan	25 October, 1899...	2 November, 1899 ...	11 June, 1900 ...	20, 27, 53, 85
Rylstone	8 Nov., 1899...	None.	None.	15
Sassafras. (See Nowra.)				
Southern Monaro. (See Bombala–Eden.)				
Tenterfield	6 Dec., 1899...	None.	None.	
Towrang	29 March, 1900...	„	„	20
Tumbarumba	11 Nov., 1899...	„	„	18
Tumut	6 „ 1899...	14, 15 December, 1899	.....	16, 17, 27, 54, 87
Wagga Wagga	4 „ 1899...	11, 12 May, 1900 ...	.....	16, 28, 57, 89
Wellington	17 „ 1899...	29 November, 1899 ...	3, 4 August, 1900 ...	13, 14, 15, 59, 91
Wentworth	28 Dec., 1899...	None.	None.	18
Yass	19 October, 1899...	31 October, 1899 ...	19 April, 1900 ...	16, 17, 18, 28, 61, 93
Young	22 Nov., 1899...	30 March, 1900 ...	None.	

National Archives of Australia: A18, 2, page4

ROYAL COMMISSION ON SITES FOR THE SEAT OF GOVERNMENT OF THE COMMONWEALTH.

REPORT.

Part I.—Introductory.

To His Excellency the Right Honorable WILLIAM, EARL BEAUCHAMP, Knight, Commander of the Most Distinguished Order of Saint Michael and St. George, Governor and Commander-in-Chief of the Colony of New South Wales and its Dependencies.

MAY IT PLEASE YOUR EXCELLENCY :—

Before actively addressing myself to the execution of the Commission authorising and appointing me to make full inquiry as to the suitability for the Seat of Government of the Commonwealth of Australia of such tracts or areas as I might be invited to consider; to inspect all or any of such Sites as I might think fit; and, after public inquiries in open court, and the taking of evidence touching the premises, to certify such evidence, or so much thereof as I might deem relevant to the inquiry, and report to your Excellency the conclusions arrived at, as the results of such inspections and inquiries, I found myself faced by serious preliminary difficulties.

Preliminary difficulties.

The first was a personal one, of a kind likely to strain the duty of allegiance to one's native State; for it was clearly a paramount duty that I should endeavour to discharge my mind of every sentiment and symbol of bias in favour of that State, as well as of any disposition to favour the supposed interests or pretensions of its Capital. To the best of my power, and from the standpoint of a sincere federalist, I have done my best to consider the momentous questions involved in the Commission, solely as an Australian citizen, and with an eye striving to look to the future dimensions and requirements of the Australian Commonwealth, and not to the present and temporary advantages or disadvantages which the establishment of the Federal Territory and Seat of Government in any particular part of New South Wales might entail on that State or its metropolis.

My next difficulty was of a different kind, and arose from the vagueness of the 125th section of the Bill which has now become the Commonwealth of Australia Constitution Act, the text of that section being :—

> "The seat of Government of the Commonwealth shall be determined by the Parliament, and shall be within territory which shall have been granted to, or acquired by, the Commonwealth, and shall be vested in and belong to the Commonwealth, and, if New South Wales be an Original State, shall be in that State, and be distant not less than one hundred miles from Sydney.
>
> "Such territory shall contain an area of not less than one hundred square miles, and such portion thereof as shall consist of Crown lands shall be granted to the Commonwealth without any payment therefor.
>
> "If Victoria be an Original State, the Parliament shall sit at Melbourne until it meets at the Seat of Government."

The 100 miles prohibition.

1. Assuming that it is the Seat of Government, and not the Territory, which is to be distant from Sydney not less than 100 miles, the first point inviting consideration is whether distance from Sydney is to be measured in a direct line or by the nearest road ordinarily used in travelling. The Imperial method of measuring distances is "in a straight line on a horizontal plane," and, I believe, the Victorian Interpretation Act prescribes a similar method, while the statutory interpretation of distance in this Colony adopts the "nearest-road" principle in measuring distance from one point to another. I have always thought, and still think, that, among the reasons which might fairly be urged as indicating a "contrary intention" on the part of the framers of the Commonwealth Act within the meaning of the saving provided by the Statute cited in the margin, and of the saving contained in the 118th section of the Commonwealth Act, and for holding to our own method of measuring distance in our own State, are these;—that New South Wales is the State which cedes the Federal Territory in which the Seat of Government must be situated,—that the rigorous application of a method other than our own might have excluded some contemplated area otherwise suitable, and possibly neutralised all the advantages which the Commonwealth was intended to gain by the gift of "Crown lands" (an expression which must be interpreted by reference to local laws); and further, that the commercial aggrandisement of Sydney, against which it is presumed this prohibition must have been directed, would not be influenced one way or the other along radial or straight lines, but by the accustomed commercial routes,—which in most cases would be the Railways. But the generally accepted interpretation of this prohibition is that, as the Commonwealth Act is an Imperial Act, its enactments must be interpreted according to Imperial rules of interpretaion.

52 and 53 Vic., c. 63, sec. 34, with which compare Cheshire v. Lings, 4 L.R. C.P., p. 374.

2. Whatever be the right interpretation of the 100 mile prohibition, I have not thought any Site distant from Sydney more than 100 miles by the nearest road ordinarily used in travelling, though within that distance by the radial rule, to be, on that account alone, excluded from consideration.

3. But it happens that very few of the proposed sites lying within the radial or direct distance limit appear to offer any special advantages; and, therefore, this question of distance has not, so far, been productive of serious difficulty, except perhaps in the case of the Bathurst Site.

4. The sketch map (Appendix A) which accompanies this Report, prepared by Mr. E. Twynam, Chief Surveyor, Department of Lands, shows the excluding effect on some proposed Sites of the radial line of 100 miles, measured from the west boundary of the City of Sydney.

Grant or acquisition of territory.

5. Another difficulty was created in respect to the grant or acquisition of territory. The section declares that "the Seat of Government shall be within territory which shall have been granted to, or acquired by, the Commonwealth, and shall be vested in, and belong to the Commonwealth." Differences of opinion as to the meaning of these words date as far back as the passing of the Bill by the Parliament of New South Wales; and, in the course of my inspections and inquiries, I have been repeatedly asked to express an opinion whether the present owners of land lying within the selected territory will be dispossessed, subject to compensation for the value of the land resumed, or whether the provisions of the section will be satisfied by the mere withdrawal from New South Wales, and cession to the Commonwealth, of whatever area may be selected for the Federal Territory, the present owners being left undisturbed in their proprietary rights, but under a new landlord —the Commonwealth—and with a right to compensation for every acre within the selected area resumed for Commonwealth purposes.

6. Some legal authorities had already expressed an opinion that the quoted direction would be sufficiently complied with if this Colony divested herself of such territorial rights as she possessed at the time of withdrawal;—in other words, that the mere cession of the territorial area would carry out the requirements of the section in this respect. And as this opinion seemed to have strong support from considerations of cost, and to be in itself reasonable, it seemed to afford a satisfactory answer to the objections of those landed proprietors to whom the bare idea of dispossession, even with compensation, was distasteful. Moreover, when the improved values

values of land within the Municipal areas which were nearly always made the nuclei of proposed Federal Capital Sites, came to be known, the amount that would be required for their absolute resumption reached, in some cases, as much as, and in others more than, three-quarters of a million sterling—amounts which seemed altogether out of proportion to the adaptability of the sites for the purposes of the Seat of Government, because in very few cases, if any, would the streets or general design of an included city or town be found to fit in with the requirements of the Capital of the Commonwealth.

7. But, after giving this matter further consideration, I have come to the conclusion that it is open to very serious question whether the words of the section above quoted do not import, although they may not express, a statutory mandate to resume, and pay compensation for, the whole area to be acquired. What lands the Crown—*i.e.*, New South Wales—may own within the area to be selected, the section expressly declares "shall be granted to the Commonwealth without any payment therefor"—words which may be thought to imply that any resumed portion of land therein which does not belong to the Crown must be paid for, payment being the generally accepted form of compensation for the disturbance or destruction of proprietary rights.

Probable meaning of the words.

8. The Statutory declaration that "the Seat of Government shall be within territory which shall have been granted to, or acquired by, the Commonwealth," indicates two methods of creating the Federal Territory: (1) Grant, (2) Acquisition; but these may, it is supposed, be taken advantage of cumulatively as well as alternatively. The first method (Grant) would obviously be appropriate in the case of Crown lands within the Territory; indeed, it might have been in contemplation by the framer of the section that the Territory might contain nothing but Crown lands, so that the Commonwealth might acquire its entire Territory free of cost. The second method (Acquisition) may have been intended to include Purchase, as well as any mode of securing ownership other than "Grant." If this view is correct, then the expression "Grant" would be applicable to the Crown lands (if any) within the Territory that New South Wales would have to make a gift of to the Commonwealth; while "Acquisition" would, as a general term, indicate methods of obtaining by purchase, &c., private or alienated land so situated.

Acquisition may imply provisional or permanent resumption.

9. But as there are very few districts in New South Wales eligible for the selection of the Federal Territory which contain any considerable areas of good unalienated land, it becomes important to understand what is implied by the term "Acquisition" in its operation on the ownership of private land. If it means resumption, then there can, it would seem, be a "permanent" resumption with dispossession of the original owners, or a "provisional" resumption without actual dispossession, for the purpose of giving effect to the supposed intentions of the Act. Permanent resumptions might be necessary, and probably would be, to clear the ground for the laying-out of the Federal Capital building site, and its appurtenances, preparatory to the erection of the required buildings, but, for a large portion of the residuary area ceded to the Commonwealth, "provisional" resumption might be sufficient; and the Federal Act of Parliament to be passed to give effect to the provisions of the Commonwealth Act could provide that, notwithstanding resumption, all persons having estates or interests in lands within a resumed area should continue to hold the same subject to all powers conferred on the Commonwealth; and, in the event of permanent resumption of any such lands by the Commonwealth, that such persons should be entitled to compensation on the basis of the values of the resumed lands at the date of the issue of the Proclamation appointing the day for the establishment of the Commonwealth, or as on the 1st January, 1901. Tenants of such lands would attorn to the Commonwealth, but retain their holdings with the obligations and rights attaching thereto until "permanent" resumption; and, even then, it might be provided that resumption should, in certain cases, be effected without dispossession, eviction, or any other destructive result. This would, perhaps, give due effect to the permissive and discretionary power of resumption which the section, it is thought, intended to confer on the Federal Parliament.

"Not less than 100 square miles." Preferent right to enhanced values.

10. The second paragraph of the section under consideration enacts that "the Territory shall contain an area of not less than 100 square miles" (= 64,000 acres); and the difficulty so often experienced in giving a just construction to statutory words

words defining a minimum quantity which do not also state or indicate a maximum limit is repeated in interpreting this paragraph. Do the words "not less than" standing, as they do, without any qualification import an unlimited discretion on the part of the State that gives, and the Commonwealth which accepts, to reciprocally give and take a much larger area than the minimum of 100 square miles—say, for example, 1,000 square miles, or even more?

11. Long before I had finished my visits of inspection, and before holding any Public Inquiry, the conviction was forced on me that 100 square miles would not be nearly enough for a Federal Territory; but as it was obvious that increase of the territory to be ceded to the Commonwealth would involve *primâ facie* sacrifices on the part of the surrendering State, I was disposed to think that there ought to be no considerable excess over the prescribed minimum, and that, although 25 per cent. of excess might be permissible, the offer of an area much larger than that minimum was not contemplated by the framers of the enactment. Further consideration has made me abandon this opinion, and interpret the words cited with a leaning rather to a large and beneficial construction than to a construction based on an assumption that this combination of the old 25 square miles run blocks was meant to be the Australian equivalent of the District of Columbia, or to a construction anticipating on the part of New South Wales an indisposition to cede, even to a Partnership of which she would be so influential a Member, more than the Statutory minimum of her Territory, and whether with or without compensation.

12. The question of offering a much larger area to the Commonwealth than 100 square miles may be expected to turn upon the mutual benefit or loss that such a transaction might be expected to entail. To the Commonwealth, or Partnership of Australian States, the acquisition of a territory very much larger than the minimum area will, I am convinced, prove of inestimable benefit. As landlord, the Commonwealth will be able, either to sell choice blocks and frontages within the Federal City area, at more pounds sterling per foot than they cost per acre, or, if perpetual ground leasing be preferred, to dispose of them so as to assure a splendid annual income to the Commonwealth which created the enhanced values, while land suitable for suburban residences and for agriculture, mixed farming, agistment of stock, or other industries, should command prices, whether on sale or lease, that must return, at the very lowest estimate, from 50 to 200 per cent. on the original outlay.

13. No doubt a similar result, though on a much reduced scale, would follow, even if the Federal Territory were limited to 100 square miles; but it is difficult to believe that the area of enhanced value will not, in less than half a generation, cover a much larger tract than 100 square miles. Therefore, the potential area of enhanced value, or betterment, should be secured for Federal uses; and, as a business transaction, the larger that area is (within reasonable limits) the better for the Commonwealth. If a sufficient area be not so secured, whether resumption follows immediately or is deferred, it is clear that others than the creators of the betterment will gain by it and be the reapers of what they have not sown.

14. If it were necessary, the Commonwealth Act itself might be called as a witness in support of the power, if not of the expediency, of acquiring additional room for the operations of the partnership; for, among the powers conferred by section 51, subsection XXXI specifies "the acquisition of property on just terms from any State or person for any purpose in respect of which the Parliament has power to make laws," and that power seems to be conferred, by the 52nd section, exclusively on the Commonwealth to legislate with respect to the Seat of Government and all places acquired by the Commonwealth for public purposes. Section 111 is the correlative of these enactments, for it enables the Parliament of a State to surrender any part of the State to the Commonwealth, whereupon, and upon acceptance by the Commonwealth, such part of the State becomes subject to the exclusive jurisdiction of the Commonwealth.

15. Subsection XXXI of section 51, by the words "on just terms," indicates the controlling condition of any such acquisition of property; and this condition should, I submit, be taken to have the effect of incorporating the accepted principles of compensation to private parties, and to the State affected by the loss of such property.

16. Upon the whole, therefore, the conviction is almost irresistible, that a timid adhesion to the 100 square miles minimum would not be in the best interests of the Commonwealth; and I have endeavoured in the Conclusions, in Part III, to give effect to that conviction in such a way as to afford the determining Authority an opportunity of acquiring either a very much enlarged area, or, in the alternative, of accepting the area as orginally proposed, or any modification thereof.

"What are Crown lands?"

17. Another question arising upon the interpretation of this section is, "What are the Crown lands which New South Wales must make a gift of to the Commonwealth?" It seems, at all events, clear that lands vested in Her Majesty and not permanently dedicated, or granted, or lawfully contracted to be granted (which is the definition of "Crown lands" in the "Crown Lands Act of 1884"), would be included; but it is doubtful whether that class of lands known as "Church and School Lands," which, for certain purposes, have by a recent Act of Parliament (the "Church and School Lands Act of 1897") been made Crown lands for the purposes of that Act, fall within the scope of the expression "Crown lands" as used in this section. A very large area of these "Church and School lands" has been converted under the Act cited, and is now held under various forms of tenure, including leases for long terms of years. This question becomes of importance in connection with such sites as contain large tracts of Church and School lands at present held under tenures which could not be destroyed without compensation. The question might also be raised whether Crown lands under lease or other tenure were meant to be included;—lands in respect of which compensation would have to be paid by the State to its tenants or licensees before it could make a gift of them to the Commonwealth. With respect to public highways of which the soil would in so many cases be held to be vested in Her Majesty, it is not, I think, a tenable contention that they are "Crown lands" within the meaning of this 125th section. It is, however, considered that the soil of navigable rivers, lakes, and lagoons, also the floor or bottom of any port, bay, or inlet, included within any proposed area would be "Crown lands" which must be given to the Commonwealth without payment. Upon the whole it seems to be a reasonable inference that the expression "Crown lands" in the section under consideration means "Vacant Crown Lands."

Compensation and its basis.

18. Further, this section raises the question whether, in the event of compensation to private owners following resumption, the State which loses so large an area of its territory (in all cases more or less highly improved), and therefore of its taxable lands and inhabitants, is to be compensated for that loss? It is a question which arises in connection with the estimated cost of establishing the Seat of Government—whether more than 64,000 acres be offered or not. It is to be observed that one of the exclusive powers with which the Parliament of the Federation has been invested is to legislate for the peace, order, and good government of the Commonwealth with respect to the Seat of Government and all places acquired by the Commonwealth for public purposes; and section 51, already referred to, among the various powers therein enumerated, specifies (XXXI) "the acquisition of property on just terms from any State or person for any purpose in respect of which the Parliament has power to make laws."

19. If, then, there is reason to believe that the "good government of the Commonwealth" may be legitimately promoted by permitting it to occupy the position of landlord of a much greater area than 64,000 acres, provided the acquisition of that area be made "upon just terms" to the surrendering State, it would seem to follow that the interpretation of this section should be that which attaches to every resumption of private lands—the obligation of compensating, first, the private owners for deprivation of estate, and, next, the surrendering State for whatever losses it will sustain consequent on such resumption. These latter losses may be roughly stated as follows:—

1. Loss of revenue obtained from taxation of lands included within the ceded area.
2. Loss of revenue contributed by inhabitants paying income or any other tax, and resident within the ceded area.
3. Loss of roads, bridges, public buildings, and other State property within the ceded area.
4. Losses, other than as above specified, capable of pecuniary valuation, and consequent on the act of cession.

20. Against these losses it would seem only just to put, by way of reduction,—

1. Any relief to the ceding State from the annual outlay incurred in the maintenance of roads, bridges, and other public works taken over by the Commonwealth.

2. Any betterment, or enhancement of values which would enure to the benefit of the ceding State in respect of lands and other property outside the ceded territory and capable of pecuniary valuation.

21. A secondary question is whether, in the event of State compensation for loss of territory being allowed, the surrendering State as a constituent member of the Commonwealth should be required to contribute its quota to the amount of compensation to be determined? But the determination of this question would depend much upon the position of the selected Site, and whether or not the cession of that Site will create a betterment area, and, if so, to what extent, within the limits of the surrendering State.

Location of site of Federal territory. Circular inviting proposals. Inspections. Public inquiries.

22. The location of the Federal territory, with respect to the position of the constituent States of the Commonwealth, next claims attention. In the absence of any provision in the Statute bearing on this subject it appeared to be a reasonable course to invite, by advertisement in the principal country papers, proposals from such places in any part of New South Wales (not being within the proscribed area) as might be thought by residents and others to offer suitable Sites for the purposes in view.

This was done, and an unexpectedly large number of responses followed. The list includes the following places :—

Eden.	Orange.
Yass.	Wellington.
Howlong.	Bombala–Eden (Southern Monaro).
Albury.	Goulburn.
Carcoar.	Bemboka.
Queanbeyan.	Young.
Barber's Creek.	Hay.
Corowa.	Inverell.
Cootamundra.	Braidwood.
Wagga Wagga.	Port Stephens.
Murrumburrah.	Bellingen (Don Dorrigo).
Tumut.	Moss Vale.
Nowra (Sassafras).	Tenterfield.
Rylstone.	Delegate.
Tumbarumba.	Buckley's Crossing.
Molong.	Wentworth.
Glen Innes.	Forest Reefs (Millthorpe).
Armidale.	Junee.
Bathurst.	Towrang.
Mt. Clarence.	Bowna.

Circulars.

23. Circulars were, without delay, despatched to the various Associations, and persons, proposing these Sites, asking for detailed information under the heads, and embracing the subjects, specified in the accompanying Form.

PROPOSED

PROPOSED SITES FOR THE FEDERAL CAPITAL.

Persons desirous of bringing under the notice of the Commissioner any area containing 64,000 acres, as a suitable Site for the Federal Capital, are invited to forward their suggestions in writing, addressed to the "Registrar of Land Appeal Court, Sydney."

Such communications should afford as full and accurate information on the subjects hereunder set forth as can be obtained.

I. Climatic Conditions.

(a) Range and mean of temperature during each quarter of the year, beginning with January.
(b) Altitude above sea level, and mean altitude of the area as a whole.
(c) Rainfall.

II. Accessibility.

(a) By railway (existing or to be constructed).
(b) By road.
(c) By water.

The conditions under this head should deal with the approaches to any proposed Site as from the several constituent States of the Commonwealth, and distances in miles from approximate centres of area to the Capital Cities of such States should be given.

III. Physical Conditions.

(a) Nature of soil.
(b) Water supply and catchment.
(c) The possession of, or proximity to, stone, timber, and other material.
(d) Drainage.
(e) Other physical features.

IV. Ownership and Value.

(a) Area of alienated or private lands.
(b) Area of Crown lands (including Church and School lands, reserves, &c
(c) Estimated value of private lands (unimproved).
(d) Estimated value of private lands (with existing improvements).

V. Miscellaneous Conditions, &c.

(a) Character of neighbouring country, having regard to :—
1. Facilities for food supply.
2. Mineral products ;—especially coal.
3. Capacity to support a considerable population.
4. Conditions favourable to commercial and industrial development.

The Commissioner will subsequently appoint times and places for the holding of public inquiries, at which evidence will be taken, and due notice by letter will be given to persons who may intimate their wish to give evidence, as well as by advertisement in the local newspapers.

Land Appeal Court, Darlinghurst,
23rd October, 1899.

24. It will be seen by reference to the list of Sites submitted for inspection, prefixed to this Report, that out of the total number of Sites proposed for the Federal Territory, twenty-three have been inspected,—some of them as many as three times.

The following is an alphabetical list of the Sites that have been inspected :—

Albury	Goulburn
Barber's Creek	Molong
Bathurst	Moss Vale
Bemboka	Murrumburrah
Bombala–Eden (Southern Monaro)	Orange
Braidwood	Queanbeyan
Buckley's Crossing	Tumut
Carcoar	Wagga Wagga
Cootamundra	Wellington
Corowa	Yass
Delegate	Young.
Forest Reefs (Millthorpe)	

25. At fourteen out of this list of twenty-three Sites Public Inquiries have been held pursuant to the terms of the Commission. These inquiries have, in nearly every case, been held at the Court-houses, and always so as to suit the convenience of the promoting Committees or Leagues, who sometimes found great difficulty in procuring the punctual attendance of their witnesses. The evidence at these inquiries was taken on oath. The witnesses were examined, in the first instance by the

the Commissioner, and afterwards by any person present who expressed a desire to do so. So much of their evidence as appeared to be in any way relevant to the subject of inquiry has been taken down in the form of depositions by the Secretary to the Commission, and certified Summaries of that evidence accompany this Report. The original depositions are retained in the Office of the Colonial Secretary.

The central force of populations. Grouping of Sites.

26. It will be seen that no inspection or public inquiry has been held for proposed Sites lying north of the Main Western Railway Line. For adopting this course excluding, as it does, at least seven proposed Sites lying north of that line of demarcation, I must accept the sole responsibility. In the absence of any direction contained in the Commonwealth Act, it seemed reasonable to give effect to the attractive force of the denser populations. No point in New South Wales is equi-distant, or even approximately equi-distant, either from the respective Capitals or from the denser populations of the constituent States. It followed, therefore, that inquiries under the Commission should be limited to such Sites as could be shown to be fairly accessible by the ordinary lines of communication to the most densely peopled parts of those States. This criterion appears, according to existing statistics, to exclude all Sites lying much to the north of the Railway from Sydney to Bourke. The population located south of the Main Western Line, as prolonged across the Continent or extended to Port Darwin, is estimated by the Government Statistician at 2,714,105 against 1,003,625 residing north of that line; and if, instead of the Main Western Line as prolonged, the 33° parallel of south latitude be adopted as the line of demarcation, the same authority estimates the population resident south of that line at 2,588,725 as against 1,129,005 resident north. (See Annexure marked A.) So that whichever of these lines of bisection be taken, the southern population is much in excess of the northern. At the same time, it must be admitted that the adoption of this method would not have been justified if any Site lying northward of either line had been, or could be, pointed out, which collected all the features of suitability for a Federal Territory in a higher or more assured degree than any of the Southern Sites. But no such Site has been pointed out.

27. This Report will, therefore, deal only with such Sites as are situated South of the Main Western Line, and these will be divided into three groups:—

(1.) Those lying along, or in the immediate vicinity of, the Bathurst to Bourke Railway.

(2.) Those lying along, or in the immediate vicinity of, the Goulburn to Albury Railway.

(3.) Those lying along, or in the immediate vicinity of, the Goulburn to Cooma Railway, and its prolongation to the Victorian Border, at or near Delegate.

For brevity, these three groups of Sites will be referred to as (1) Western Sites; (2) South-western Sites; (3) Southern Sites; and their distribution is shown in the appended table:—

WESTERN SITES.	SOUTH-WESTERN SITES.	SOUTHERN SITES.
Bathurst	Albury	Barber's Creek
Carcoar-Garland	Cootamundra	Bemboka
Forest Reefs (Millthorpe)	Corowa	Bombala-Eden (Southern Monaro)
Molong	Goulburn	Braidwood
Orange (Canobolas)	Murrumburrah	Buckley's Crossing
Wellington	Tumut	Delegate
	Wagga Wagga	Moss Vale
	Yass	Queanbeyan
	Young	

PART

Part II.—Conclusions: Review of determining factors, &c.

Conditions and considerations that should determine conclusions.

28. In approaching a task, the difficulty and importance of which may be allowed to speak for themselves, I need hardly say that my humble efforts to fulfil it will claim a large measure of toleration.

Your Excellency's Commission authorised inquiries specifically "as to the suitability for the Seat of Government of the Commonwealth of Australia of such tracts or areas as might be proposed for consideration"; but, in order to locate the Site of the Seat of Government, it was necessary, as a first step, to determine—at least, approximately—the Federal Territory which should include that Site. The attempt to do this has somewhat enlarged the scope both of the Inquiries and the Conclusions, but, it is hoped, not superfluously.

I have throughout endeavoured to keep in view the governing conditions for a Federal Territory and Capital for Australia, rather than what were considered necessary conditions by those who established the District of Columbia, with its Capital of Washington, or, at a later date, the Dominion Capital of Ottawa. The choice of our Federal Territory and Seat of Government seemed to invite special consideration, not only because of our special political characteristics, but for important topographical and physical reasons, as well as for reasons connected with the nature and extent of the Federal ownership of whatever Territory is to be ceded by New South Wales.

29. In the first place, as mentioned in an earlier part of the Report, it seemed a reasonable and convenient course to adopt the accepted routes of internal communication, both in New South Wales and the other States of the Commonwealth (Tasmania alone excepted, as being an island State), for determining the lines of accessibility to the Federal Territory as between all the States. Indeed, in the far greater number of Sites submitted for inspection, it was found that the railways, or their expected extensions or connections, were the chief influence in determining the proposal of those Sites. "Accessibility," therefore, has been considered mainly in connection with, and as determined by, the three principal Railway Routes specified in paragraph 27.

30. To attach values to the various factors of suitability commensurate with their importance would be a most difficult, if indeed it be a feasible, undertaking. The possession, however, of such sources of Water Supply, preferably by gravitation, as should be sufficient for the service of a population estimated to reach 40,000 within a generation, has throughout been considered rather as a condition precedent, or *sine quâ non*, than as a feature or point to which varying values might be attached.

31. The figures, 40,000, were assumed, for various reasons, one of which was that the population of Ballarat (in Victoria) seemed to afford a fair guide to what might be expected of the Federal Capital. But the certainty of expansion has always been kept in view, and there is nothing unreasonable in predicting for our Capital a population equalling, within the period above indicated, that of Ottawa at the present time (about 45,000). The possession, then, of ample water resources has been put prominently in the foreground, and this will hardly be regarded as without justification by those who consider what a sequence of drought years, such as those we have just passed through, might mean for a large inland population dependant on a precarious water supply.

32. It is, of course, beyond dispute that water supply is a matter largely within the combined forces of engineering and money; on the other hand, it seemed equally beyond dispute that a distinct physical advantage in the matter of water resources possessed by any particular Site without making any considerable demand on the Federal Treasury should be placed to the credit of that Site, especially when the supply was shown to be procurable within territorial limits.

33. In connection with this most important subject of Water Resources it is necessary to bear in mind;—(1) That an ample water supply will be needed for the large body of artisans (perhaps not fewer than from 2,000 to 4,000) who will be quartered for years on, or near, the spot selected for the Federal Capital. For ordinary domestic and sanitary, to say nothing of building, purposes, this large

 contingent

contingent must be accommodated with the necessary supplies of water from the start, and not many of the proposed sites can be said to command the requisite facilities to give that accommodation without large preliminary expenditure and great delay; (2) That the Site selected for the Federal Capital must depend in a large measure on the Scheme of Water Supply, especially when that is a gravitation scheme; or, in other words, the Water Factor should locate the Building Site, and not *vice versâ*.

34. It so happened that, during the summer and autumnal months of 1899–1900, when most of the proposed Sites were examined, New South Wales was passing through one of the severest series of drought years ever recorded, when almost all its streams had shrunken, and some had altogether ceased to flow, and many of its lakes and springs had dried up. The period of inspection was, therefore, well chosen for the purpose of seeing the country at its worst; and, partly as a result of these discouraging conditions, it very soon became manifest that no reliance could be placed on the assurance of abundant water supply so freely hazarded by the various promoters of Sites. The assistance of expert officers of the Water Conservation Branch of the Department of Works was, therefore, solicited, and, by the courtesy of the Minister in charge and the principal officers, of that Department, competent persons were detached for the examination of the most promising Sites, and their reports, to which attention is invited, will be found among the Annexures, General and Special.

35. The streams of New South Wales, whether as to permanency, volume, or other features, do not give much encouragement to those who would prefer the employment in the Federal Capital of water rather than steam as a motive power for trams, platform lifts, and other services; but there is reason to believe that, in a few instances, they could be used for the generation of hydraulic and electric power, though to what extent we have, at present, no sufficient guide. Perhaps the surplus overflow of the Murrumbidgee at the proposed Barren Jack Weir, or of the Snowy River above Buckley's Crossing, might supply such power in a limited degree.

36. In regard to "Climatic conditions," it seemed to be generally recognised, as an almost indispensable condition in the selection of the future Seat of Government, that, in the interests of the Commonwealth at large, some area within New South Wales should, if possible, be chosen which, by reason of its elevation, its rainfall, and its position with respect to the neighbouring country, could lay claim to an equable temperature, so far as such a condition can be secured; by reason of its distance from the sea coast should be exempt from the depressing influences associated with moist sea breezes; and, as a general result of these and other conditions, should assure a healthy and bracing climate to the various classes of the body politic whose home—for some during the entire year, for others during a more or less lengthened period—will be at the seat of Government.

37. It has been impossible to predict the times or seasons when the Federal Sessions will be held; but the controlling factor in the choice of a climate ought not, it is thought, to be the convenience of any one class, but the welfare of the inhabitants as a community. General convenience points directly to an invigorating climate, within limits of temperature excluding the sultry summer and autumnal heat of low-lying country on the one hand, and, on the other, those chilling, boisterous winds that sweep some of our plateaux with such force and severity that even the indigenous forest trees are unable to withstand their violence. And here I may be permitted to say that one of the principal reasons which have induced me to throw out some Sites situated on important rivers, and possessing attractive features in regard to accessibility and otherwise, has been their comparatively small elevation above sea level. It may be asked—Why, then, were inspections and public inquiries held for these low-lying Sites? The answer is, that the authorities with whom rest the power and responsibility of finally determining the Site for the Federal Territory, may repudiate the conditions which seemed to me indispensable. Evidence, therefore, has been collected in the interests of such low-lying areas as seemed in other respects to deserve consideration.

38. Although a position and importance subordinate to Water Resources have been assigned to Climate, a bracing recuperative climate may justly claim to be regarded, though in a secondary degree, as indispensable. By far the larger proportion of Australians are congested in seaport towns or on the coast districts, localities which, while they are supposed to ensure regular employment, and a regular sequence of amusements for all classes, and, in some cases, better prospects for

for agricultural and dairying industries, have but little recuperative value generally, and for continuous residents none at all. Probably one of the best known correctives of the enervating effects of a warm moist temperature is a pure bracing mountain air, for "mountain air,"—the air of our more elevated tablelands and plateaux—is of itself at the same time a stimulant and a tonic without mischievous reagency on the system.

39. The area that can be afforded by New South Wales for the Federal Territory will hardly be enough to provide a tract of country sufficient for the restorative and reinvigorating purposes to which allusion has been made, but the larger the district that can be spared from our tablelands the better for the future of our people. I do not suppose that the establishment of the Federal Territory will interfere in any way with our Universities; but it must attract to itself the future Military School of the Commonwealth, and it must to a large extent draw to itself the encampments and evolutions of our Military Forces; for not only is the Commonwealth invested (by section 59 of the Statute) with the administration of Naval and Military Defence, but, by section 114, "No State, without the consent of the Commonwealth, may raise or maintain any Naval or Military Force"; and, by section 119, the duty of protecting every State against invasion, and, with the consent of the Executive of that State, against domestic violence, is imposed on the Commonwealth—powers which, apart from any other transfers of State authorities, imply the possession by the Commonwealth, at the seat of Government of the necessary material, executive and administrative. From these and similar considerations it follows that our Federal Territory should, if it be possible, be both the sanatorium and nerve centre of the Nation.

40. To the factor of Accessibility, to which reference has been already made in this Report, a less value has been accorded than to Water Resources or Climate. And the fact that nowhere in New South Wales could a site for the Seat of Government be discovered equi-distant, or nearly equi-distant, from the capitals of the constituent States, at once indicated that Accessibility must become a matter of judicious compromise; and that the leading principle of such compromise should be the selection of a site not situate in such a position relatively to the two States which were the principal parties to the compromise, as well as to the other States whose communications with the seat of Government must, of necessity, be through the territories of those two States, as to offend the Federal sentiment of what may be called topographical justice. This sentiment was tersely expressed by a witness who said, "*There ought to be a fair deal.*"

41. It has been contended that the compromise of which the 125th section is the result points primarily or by implication to a site as near as possible to, while just outside, the 100 mile prohibitory arc. The Statute gives no support to such a contention, and it is hardly reconcilable with the "fair deal" principle adverted to in the preceding paragraph. On the other hand, a pedantic adhesion to mileage equidistance along the South-Western Trunk Railway, would result in the selection of a Site somewhere between Cootamundra and Wagga Wagga, which, in respect to Water Resources and Climate, would not be desirable.

42. As no working or workable coal seams are at present known to exist outside the prohibited area of 100 miles from Sydney, it was not expected that any of the proposed Sites could be shown to possess the advantages derived from local coal resources, unless in the way of such proximity to coal as is claimed by Bathurst and Orange in connection with Lithgow, and by Goulburn in connection with Bundanoon, coal. But in the case of the Bombala-Eden Site, the only one which gives promise of a port always accessible to vessels of considerable tonnage, the carriage of coal by sea from Newcastle or any southern port to Eden, and thence by rail to the Monaro Tableland, would make the relative cost of land and sea carriage of coal to the capital a very important question.

43. Of less practical importance is the possession of, or proximity to, deposits of good building stone and timber forests; because it is uncertain whether contractors would use local stone or timber in preference to Pyrmont stone and American timber, even if both could be obtained within a distance of (say) 50 miles from the building site; but, if cores brought to the surface by the diamond drill could be relied on as showing the suitability of rock deposits for building purposes, such tests would, undoubtedly, be of much use. As far as the evidence goes, it does not, in any case, appear to afford special promise of cheapening the cost of building by the use of local stone or timber. 44.

44. The character of the Soil included within any proposed Site may, by some, be considered as only of secondary importance compared with Water Resources, Climate, and Accessibility; but, in view of the Federal Parliament deciding to accept the benefits and burdens attached to the ownership of a very large tract of country, the possession of a fertile unexhausted soil appears to be of considerable importance; and it must not be forgotten that a fertile soil is not always associated with a good Climate or with an ample Water Supply. If the Commonwealth goes into its inheritance with the intention of recouping itself for a proportion of the cost incurred in preparing the Seat of Government for occupation, the difference between a rich productive soil and a sterile waste would at once make its mark on the income derived by the landlord; while, for all purposes connected with the internal Commissariat, a district, the soil of which is capable of meeting all, or most of, the demands made on it for grain food, fodder, meat supply, and dairy products, should, it is thought, command marked attention. The nature of the soil also becomes of importance, in regard to its geological formation, from an architectural point of view. The extra cost incident to insecure or treacherous foundations may, perhaps, not be of great moment to the Commonwealth, but the existence of such foundations would detract greatly from the market value of building sites.

45. In connection with Land Values, the probable cost to the Commonwealth of acquiring large areas for which resumption values would have to be paid in case of dispossession of the owners, must indisputably exert a strong influence in the selection of a suitable site, even though that cost be borne ratably by the members of the Federation, and though the basis of valuation be determined as at the date of the assent to the Commonwealth Bill, or at the date of its establishment by proclamation, pursuant to the third section of the Statute. To some extent, perhaps, the estimates of land values, with existing improvements, for areas within or outside Municipal boundaries, which have been given in the Summaries, may act as a guide (approximately) to the cost of resumption, where resumption may be thought necessary. And if, instead of 100 square miles, 500, or even more be resumed, the probable cost per acre of the territory to be selected cannot be a matter of indifference, especially in connection with the fact that land in some districts has been valued at £3 per acre, or less, while in others it certainly could not be resumed under from £6 to £8 per acre on an average of the contents of the entire Site. Other elements of cost, besides cost of land, *e.g.*, railway connections, will be dealt with in comparing the relative advantages and disadvantages of the various Sites inspected.

46. That the future Seat of Government of the Australian Commonwealth should have a ground site possessing all the physical conditions, and features, desirable for a beautiful and commodious city—if these are within reach—is undeniable. To some extent the final selection of the building site might be made conditional on professional inspection and approval after such tests as may be necessary; but common sense alone would suggest a sufficient expanse of rolling down country facing eastward, free from severe gradients on the one hand, and from the monotony of large flat surfaces on the other, with a mountain background, and as many as possible of the adjuncts of an elevated plateau flanked by hills. Depressions should be avoided, or converted into artificial lakes, for which purpose the command of an ample water supply would be invaluable. A Site which could provide these advantages for building purposes would, most probably, also provide sufficient open spaces for purposes connected with Military parades and the manœuvres of troops, as well as for periodical encampments.

47. The same class of country could (at least, such has been the result of my inspections) furnish all land required for parks and other places of public recreation, while the vicinity of permanent streams stocked with fish, indigenous and acclimatised, would attract the vacation rambler, the tourist, the artisan with a holiday, and the public generally for whom occasional picnicking is almost a necessary of life. On this head, but more particularly from an architectural standpoint, attention is invited to the Report furnished by Messrs. Mansfield, Vernon, Barlow, and Knibbs. (Annexure C.)

47. On all the heads that have been reviewed in the preceding paragraphs under this Part, there has been no lack of competition among the various Sites that have been inspected; but one Site appears to possess features of suitability with which no other Site is brought into competition. These will be fully considered when the Bombala-Eden, or Southern Monaro, Site is compared with rival Sites on the Southern Line.

PART

Part III.—Conclusions.

(*a*) WESTERN SITES.

48. Although, perhaps, the water resources of Canobolas are inferior, in regard both to catchment area and head for gravitation, to those of the Upper Campbell's River for Bathurst, yet there is evidence to support the conclusion that they are fairly sufficient for an assumed population of 40,000, and would be capable, by auxiliary storage, of supplying a still greater population. Moreover, the superior rainfall of Canobolas (as much as 14 inches greater than that of Bathurst), becomes an important factor when comparing the catchments of Canobolas and Bathurst; while the same may be said of the facilities possessed by this Site for providing an ample water supply for large bodies of workmen and others employed on buildings, &c. Canobolas (or Orange)

49. The climate of Canobolas, from the superior altitude of its Site, and its position on the fall of the plateau toward the Great Western Plains, is preferable to that of any Western Site, and I believe that the comparatively high rainfall of Canobolas is climatically beneficial, and in no way injurious, to health.

50. The soil of Canobolas is, perhaps, superior to that of Wellington, and, acre for acre, certainly superior to the soil of Bathurst, the weathering and destruction of the Canobolas basalts and other igneous rocks producing a more distinctively and permanently fertile soil than is produced by the same natural processes on the granites, limestones, or slates. The soil of Millthorpe, as a whole, is perhaps a trifle better than that of Canobolas, and the rainfall is practically the same. Much of what is called the "Forest," resting on a diorite foundation, is perhaps wetter country than Canobolas, and its fertility, and vicinity to the last-named Site, are the principal reasons for its suggested inclusion in that Site.

51. In the matter of accessibility, Canobolas is only 47 miles farther by rail from Sydney than Bathurst is, and, considered from the standpoints of the Southern and South-western and Western States, *viâ* the Blayney-Harden connection, Canobolas and Bathurst are on about the same level. As between Canobolas and Wellington, the advantages are in favour of the former Site. As between Canobolas and the Sites lying between it and Blayney and Lyndhurst (Millthorpe and Carcoar-Garland), there is but little difference in respect of accessibility.

52. The coal and iron and other minerals of Lithgow are nearer to Bathurst than to Canobolas, but the difference in cost of carriage is not of much importance.

53. The Canobolas Site, resting on basalt over clays and diorite, would afford better foundations for heavy structures than the granitic clays and gravelly detritus of Bathurst.

54. Bathurst, by reason of its stretches of open down country, is more suitable for military evolutions, encampments, &c., than any other Western Site, but reasonably sufficient Sites for these purposes could be provided at Canobolas.

55. The convergence of the Blayney-Harden and Orange-Condobolin connection and extension combine to make Canobolas a better market and emporium for all kinds of produce (stock, of course, included) than either Bathurst or Wellington.

56. As a building site, the gently sloping, lightly timbered lands, lying between the railway line, about Bloomfield Platform and the foot hills of the Canobolas Mountains, are not excelled, even if they are matched, by any other Western Site. The Canobolas Mountains in the immediate background are a strikingly distinctive feature.

57. In respect to the possession of suitable building material, I am inclined to bracket all these Western Sites together; for in the absence of proved sandstone or freestone deposits, and of timber suitable for such buildings as will adorn the Federal Capital, Sydney sandstone and American and Canadian timbers will doubtless be resorted to; but it is at present impossible to say that the sandstone deposits at, and in the vicinity of, Lithgow may not, at certain depths, afford stone equal even to that of Pyrmont.

58,

Land Values.

58. In regard to Land Values, the figures appended show the estimated cost of absolute resumption of the Western Sites as originally proposed :—

	£	s.	d.
Canobolas (Orange).—Improved value of 64,700 acres (less 10,800 acres of Crown lands) outside Municipal boundaries ...	365,000	0	0
Improved value of lands within Municipal boundaries... ...	592,426	0	0
Total	957,426	0	0
Bathurst.—Improved value of 64,000 acres outside Municipal boundaries (less 5,530 acres Crown lands) at £4 per acre...	233,880	0	0
Improved value of lands within Municipal boundaries... ...	913,184	0	0
Total	1,147,064	0	0
Forest Reefs (Millthorpe).—Improved value of 82,000 acres (less 50,640 acres Church and School lands = 31,360 acres) at £6 per acre(*)...	188,160	0	0
NOTE.—This valuation omits the cost of compensation in connection with Church and School lands held under lease, &c.			
Wellington.—Improved value of 91,500 acres outside Municipal boundaries (less 15,890 acres of Crown lands), at £3 per acre	226,830	0	0
Improved value of lands within Municipal boundaries... ...	167,535	10	0
Total	394,365	10	0
Carcoar–Garland.—As roughly estimated for the whole area, including Church and School lands, but excluding town of Carcoar	200,000	0	0
Or, at £3 per acre for 50,000 acres outside Municipal boundaries, and £35,000 for lands within those boundaries ...	185,000	0	0

Cost of resumption, as between Canobolas and Bathurst.

59. Thus it will be seen that the cost of resuming private or alienated land within the Canobolas Site outside Municipal boundaries would be £365,000, as against £233,880 for the same class of land within the Bathurst Site—a difference of £131,120; and that the cost of similarly resuming lands (as improved) within Municipal boundaries would be for Canobolas £592,426, as against £913,184 for the same class of land within the Bathurst Site—a difference of £320,758. The resumption cost for the other principal Sites is shown in the last preceding paragraph, but, in some cases, the estimates are only rough approximations.

Loss to New South Wales.

60. No evidence has been, or indeed could well be, given at the inquiries respecting the "loss" which may be expected to accrue to the State of New South Wales by reason of the cession of any tract by, or its withdrawal from, that State. Any such loss capable of pecuniary valuation would, therefore, form the subject of future consideration when the Commonwealth and the surrendering State have agreed as to the particular tract of country to be established as the Federal Territory, and as to the location of the Seat of Government within it.

Effect of 100-mile arc on Bathurst.

61. It will be noted that the arc of the 100-mile radius, measured from the west boundary of the City of Sydney, cuts off a large part of the Bathurst Federal Territory Site and the entire Federal Capital Site (see Sketch Map, marked A, in Appendix). This result was not known when the inquiry was held at Bathurst, although it was thought by some witnesses that the Bathurst Site might be affected, to some extent, by the 100-miles radial limit.

Carcoar-Garland Site.

62. The evidence in support of the Carcoar-Garland Scheme is almost wholly that of its promoter, Mr. Biddulph himself, and it must be at once admitted that the Site proposed by that gentleman has some conspicuous merits; but, as an independent scheme placed in competition with others on the Main Western Line, it seems to be inferior to some of them in regard to the character of the area selected for its Federal

(*) For particulars of holdings, formerly part of Church and School Estate, in the county of Bathurst, and within suggested extension of Canobolas Federal Territory, see Annexure 3 A (Orange Site).

Federal Capital Site, the fertility of its soil, its accessibility other than from the South, and its lack of specially attractive physical features; while, as compared with Bathurst, it lacks those extensive undulating downs which would be so useful for Military evolutions. But, although as an independent Site, Carcoar-Garland seems to me to be placed at a disadvantage as against other Western Sites, it, nevertheless, deserves serious consideration as supplying, with the Forest Reefs Site (Millthorpe), much of the area for extension of the Canobolas or Orange Site which I have suggested, or which may be adopted at any future time.

Wellington.

63. Upon a comparison of the "factors of suitability" possessed by the Wellington Site with those disclosed by other Sites situated on or about the Main Western Railway, the first apparent weakness of Wellington is in the matter of altitude, which at the railway station reaches only 996 feet above sea-level, and for the selected Site, as an average, about 1,200 feet. In the matter of Water Resources, although a pumping scheme might be relied on to supply the expected population (40,000), no gravitation scheme has been satisfactorily shown to be available. The Site is not well located in respect of accessibility, especially for the Southern and South-western States, and its connections North and West are at present only prospective. It lies at the outlet of a rather circumscribed, though beautiful, valley, and contains a rather large proportion of inferior country, and does not seem capable of expansion, except toward lower levels.

Rylstone. Mount Clarence.

64. This Site was not specially inspected for the purposes of the Commission. The map of the Rylstone Site forwarded with the Report does not show the position of the Capital Site within the Territory Site; but even if it be admitted that a fairly suitable building site could be found in the neighbourhood of the township of Rylstone, and that, at some expense, a fair water supply from the Cudgegong River, or Cox's Creek, could be obtained, also that the Rylstone sandstones might furnish good stone for building purposes, still Rylstone has no claims on the score of accessibility, being situated 53 miles off the Main Western Railway (on the Wallerawang-Mudgee Line); or for the general fertility of a soil derived from formations partly sandstone, partly granitic; or for its capacity to support a large population; or for facilities in view of the enlargement of its area if more room is required for Commonwealth purposes. I would nevertheless, have, made an effort to specially inspect the Rylstone Site, even at the eleventh hour, but, on consideration, it appeared to be impossible to bring Rylstone into competition with several Western Sites; and, like Bathurst, though not in so great a degree, the Rylstone Site is intersected by the 100 mile arc. The Mount Clarence Site was not inspected, because it was within the prohibited distance however measured.

Canobolas the best Western Site.

65. The conclusion I have arrived at, on a comparison of Western Sites, is that, whether as originally proposed, and as embracing an area of 64,700 acres, including 10,800 acres of Crown lands, or enlarged as suggested in paragraphs 11 to 14, and shown on the Plan of the Canobolas Extension Site (see Sketch Map, marked Q, in Appendix), so as to dedicate an area for the Federal Territory of about 883 square miles,(*) the Canobolas, or Orange Site, is the most promising that could be selected among all the Sites on, or in the immediate vicinity of, the Main Western Railway for the purpose of establishing therein the Seat of Government of the Commonwealth. (*b*)

(*) The boundaries of the suggested enlargement of the Canobolas Federal Territory Site, as given by Mr. H. A. Crouch, District Surveyor, Orange, are, approximately, as follow :—Area, about 565,500 acres; counties of Bathurst, Wellington, and Ashburnham. Commencing at the junction of the Murrumburrah-Blayney Railway Line with the Main Western Railway Line, and bounded thence north and east, passing along the suburban boundaries of Blayney to the south-east corner of W. Kemp's 640 acres, portion 23, parish of Torrens, county of Bathurst; thence north about 3½ miles, passing along the west boundary of King's Plains; thence west about 3 miles; thence north about 10½ miles, passing about 1 mile east of Guyong to the south-east corner of Perrier's grant of 1,241 acres, parish of Freemantle, county of Bathurst; thence west about 6 miles to Emu Swamp Creek; thence northerly down that creek about 3 miles; thence west about 4½ miles to Frederick's Valley Creek, at the north-east corner of Blacket's 1,280 acres (Rosedale Estate), parish of March, county of Wellington; thence northerly down that creek to the crossing of Orange-Ophir Road (known as the Third Crossing); thence generally westerly through the parish of March, about 5½ miles to Nanbillion Ponds Creek, at the south-west corner of Kite's 640 acres, portion 15; thence by that creek north-westerly, and downwards to the north-west corner of Taylor's 2,560 acres grant (now James Dalton's "Kangarooby"), portion 22, parish of Gambools; thence by the west boundary of that land south to the Main Orange-Molong Road; thence by that road westerly to Molong Creek; thence by that creek westerly to the Municipal boundary of Molong; thence by that boundary south and west to the road from Molong to Manildra; thence by that road south-west about 4½ miles; thence west to Mandagery Creek, about 1½ miles south-west from "Garra"; thence southerly by that creek to "Long's Corner," about 3 miles south-west from Toogong; thence southerly by the road from "Long's Corner" to Canowindra, about 4½ miles; thence generally easterly about 25 miles, through the parishes of Molong, Nyrang, Barrajia, Cargo, along the south boundaries of Edinburgh and Clarendon, and through the parish of Blake to Flyer's Creek; thence by Flyer's Creek downwards to its junction with Belubula River; thence by that river upwards to the crossing of the Murrumburrah-Blayney Railway Line; thence by that line north-easterly to the crossing of McKenzie's Creek; thence by that creek upwards to the Carcoar-Blayney Road; thence by portions 38, 37, 36, and 35 east and south to Belubula River; thence by that river upwards to the Municipal boundary of Blayney; thence by that boundary west to the Railway Line aforesaid; and thence by that line northerly, to the point of commencement.

(*b*) SOUTH-WESTERN SITES.

Grouping of Sites along the Sydney-Melbourne Trunk Railway.

66. The clustering of almost all the Sites proposed on this line of communication, along, or in the immediate vicinity of, the Sydney to Melbourne Trunk Railway, is to a certain extent the counterpart of a similar grouping of Sites on the Main Western Line; but the influence of the important Border State of Victoria in determining the lines of Accessibility is more marked in connection with these South-western Sites.

Distinction between Western and South-Western Sites.

67. Compared with the principal Western, these South-western Sites, with the exception of Goulburn, are physically distinguished by their connection with rivers of large volume and permanent flow—the Murrumbidgee and Murray; and that feature would be distinctively expressed on a section of the country lying between the upper basin of the Wollondilly (say at Goulburn) and the basin of the Murray at Albury, which would mark a fall of from 2,074 to 534 feet above sea level; or, if Cullerin Station be taken as the highest point on the table-land, a fall of 1,861 feet. Between these points of maximum and minimum elevation, the Railway Station altitudes above sea level of Goulburn, Bowning, Yass Plains, Murrumburrah, Cootamundra, Junee, Wagga Wagga, and Albury are found to be respectively, 2,074, 1,807, 1,660, 1,271, 1,082, 988, 609, 534 feet. When these elevations are compared with the largest and most permanent sources of water supply, Wagga Wagga gets the benefit of the Murrumbidgee by a loss of 1,465 feet of elevation, and Albury the benefit of the Murray by a loss of 1,540 feet.

	feet.
Goulburn Ry. Station	2,074
Bowning	1,807
Yass	1,660
Tumut (approximately) ...	1,300
Murrumburrah ...	1,271
Cootamundra ...	1,082
Junee	988
Wagga Wagga ...	609
Albury	534

Junee. Murrumburrah. Cootamundra.

68. The distance along this Main Trunk Line from Melbourne to Sydney is 576 miles; so that an equi-distant point on it, as between the two Capital Cities, would be about the 288th mile. At or about this point Junee is the only Site that has been proposed; but, as already indicated in paragraph 41, that Site, like others on the downward grade or descent toward the Plains of Riverina, is open to grave objection on the score of both Water Resources and Climate.(*) Junee, therefore, has been rejected, and, for the same reasons, Cootamundra and Murrumburrah. To supply an assumed population of 40,000, water would have to be lifted from the Murrumbidgee, or brought by gravitation from one of its affluents, at very great expense, to ensure a sufficient service for any of these Sites, and, against these drawbacks, no compensating advantages have been disclosed, with the exception of such as may be claimed under the head of Accessibility.

Wagga Wagga.

69. Lower in the descending series lies Wagga Wagga, the elevation of its Railway Station above sea-level being 609 feet, and of the Site selected for the Federal Capital about 710 feet as an average. This Site has the advantage of being only 21 miles distant from the point of equi-distance between Sydney and Albury, being 309 miles distant from Sydney, and 267 miles from Melbourne, and it has the enviable endowment of an unlimited water supply in the Murrumbidgee, on the left bank of which permanent and ample stream it is situated. That supply, however, must, it would seem, be obtained by pumping, for no effective gravitation supply has been pointed out, nor is the existence of a gravitation source of supply probable, at least, within reasonable limits of distance and expenditure. In regard to fertility of soil, food supply, and facilities for the enlargement of the proposed Site, Wagga Wagga is well favoured. The Site selected for the Federal Capital, being an expansion or enlargement to the south of the present town of Wagga Wagga, though lacking any features of distinction, would seem to be architecturally sound and acceptable. If resumption values were paid for the 94,000 acres of alienated lands embraced in the Site, they would, including the area within Municipal boundaries, cost, according to estimates of witnesses, £962,560. In spite of all its apparent advantages, I must, nevertheless, place Wagga Wagga in the Rejected List, for its water supply must be a pumping one from the River Murrumbidgee, and its summer and autumn climate is the climate of a low-lying district situate in a river basin. Moreover, the cost of resuming the Federal Capital Site, which includes the town of Wagga Wagga (supposing resumption to be necessary), would be out of all proportion to the advantages derived from the inclusion.

(*) Mr. C. E. Blomfield reported (23/5/1900) as follows:—"The only possible Water Supply for Junee is by pumping from the Murrumbidgee. The lift will be from 500 to 600 feet, and the distance about 20 miles."

Albury.

70. The next Site of importance on the Southern Trunk Railway is Albury, distant 190 miles from Melbourne and 386 from Sydney, and having an altitude at the Railway Station of 534 feet, and, as a mean of the proposed Site, of 700 feet above sea-level. Like Wagga Wagga, Albury has all the advantages connected with an unlimited water supply by pumping from the river (The Murray), on the north bank of which it is situated. The alluvial flats of the Murray frontages give Albury great advantages in the possession of a fertile soil removed from the baneful influence of droughts, while the country bordering on the river affords all facilities for the production of grain, fruits, and wine; and, for the command of almost unlimited food supplies from other districts, Albury must be allotted a prominent place. The Murray could be made a navigable river by a moderate expenditure in snagging and dredging, and health resorts are within easy reach. The elevation of the Railway Station of Albury is less by 75 feet than that of the Station at Wagga Wagga, and, although Albury is almost entirely surrounded by high country, especially on the Victorian side, it is, nevertheless, claimed that even during the hot months of the year the climate is healthy and invigorating; but, in all these cases of low-lying Sites, the evidence of local witnesses, which, of course, is rarely unfavourable, must not be allowed to outweigh actual physical conditions; and these disclose the fact that Albury, like Wagga Wagga, is within the zone of high inland summer and autumn temperatures. Perhaps the climate of Albury, by reason of its proximity to the Victorian Mountain Ranges on the south-east, may be beneficially influenced, in some degree, but certainly not to such a degree as to compensate for a loss of 1,000 to 1,500 feet of altitude. In the matter of Accessibility, Albury is about twice as far from Sydney as from Melbourne, and is on the bank of the boundary river between the two States of Victoria and New South Wales. With the commercial consummation of Federation, Albury and the Federal Capital of the Commonwealth, if located there, must be dominated by the nearer State and its Metropolis for all commercial purposes, for trade will then necessarily be governed by the conditions of cheaper and shorter access to the best market. If there had been no such compromise of the rival claims of New South Wales and Victoria as is contained in the 125th section of the Commonwealth Act, the last objection could not, I think, have been fairly raised against the aspirations of Albury; but, in view of that section, which declares that the Seat of Government shall be in the State of New South Wales, but distant not less than 100 miles from Sydney, it would hardly be reasonable to comply with the 100 miles limit in a way that might result in a Site being accepted which, while technically and topographically within New South Wales, and so complying with the literal requirements of the section, would be within the commercial sphere of influence of a Border State to such a degree as to make the statutory direction as to location, in effect, almost nugatory.

Corowa. Howlong.

71. As Corowa Railway Station is about 30 feet lower than that of Albury, and the Site inspected presented no features of superiority over the Albury Site, and as it could not be assumed that a Site lying lower down the same river (the Murray) could have a better climate than one lying some miles higher up, the reasons for rejecting Albury were reasons for rejecting Corowa. An additional reason was that Corowa is situated at the terminus of the branch line, Culcairn to Corowa, and, as compared with Albury, is less conveniently located on the line of direct communication between New South Wales and Victoria. Howlong Site, situate between Corowa and Albury, was cursorily examined but not officially inspected, being open to the same objection as Corowa.

Tumut.

72. Tumut is not on this Trunk Railway, but is reached by road from the terminus (Gundagai) of the Cootamundra Branch Railway, the distance being 21 miles. Tumut township has an altitude, according to Mr. Staff-Surveyor Chesterman, of 925 feet; but the mean altitude of the proposed Capital Site would, according to the same witness, be about 1,300 feet above sea-level. The difference in mileage, rail and road, between Sydney and Tumut and Melbourne and Tumut, is about 70 miles in favour of the former. The summer and autumnal heat are not excessive. The rainfall is ample (33 inches), and is well distributed over the four quarters of the year. The soil is very fertile on the alluvial flats, and, on the hill slopes, quite up to the average of similar country. The water resources are ample, and a promising gravitation supply is offered by the Buddong, apart from the Tumut River itself. The basin of Gilmore Creek, on which lies the Site of the proposed Federal Capital, is by no means without distinctive features; and the Tumut River, which is the

eastern boundary of the proposed territory, can claim to be along the whole length of its course, not only, perhaps, the most lovely stream in New South Wales, but to offer riverside landscapes that, for natural beauty, are unsurpassed, if they are rivalled, by any in that State. It is, therefore, with no little reluctance that I feel obliged to add Tumut to the list of rejected South-Western Sites; but this Site, being 54 miles, even when connected by rail, from the main line of communication—the South-Western Trunk Line between the Northern and Southern States—is at a perpetual disadvantage. As against any Site situated on the Trunk Line, Tumut is handicapped by the fact that Sydney is 308 miles, and Melbourne 378 miles, distant, which means 110 miles of extra haulage from each Capital, and proportionate lengths along each State section of the railway. The Gilmore Valley Capital Site is physically a circumscribed area incapable of much expansion, and a large portion of the Territory Site is very rough and intractable country for agricultural purposes. The mean altitude, even allowing it to reach 1,300 feet, is hardly sufficient to ensure the required climate, especially in Summer and Autumn; but if Tumut had been situated on the Trunk Line, with the advantages it possesses, that Site, according to the original proposal, should, in my judgment, have been at least bracketed as on an equality with the Yass Site as originally proposed.

Tumbarumba, Bowna, Hay, Wentworth.

73. The four Sites specified in the margin did not seem to require inspection, as my knowledge of the country proposed for the Federal Territory by their advocates made further examination unnecessary. Hay and Wentworth were within the hot zone, and were unsuitable in other respects. Tumbarumba was more inaccessible than Tumut, and more circumscribed in area; and Bowna (submitted too late for inspection) was in no better position than Albury. These Sites were, therefore, rejected without special inspection.

Comparison of Goulburn and Yass.

74. All other South-western Sites having been rejected, Goulburn and Yass alone remain for consideration and comparison.

In regard to Water Resources, if Goulburn had to be supplied by gravitation, its position is rather low on the comparative list prepared by Mr. Blomfield, having been placed by him between Queanbeyan and Cootamundra. On the other hand, Yass, if supplied by a pumping scheme from the Murrumbidgee, has been assigned a somewhat similar position, between Wagga Wagga and Junee; but subsequently to Mr. Blomfield's inspection, it has been claimed, in favour of Yass, that the Micalong catchment can provide that Site with an effective gravitation scheme (see Annexures—Yass, 3, 3a, 4); but that scheme is, in consequence of length of pipe-line and other circumstances, an expensive one—£270,000 for piping alone. The Upper Wollondilly has not been, it must be admitted, thoroughly examined for a gravitation supply for Goulburn; but even if the water resources of Goulburn were equal, or nearly equal, to those of Yass—and neither are particularly promising—yet there are good reasons why the Yass Site possesses more advantages than that of Goulburn, viz.:—(1) Although Yass does not possess the altitude above sea level of Goulburn, the Yass climate is on the whole better than the Goulburn climate; (2) Yass is nearer the point of equi-distance between Sydney and Melbourne than Goulburn by about 60 miles—both being on the same trunk line; (3) The Yass district gives greater facilities for expansion of area (if desired), and has a better soil; (4) The cost of resumption of land for Yass is considerably less, according to estimates of value, than for Goulburn. The area within Municipal boundaries—

Of Goulburn being valued at	£676,737
Of Yass at...	213,000
A difference in favour of Yass of	£463,737

while the estimated value of land outside the Municipal boundaries of Goulburn is about £3 7s. 6d. per acre on an average, and of the same class of land at Yass at £3 per acre. According to these figures, the cost of the Yass territory would be less than a third of the cost of the Goulburn territory.

Yass Site, as proposed to be enlarged.

For these reasons I have thought that the Yass Site should be preferred to the Goulburn Site, even as originally proposed, which, in the case of Goulburn, embraces 100 square miles, and of Yass, 144 square miles; but my grounds for advising the offer of Yass as the most eligible among South-western Sites for the establishment of the Seat of Government of the Commonwealth rest, in a very considerable degree, upon the inclusion of an enlarged area, the increase being as

as much as 950 square miles, and embracing the entire bed of Lake George (probably not less than 60 square miles), which, of course, is Crown land, and would cost the Commonwealth nothing. Roughly, the suggested extension of the Yass Site would begin at the junction of the Yass River with the Murrumbidgee, and, thence eastward, follow the course of the Murrumbidgee to a point near to Queanbeyan; thence northerly to Bungendore, and the eastern side of Lake George to its northern end; and thence by a line connecting that point with the head of the Yass River; and so by the Yass River to the point of commencement. (See plan of Yass Extension Site, marked R in Appendix.*) This enlargement would practically federalise most of the triangular tract of country, of which the apex is Goulburn, the base the Murrumbidgee River, and the two sides, portions of the Main South-western Trunk Line and of the Goulburn to Cooma Line.

Lake George.

75. There is some highly improved country on the eastern and south-eastern shores of Lake George, including the Currendooley Estate and House, which perhaps it might be desirable to acquire as a country residence for the Governor-General; but I have excluded this tract, to avoid loading the Yass Scheme with an additional and large item for cost of resumption.

I have included the basin of Lake George for the following reasons:—

(1) Its acquisition would, practically, cost the Commonwealth nothing; and it is an area of Crown land that New South Wales has never considered to be of the smallest value to her territory, except for a small strip at the southern end of the Lake used for measuring two base lines in connection with a Scheme of General Triangulation. The Lake is a large expanse of more or less brackish water when at high level,(†) and a large expanse of saline mud when at its lowest; sometimes partially covered with the weed known as *Fat Hen* and a salinous creeper (? *Rhagodia*, sp.); and the catchment is limited in extent.

(2.) If, notwithstanding its limited catchment, the basin of this Lake, or a portion of it, could be converted into a reservoir, its value to the Commonwealth Territory would be much greater than to any part of New South Wales.(‡)

(3.) If the basin cannot be converted into a permanent reservoir, then if reclamation by the Commonwealth should be undertaken,—and there is not much room to doubt that the whole of the water in the basin could, if necessary, be discharged by cutting and tunnel (through Geary's Gap) to the lower levels about the sources of the Yass River, and perhaps directly into that river,—there would be a very large area of valuable land acquired for Commonwealth purposes which is not likely to be acquired for the benefit of New South Wales. It is right to add that I have not been able to obtain any exact information as to the depth and nature of the soil deposits in the Lake; but if the grass on those portions of the southern end of the Lake which have reclaimed themselves can be taken as a criterion of the soil, it should be well worth reclaiming.(§)

(e)

(*) Mr. A. C. Betta, Chairman of the Goulburn Land Board, has furnished the following description of the suggested enlargement of this Site:—Commencing at the intersection of the Southern Railway Line with Bowning Creek, and thence by that creek downwards to its junction with the Murrumbidgee River; thence by the eastern bank of that river, upwards to a point due west of Ranger Hill Trigonometrical Station, parish of Yarralumla, county of Murray; thence by a line east to the head of Turallo Creek; thence by that creek northerly to its junction with Lake George; thence by the eastern and northern shores of Lake George to its northern extremity; thence by a line west about 10 miles to Yass River; thence by the south bank of that river, downwards to the town of Yass; thence north to Southern Railway Line, and by that line westerly, to the point of commencement.

(†) Mr. A. C. Betta, Chairman of the Goulburn Land Board, writes, that in the very wet years, 1870-1874, when the Lake had risen so high as to threaten to submerge Bungendore, the water was not even then fit to drink, although the codfish introduced by the late Sir Terence Aubrey Murray live and thrive in the Lake.

(‡) The surface level of Lake George was ascertained by actual levelling to be 2,225 feet above sea level by Surveyor Mountain in 1878—(Notes upon "Floods in Lake George," by Mr. H. C. Russell, Government Astronomer, p. 15)—which is 565 feet higher than Yass Railway Station. If the water of Lake George could be purified, by providing an outlet as well as by dredging, and evaporation be diminished by reducing the surface area, this height should be sufficient to provide a gravitation supply for the Yass Capital Site; and a very large area of the Lake Basin could still be reclaimed and brought under irrigation if required.

(§) In the summer of last year, when the Lake was very low, the mud on the western side of the basin easily bore a buggy and pair for some hundreds of yards from the high water level; and, to judge from the look and feel of the soil, it certainly seemed as if reclamation would be much easier in this basin than in the case of the salt morasses and quaking bogs on the banks of the Shoalhaven, on the Coolangatta Estate, which the proprietors have converted, and are still converting, into splendid agricultural land. Since my last visit to the Lake, I have received a copy of a report by the Lake Observer (Mr. Glover) to the Government Astronomer, in which it is stated that the greater part of the bed consists of soft mud, varying in depth from 15 inches to 3 inches, under which there is a very stiff black soil, almost clay, averaging about 2 feet in depth, and below the black soil a light cream-coloured sandy loam. Further examination of the Lake bed, by means of trial shafts and borings, might throw very useful light on the possibility of its successful reclamation, and help to solve some interesting geological questions.

(c) SOUTHERN SITES.

All Southern Sites, except three, disregarded.

76. Between Goulburn and the Victorian Border, 7 Sites were submitted for inspection and inquiry, and between Sydney and Goulburn 3, or, if Sassafras be included, 4. Of these 11 Sites, 8 were inspected—viz., Barber's Creek, Bemboka, Bombala-Eden (Southern Monaro), Braidwood, Buckley's Crossing, Delegate, Moss Vale, and Queanbeyan; but Public Inquiries were held only at Queanbeyan, Braidwood, and Bombala. Barber's Creek, Moss Vale, and Towrang Sites were considered unsuitable, among other reasons, for either insufficient or difficult and costly water supply; Delegate and Eden became incorporated with Southern Monaro; Buckley's Crossing, in spite of its splendid Water Supply, when considered as a rival to its near neighbour, was thought to be outclassed as an independent Site; Sassafras—on the summit of the coast range that defines the basin of the Shoalhaven on the east—gave no hope of an adequate Water Supply, was manifestly open to objection on the score of accessibility, and could claim no physical or other advantages over Braidwood, a rival Site in the upper basin of the Shoalhaven; and Bemboka, at the head of the Bega River, at the foot of the Nimitybelle, or Brown's, Mountain, was a comparatively low-lying Site, without any countervailing advantages. Competition was therefore practically limited to 3 Sites—Queanbeyan, Braidwood, and Southern Monaro.

Queanbeyan.

77. The first named of these Sites, embracing as it does a long frontage to the Murrumbidgee and the beautiful and fertile Limestone Plains (on the Duntroon Estate), with an altitude of between 1,900 and 2,200 feet, promising water resources, and a much commended climate, when placed in competition with its neighbouring rival on the west, Yass, was clearly at a great disadvantage in regard to Accessibility; the distance from Melbourne to Queanbeyan being 502 miles, or, by the proposed extension, *viâ* Bairnsdale and Cooma, about 460 miles, while from Sydney it is only 205 miles, and when placed in competition with the Southern Monaro Site, was at a like disadvantage for the same reason, and also in regard to the possession of an ample and cheap gravitation water supply. Nevertheless, although rejected as an independent Site among Southern competitors, much of the proposed Queanbeyan Site has been included in the enlarged Site of Yass. (See paragraph 74, and Plan of Yass Extension Site, marked R in Appendix.)

Braidwood.

78. Like most of the Tableland Sites, Braidwood is a pastoral or grazing, rather than an agricultural, district, and is held in comparatively large areas; the resumption of the Braidwood Site would, therefore, be much less costly than the resumption of agricultural country; the average value for Braidwood, Yass, and Queanbeyan, being, for improved lands outside municipal boundaries, about £3 per acre. Braidwood is some 30 miles off the Goulburn-Cooma Line, and its water resources, except for a pumping scheme, are not good. Its climate is rather severe in winter—perhaps, however, not more severe than that of Southern Monaro. Its summer climate is quite equal to that of Queanbeyan, and it gets the sea breeze somewhat earlier in the day; but, in regard to Accessibility, it is rather more unfavourably situated than Queanbeyan, and the area of good country in the upper basin of the Shoalhaven, in which the Braidwood Site lies, is limited, while the character of its soil is not one of its greatest recommendations. But for these drawbacks, the gently undulating downs seen from the summit of Gillimatong Hill, seemed admirably suited for a Capital Site. Bateman's Bay, at the mouth of the Clyde River, as a Federal Port associated with this Site, although it affords sea-carriage, cannot vie for an instant with Twofold Bay in connection with the Southern Monaro Site; and the Araluen Valley as a garden for semi-tropical grain and fruits, is not a particularly strong feature. Braidwood therefore must be added to the list of rejected Sites.

Other Southern Sites.

79. The Goulburn Site has already been considered when comparing South-western Sites. Bombala-Eden, or Southern Monaro, Bemboka, Delegate, and Buckley's Crossing were the only other Southern Sites inspected, and as Bemboka, near the head of the Bega River, possesses only the altitude, and, with it, the climate of the Foot Hills of the Coast Range, and is in other respects unsuitable, that Site may be disregarded. Delegate, near the Victorian Border, does not come into competition with the other Sites, inasmuch as its promoters may be said to have practically retired in favour of Bombala-Eden. No Public Inquiry was held at Buckley's

Buckley's Crossing, but, although in regard to water resources, position, character of country, and climate, that Site had much to recommend it, yet it lacked those special features which the neighbour Site of Southern Monaro possessed, and suggested a modified incorporation with that neighbour rather than independent competition. Such incorporation, it will be seen, has been suggested. (See Plan and description of boundaries of Southern Monaro Extension Site, marked S in Appendix.)

Southern Monaro Site.

80. Three inspections of the Southern Monaro Federal Territory and Capital Sites made for the purposes of the Commission, confirmed strongly the favourable opinion I have always entertained of this tract of country, just as similar inspections of the Orange and Yass Sites strengthened my original inclinations in their favour; and when it was decided to reduce the eligible Sites to three, the right of Southern Monaro to a place could not be questioned; for not only does it possess all the features of suitability claimed for Orange and Yass, except Accessibility by rail, but it has some special features of its own which must attract the serious attention of the determining Authorities.

In the first place, the inclusion in the Federal Territory of Southern Monaro of a harbour like Twofold Bay, with at least from 5 to 6 square miles of safe anchorage for the largest ocean-going steamers, secured by a north and south breakwater of no extraordinary dimensions or cost, and of a railway connection with that harbour, both railway and harbour and a sufficient area of adjacent country to be Commonwealth property, distinguish this Site from all others.

The Engineer-in-Chief for Harbours and Rivers estimates the cost of the breakwaters—the northern, 4,700 feet, the southern, 4,850 feet in length, affording a width of entrance of 1,800 feet—at £1,028,000, a sum which might be considerably reduced if suitable stone could be obtained in the neighbourhood. (See sketch of Bay and works, and letter of Mr. Darley, Annexure Bombala-Eden, 5.)

But as against this large sum, it is only fair to set the fact that this harbour being Crown land would cost the Commonwealth nothing for resumption.

If the Seat of Government were to be located on the Monaro tableland, and connected by rail with a harbour such as Twofold Bay, the Commonwealth would acquire an invaluable naval base situated nearly halfway between the two State Capitals that offer the greatest temptations to an enemy—Sydney and Melbourne. The Eastern States of Australia would acquire a harbour of refuge, or for refitting ships in distress, or for coaling. If the Commonwealth is to have a navy of its own, or even a training ship, Twofold Bay would be a convenient station, particularly for gunnery practice, and suggests itself as the convenient head-quarters of the Naval Commandant. As the breakwaters would be fortified, the Port of Eden could be made practically impregnable. With such a harbour the Commonwealth would have two routes for reaching the various State Capitals—one by sea, the other by land—and for facilitating the collection, mobilisation, and despatch of troops, munitions, and equipments.

The lumber cargoes from the other side of the Pacific could be discharged direct on the Eden Wharf; and the same facilities would exist for cargoes of coal, stone, iron, roofing slates, tiles, cement, and all other kinds of building material; and thus every State of the Federation would have a common commercial heritage in a harbour second only to Port Jackson.

The resident inhabitants and visitors of the Federal Capital on the uplands of Monaro would have, within three hours journey by rail, a seaside climate admirably suited for bathing and seaside recreations; and as winter quarters for those who might require an occasional change from a bracing to a milder climate. And two such climates as those of Eden and Monaro would be of reciprocal benefit.

What these and other advantages might mean in the course of a generation or two it is impossible to predict, and, perhaps, difficult to exaggerate.

Whether the advantages to be derived from the association of such a harbour with a Federal Territory would compensate for the cost of securing them, it is for others to determine; but even in its present state, the Port of Eden, except during violent south-east gales, which are infrequent, is one of the best on the coast of New

New South Wales, the in-curved northern headland forming a very snug, though rather small, harbour, which has an excellent jetty, where vessels of 2,000 tons can discharge, while a few thousand pounds spent in extension and enlargement of the jetty, and in putting down mooring and riding buoys, would very greatly improve the shipping facilities of the Port pending the construction of the Breakwaters.

I have given special attention to the harbour advantages associated with this Site, because they are, in one respect, its chief distinguishing feature; but there is another aspect in which this Site is distinguished from all others. If the Federal Capital is established in Southern Monaro, it is considered certain that Victoria will extend her Gippsland Line, now terminating at Bairnsdale, through Orbost, and contouring the coast up to the Victorian Border near Delegate or Timbillica, and so complete a coastal circuit of railway communication, which would be of great strategical value, and would also be a relief to the Main Trunk Line, and possibly an effective substitute for a duplication of the roadway of that line, the ordinary traffic on which must, with intercolonial freetrade, become more and more congested. The cost of such an extension, which it is presumed would be borne by Victoria, is estimated by Mr. Rennick, the Victorian Engineer-in-Chief for Construction, at £665,493 15s., or £4,500 per mile for 147 miles 71 chains. The cost of extension to Delegate River or Bendoc would be much higher, viz., £1,351,212 10s. and £1,442,237 10s. (See Annexure 1 to Report on Bombala-Eden, or Southern Monaro.)

In regard to Water Supply, whatever rank is to be assigned to the Site which possesses the most abundant, as well as the cheapest, by gravitation from a never-failing source, with 280 feet of head, Southern Monaro has hardly a rival, even under the conditions of the original proposal; but with the Snowy River thrown in, as it will be by the enlargement of the Site, as suggested (*post*, page 24), Southern Monaro stands absolutely first in the important matter of Water Resources; and the same Site gives better promise than any other of affording water power for hydraulic lifts and the development of electrical energy. The character of the Water Supply is treated at length in the Report on this Site, at page 39. It may, however, be mentioned here that most of the catchment areas of the Delegate and Little Plains Rivers are in New South Wales, and within the proposed Federal Territory as enlarged, although the sources of both are in swamps and springs on the other side of the Victorian Border.

In regard to Accessibility, although the distance from Sydney to Melbourne, *viâ* Goulburn and Cooma Railway, as extended to the Victorian Border, and thence *viâ* Orbost and Bairnsdale to Melbourne, would be approximately 676 miles, or 100 miles more than the distance between the same two points by the Main South-Western Trunk Line *viâ* Albury; yet, the Southern Monaro Site would be very nearly equidistant, as between Sydney and Melbourne by rail, and by water the difference would not be very much in favour of Sydney. The disadvantage of 100 miles more railway road between the two Capitals would, however, be more than counter-balanced by the advantages of the alternative sea route, and the connection of our Southern Railway System with the Victorian Gippsland System.

Southern Monaro, it must be admitted, is at present cut off both from Sydney and Melbourne by the break in railway communications, and, of these, it seems that no less than two extensions and one independent line will be required before the Site can be said to be properly accessible. The Victorian extension has already been considered. There remain the connecting line, Eden to the Monaro Federal Capital Site, and the extension from Cooma to the same point. This extension has been estimated to cost, if continued to the Victorian border, £7,000 per mile, *i.e.*, for 91 miles, £637,000; and the connection, from Eden to the Table Land, if taken *viâ* Bondi, £1,323,330; and, if taken *viâ* Wolumla, Postle's route, £1,088,719. The former is the shorter route by some 14 miles, but it is much the more costly per mile. (See Annexures 2 and 3, Bombala-Eden.)

The connection from Twofold Bay, according to the proposals of the promoters of the Southern Monaro Site, would be made at the joint expense of the Commonwealth; so that the proportion of cost falling to New South Wales might not, on a population basis, be more than £400,000, in round numbers. The extension from Cooma to the Border, estimated at £637,000, together with the proportion of cost to

to New South Wales of the breakwaters—say, £370,000; making a total, with the proportion of cost of the Lord's Hill Water Supply Scheme (£40,000), of £1,411,400.

But it is contended by the promoters, and, I think, with justice, that their Scheme should not be weighted with the cost of a railway, which they say ought to have been constructed years ago in fulfilment of a State obligation to the just claims of an important, but hitherto neglected, part of her territory. As a matter of fact, the right of the district to the more costly of these two lines—that from Eden to the Monaro Tableland—has been publicly and influentially conceded; and the promoters have asked me, in justice to their case, to reproduce the views of Sir Henry Parkes and Sir William (then Mr.) Lyne, as expressed in a debate in the Legislative Assembly on the 1st October, 1891:—

Sir Henry Parkes: "It does not follow that because this very fine port (Eden) has, from one cause or another, been neglected, that it will continue to be neglected. When that district is opened by railway communication, to which, in my judgment, it is richly entitled, Eden, which has a very fine harbour, will become the site of a very important maritime city. . . . I have that faith in the progress of this country that I have long foreseen that, although retarded by unfavourable circumstances, this result is certain by the very force of growth from without. . . . Twofold Bay has been the victim, if I may so term it, of singular neglect. I do not say whose fault it is. It is very difficult to distinguish; but, certainly, before many years, Twofold Bay, where the town of Eden is situated, . . . will become one of the most important places in New South Wales. I have no doubt whatever of that. As far back as 1873 I advocated the construction of a railway to the port to bring the traffic of Monaro to the bay. . ."

Mr. Lyne: "I think, if there is a district in which a railway should be constructed, it is from the tableland to the port of Eden. There is no finer port in the Colony, and there is no finer country at the back of it. It is certainly to be regretted that the construction of the line has been left so long in abeyance. There is no possible doubt that the port must become a great shipping port, and it will become a great centre of population."

These are the deliberate opinons of a past and present Premier of New South Wales, and were given without intuition of Federal requirements or conditions, but solely upon a consideration of the natural claims of the district to better communication. And whether New South Wales has to bear the whole cost of this connection of port and tableland, or only a proportion of it, the liability is not one to be placed to the debit of the Southern Monaro Site. A just compromise would seem to be to charge New South Wales—*i.e.*, the Southern Monaro scheme—with

Proportion of cost of	this railway (say)	£400,000
,, ,,	breakwater	£370,000
,, ,,	Lord's Hill Water Supply Scheme	£14,400
	Total	£784,400

and to relieve the scheme from the whole cost of the Cooma extension (£637,000), because that extension may now be regarded as the equivalent of the Eden-Bombala connection admitted to have long been an unfulfilled State obligation.

Thus the cost to the State of the Southern Monaro Scheme, under the heading of Accessibility, would be about £784,400.

In the matter of Climate, the altitude of this Site (2,400 feet) and its latitude (37 degrees south), ensure a somewhat cooler summer and autumn than any other Southern Site, and in winter a climate quite as endurable as those of Braidwood, Queanbeyan, or Buckley's Crossing. All these Southern Sites are within the influence, during the hot months, of the afternoon sea breezes, and though in Southern Monaro the winter temperature sometimes drops to 20 degrees, and there are falls of snow, yet there is compensation in the summer day temperature, which averages only 66 degrees, and in a night temperature of 50 degrees, and the snow rarely lies on the ground all day. Bleak cutting winds are experienced occasionally in winter, but they are not more severe than those of other Southern Sites on the Tableland.

In regard to soil, there are some extensive tracts included in this Site of splendid basaltic soil, and that of granite formation is as well adapted to the growth of cereals and fruits as the soil of any other Southern Site. Its proximity to the warmer and very productive Bega District would, however, give Southern Monaro an advantage over some of these Sites, in the command of such grain and fruit supplies as are the products of a warmer climate. The same coast country would also be helpful in supplying fat cattle during certain seasons, and dairy produce, in which respects the other Southern Sites are not so well favoured.

The

The southern slopes of the Monaro Tableland, taking Nimitybelle as the ridge, though differing much in geological formation, preserve throughout, with the exception of limited areas of rough mountain country, the same surface characteristics of an elevated plateau—undulating lightly-timbered downs, traversed by numerous streams, all converging towards the Victorian Border and eventually finding their way to the Snowy River. It is a district which, more than any other that has come under inspection, offers ample areas of similar character for extension of a Federal Territory, if required, and at a reasonable cost for resumption, Monaro, as a whole, being a pastoral and thinly-settled country.

For possession of, or vicinity to, any useful deposits of building-stone, clay for brickmaking, &c., I do not think that Southern Monaro has any advantage over other Southern Sites; but the inexhaustible forests of useful hardwood timber on the slopes of the Coast Range and elsewhere within or close to the proposed Federal Territory, give this Site advantages over any other Western, South-Western, or Southern, if local timber should be much used for building material.

The surface formation of the Site proposed for the Federal Capital, and the nature of the subsoil, resemble, in some degree, those of other undulating downs, and may be bracketed with Yass, Braidwood, and other Sites; but for artificial lakes and other ornamental waters the water supply in the neighbourhood of this Site is superior, both in respect of quantity and easy conveyance to that of any Southern and many other Sites, and the pipe line that would afford this supply could be utilised for many other purposes. The natural drainage is good, and there would be no swamps or morasses to reclaim.

Of the 80,000 acres of the Site proposed as Federal Territory, about 5,000 acres are Crown lands. The improved value of the area within the municipal boundaries of the town of Bombala is given at £72,635; for the residue, about 74,000 acres, a fair average would be from £3 to £4 per acre, some tracts being worth no more than 30s. per acre, while others are worth £7.

This Federal Territory Site of 125 square miles (80,000 acres) is, in my opinion, altogether inadequate, and an extension of area is suggested which would increase the area up to 1,200 square miles approximately; (*) and the average improved per-acre value of the increased area would, probably, be £3. (See Southern Monaro Extension Plan, marked S in Appendix.)

As has already been pointed out, Southern Monaro is a pastoral, and not an agricultural, district. For all meat products, therefore, it and its associated Coast Districts could be relied on to supply the requirements of a largely increased population; but the absence of any market for cereals and root crops has hitherto made farming on a large scale an unprofitable business. The advent or expectation of a market would, however, soon alter these conditions, and agriculture would take and retain its proper position in this district, and the proposed railway extensions and connections, if carried out, would make Southern Monaro readily accessible for all external food supplies.

(*) The Chairman of the Goulburn Land Board has supplied the following description of the Southern Monaro Federal Territory Site, according to the suggested enlargement:—Commencing at the junction of Snowy and Delegate Rivers, and bounded thence by a line south to the boundary line between Victoria and New South Wales; thence by that boundary line south-easterly to the summit of the Coast Range; thence by that range northerly to a point due east of the northern boundary of the town of Nimitybelle; thence by a line west to a point due north of the junction of Snowy River and Wulwye Creek; thence by a line south to that junction, and by the east bank of Snowy River downwards, to point of commencement.

Summary of Conclusions.

81. Summing up the Conclusions reached on the foregoing Review of the various Groups of Sites proposed, your Commissioner considers that any one of the three Sites—(1) Orange (or Canobolas), (2) Yass, (3) Bombala-Eden (Southern Monaro), will be suitable for the establishment therein of the Seat of Government of the Commonwealth; and whether for the area originally proposed, or enlarged as suggested, or as may subsequently be determined.

If the final selection is to be governed mainly by considerations of cost of acquisition, and present accessibility as between New South Wales and Victoria, Yass would be entitled to first place; but the resources of that Site for an effective Water Supply for a large population are not as satisfactory as could be desired.

If the quality of the soil and the character of the climate are accepted as the controlling factors, Orange (or Canobolas) would be entitled to first place; but the cost of resuming land within this Area will be very heavy, and the Water Supply from the Canobolas Catchment is not very promising for a large population. This Site has the additional drawback of not being, in respect of Accessibility, a fair compromise as between Sydney and Melbourne.

If the Federal Territory is, within reasonable limits, to be selected independently of cost and of present Accessibility, Southern Monaro combines more distinctively appropriate features than either Canobolas or Yass.

On their own merits, apart from the considerations indicated above, and having regard to the future, rather than the initial, requirements of the Commonwealth, Southern Monaro is entitled to the first place, and Canobolas and Yass may be bracketed as about equally suitable.

Acknowledgments, &c.

82. Your Commissioner regrets that it has been found impossible to submit his Report within the time originally allotted. The unexpectedly large number of applications for inspection of Sites, and Public Inquiries between the intervals of the Sittings and the engagements of the Land Appeal Court, the necessity of making several such inspections in some cases, the protracted character of the Inquiries, and the obligation, amounting almost to a duty, which he felt under to collect all the relevant material in his power which could aid in the future determination of the Seat of Government, have been the principal causes of delay in completing the task entrusted to him.

83. Also, he thinks it right on his part to admit that some of the suggestions and opinions contained in this Report may not strictly fall within the scope of the powers or duties with which he was invested by the Commission. To such a charge, if made, he has nothing to offer by way of answer or excuse, except that the temptation to exceed his instructions, if he has exceeded them, has been too great for him to resist, and that he preferred the chance of receiving absolution for having done more than he was commissioned to do, to the certainty of receiving merited censure for having done less. But he is not conscious of having committed, or even contemplated, the impropriety of encroaching on the function of the constitutional authorities who have been invested with the prerogative of determining both the Seat of Government and the Federal Territory.

84. In bringing his Report to a close, it gives your Commissioner much pleasure to acknowledge the many obligations he has been under in the execution of his Commission. To the Premier and Members of the Victorian Government, the Commissioner of the Victorian Railways, the Engineer-in-Chief for Railway Construction in Victoria, and the Secretary to the Commissioner, the Secretary and Officers of the Ballarat Water Trust,—his cordial thanks are but an insignificant acknowledgment of the courtesy and assistance extended to him on all occasions; and they are due in as full measure to the Premier, and to the Secretary for Public Works in New South Wales, to the Under-Secretary, the Railway Commissioners,

 the

the Engineer-in-Chief and Assistant Engineer for Railway Construction, the Engineer-in-Chief for Harbours and Rivers, and the Officers of the Water Conservation Department who have been so helpful in the examination of the various sources of Water Supply; to the Chief Surveyor and Officers of the Compiling Branch, Department of Lands; the Government Astronomer, without whose cheerfully rendered aid the Records of Temperature and Rainfall would have often been defective, or conjectural; the Government Architect, and the professional Architects of Sydney who supplied a valuable Report (General Annexure C); and to the Government Statistician and Government Geologist, for information very kindly furnished by them.

To Mr. A. C. Betts, Chairman of the Goulburn, and Mr. H. A. Crouch, District Surveyor of the Orange Local Land Board, the Commissioner is under very great obligations for the plans and descriptions and other topographical particulars supplied by them in relation to the various Sites in their districts; also, to Mr. G. H. Sheaffe (District Surveyor, Goulburn Local Land Board), Mr. William Orr (District Surveyor, Wagga Wagga Local Land Board), Mr. Staff-Surveyor Barlow (Albury), Mr. Staff-Surveyor Chesterman (Tumut), Mr. W. R. Bundock, of Braidwood (formerly Road Superintendent), and to Mr. W. R. Newton, of Bombala. The companionship and guidance of these gentlemen over extensive tracts of country, and their large stores of local knowledge, have been of inestimable service.

He has, further, to thank the many Chairmen and Secretaries of the Local Leagues and Committees for their assiduous courtesies and kind offices during his numerous inspections of Sites; his thanks are also due to those Police Magistrates and other Officers, who, at some inconvenience to themselves, allowed the use of the Court-houses for the conduct of public inquiries.

But this acknowledgment of his obligations would be incomplete if it omitted the name of the Secretary to the Commission, Mr. J. T. Keating, Registrar of the Land Appeal Court, whose experience and ability as a Draftsman have been highly appreciated whenever technical difficulties arose. It has been a subject of much gratification to your Commissioner that he has been associated with an officer of such marked ability, zeal, and discretion; and that, chiefly as a result of his unflagging industry, the whole of the clerical, corresponding, and deposition work of the Commission has been carried to completion without extraneous assistance.

Certified under my hand and seal, this 26th *day of October*, 1900.

(L.S.) ALEXR. OLIVER.

GENERAL

GENERAL ANNEXURES.

(A.)

Government Statistician's Office,
Sydney, 10 September, 1900.

Dear Sir,

In the estimates of population forwarded to you, the Island State of Tasmania was excluded from consideration; the request, as understood, being confined to the population of Australia. I enclose estimates of population which include Tasmania.

Yours, &c.,
T. A. COGHLAN,
Statistician.

Alex. Oliver, Esq.,
President, Land Appeal Court, Darlinghurst.

ESTIMATE OF POPULATION (*exclusive of Aboriginals*).

Within the Commonwealth, and north of the 33rd parallel of south latitude.		North of railway line from Sydney to Bourke, and thence by a line due west across Australia.	
New South Wales	451,575	New South Wales	501,725
Queensland	482,400	Queensland	482,400
South Australia (including Northern Territory) ...	37,500	South Australia (including Northern Territory) ...	7,500
Western Australia	157,530	Western Australia	12,000
Total...	1,129,005	Total...	1,003,625

Within the Commonwealth, and south of the 33rd parallel of south latitude.		South of railway line from Sydney to Bourke, and thence by a line due west across Australia.	
New South Wales	896,825	New South Wales	846,675
Victoria	1,162,900	Victoria	1,162,900
South Australia	333,200	South Australia	363,200
Western Australia	13,500	Western Australia	159,030
Tasmania	182,300	Tasmania	182,300
Total...	2,588,725	Total...	2,714,105

(B.)

Subject:—Comparison of fourteen proposed Federal City Sites as regards their Water Supplies.

Public Works Department, New South Wales,
Water Conservation Branch, 6 June, 1900.

Sir,

In accordance with your verbal request, I herewith beg to place the various Federal City Sites which I have inspected in the following order as regards their water supplies, and, for greater convenience, I have divided them into two groups, viz.:—(1) Those which can be supplied by gravitation; and (2) Those for which pumping will have to be adopted.

Group I.

Buckley's Crossing
Bombala
Tumut
Carcoar-Garland
Bathurst—(*Vide* later Report of 4/8/00, appended).
Orange
Queanbeyan
Goulburn
Cootamundra.

Buckley's Crossing is decidedly the best. The supply is unlimited, the distance the water will have to be brought is small, and provision could easily be made for generating electricity at the place where the water supply would be taken off, as the fall in the river is very rapid.

Bombala and Tumut are both very favourably situated for water supply by gravitation, and have sources of supply equal to a very large population.

The Carcoar-Garland Site is a very good one, but the streams are not so permanent as those of Southern Monaro, so that more use would have to be made of flood waters; but there would be no difficulty about supplying water for a large population, and also in obtaining power for generating electricity.

Orange has only a small watershed for its supply, but it is very good, and so is the rainfall. My reason for placing it below the Carcoar-Garland Site is that it has not the same possibilities for supplying a very large population.

Queanbeyan has a large available supply, both from the Cotter and Murrumbidgee Rivers. The former would give a very good and pure supply, but the expense would be large; and it is for that reason alone I have placed it so low down on the list.

Goulburn has a fair supply for a limited population; but if it were to grow much above 70,000 it is difficult to say where the extra supply of water could be brought from; also, the storage is not very good.

In

In Cootamundra, a gravitation scheme from the Adjinbilly Creek is quite possible. It has sufficient elevation, and the supply would be ample for a large population; but it would be an expensive scheme, and a lot of gold-mining on the Creek would have to be put a stop to. The water at the time of my visit was very turbid.

Group II.

Albury
Wagga Wagga
Yass
Junee
Braidwood
Bathurst—(But *vide* later Report of 4/8/00, appended).

Of the pumping schemes there is not much to choose between Albury and Wagga Wagga, but Albury would be a little the best on account of the Murray being a larger river than the Murrumbidgee, having fewer towns on its catchment, and, therefore, less liable to pollution.

Yass and Junee are about the same, and the supply would have to be pumped from the Murrumbidgee in each case. Yass has fewer towns on the catchment above it than Junee, but for Junee the pumping lift would not be so great.

Braidwood and Bathurst are very similar, as storage reservoirs would most likely be necessary in both instances, and to supply the higher levels pumping would be necessary.

CHARLES E. BLOMFIELD,
Resident Engineer, Department of Works.

P.S.—I have since examined Campbell's River, at Wallbrook, and find that a large and pure gravitation supply can be obtained for Bathurst. I would now place it in the list of towns that can be supplied by gravitation, between Carcoar-Garland and Orange.—CHARLES E. BLOMFIELD, Assistant Engineer, Deniliquin, 4th August, 1900.

To the Federal City Site Commissioner, Land Appeal Court.

(C.)

Sir, Sydney, 10 August, 1900.

In response to your invitation, we have the honor to submit the following expression of our opinion on the questions placed before us for consideration in connection with the selection of a Site for the Federal City of the Australian Commonwealth.

From an architectural, sanitary, and engineering point of view, the topographical and general features of an ideal Site for a Federal or other City may be summed up briefly as follows:—

The Site should be a stretch of gently undulating country, the slopes of which of sufficient fall for drainage purposes, and admitting of the construction of streets of easy grade,—should, if contiguous to a river, be out of the reach of floods and free from fogs. Gently rising ground, containing a few depressions readily convertible into small lakes, and the Site itself surrounded by commanding hills,—preferably in the form of an amphitheatre, or rather semi-amphitheatre,—would probably satisfy the conditions indicated, and present the artistic features essential for the development of a really beautiful city. The Site should be within easy distance of an ample water supply, admitting of the creation and maintenance of the artificial lakes which should constitute a leading feature of its public gardens.

While the presence of a river is desirable, it is not indispensible; but the locality should be within easy reach of natural features which might be developed into popular pleasure and health resorts.

In order that the *sanitary* conditions may be satisfactory, it is important that the subsoil should *not* be clay. . . . . It would be advantageous for the city to have a north-easterly aspect, and it should be well sheltered.

Conditions affecting the erection of the City.

The first requisite in the creation of a city of the character proposed is provision for housing the industrial classes that would be employed in the erection of the Federal buildings. This necessarily implies, also, a sufficient water supply and sewerage. The simultaneous erection of these Federal buildings may be reasonably estimated to require the services of at least 2,000 workmen, or an industrial population —including its caterers—of 8,000 people.

To erect permanent dwellings for the whole of this population would be unwise, as, on the completion of the building operations, most of the operatives would depart in search of work elsewhere. Temporary quarters might, therefore, be considered as desirable as an adjunct to private enterprise, especially in the early stages. This requisite involves, as a preliminary, the consideration of the design of the city, and the matured plans for its complete development, particularly with respect to the position of its streets, its public buildings, its water-supply, drainage, general traffic arrangements, and public gardens. Nothing inconsistent with or in any way hampering the ultimate design should be allowed to establish itself.

If it be possible to find a suitable Site sufficiently close to an existing town, there will be some advantage in respect of meeting the preliminary industrial requirements, since the necessary stores, workmen's dwellings, &c., would, in part, be already provided.

Design of City.

The main approaches to the public buildings should be of an imposing character. *Triple avenues of good width* would probably fulfil this condition.

The question of width of streets will, to some extent, depend upon the Site and local requirements. To have unnecessarily wide streets throughout would be a serious mistake.

The whole question of the general form of the city design is so dependent upon the topographical features, including the grades, &c., of the selected Site, that it is impracticable to further discuss anything so problematical,

Building

Building Materials.

Building Stone.—So far as is at present known, there is no suitable stone other than that at Sydney, the cost of working which is about one-half that of the Stawell stone of Victoria.

Wherever the Site may be, the advantages possessed by the Sydney building stone are such as to indicate that, in the absence of further discovery, it should be used for the façades of all the principal buildings, in conjunction with the harder stones, such as granite, marble, trachite, and bluestone for special features.

The Hawkesbury sandstones have, however, not been adequately explored; and it is desirable that wherever a good building stone is believed to exist the beds should be tested. As far as is known to us, Katoomba and Bundanoon offer the most promising fields for exploration.

With regard to the Sites mentioned viz., those referred to hereinafter, there is a great poverty of good building stones. The obvious advantages of being able to use a local stone suggests the desirability of thoroughly exploring the formation nearest to the selected Site.

Trachyte and granite would form suitable materials for street purposes. . . . . The Southern Sites are better supplied in respect of these stones than the Western Sites.

Brick.

The quantity of brick that must be used must necessarily be much greater than that of stone. Brick earths, however, are likely to be found in sufficient quantities in close proximity to any of the suggested Sites. . . Modern machinery can produce bricks of good quality even out of what seems unpromising material.

With regard to timber, there is none suitable, in sufficient quantity, on any of the Sites mentioned. The question of timber supply does not, therefore, affect them.

Lime may be obtained within accessible distances of all the Sites.

The Schedule on the following page enumerates the buildings that will probably be necessary, their assumed cost, and the number of years required to complete them, *i.e.* after the necessary arrangements have been made for access, water-supply, and sewerage, and the housing of operatives.

Schedule.

Houses of Parliament	£750,000	7 years.	Minor Departments, *e.g.*— Finance and Trade, Fisheries, Health, Statistics, Patent and Copyright, Audit, &c.	80,000	3 years.
Governor-General's Residence	75,000	3 „			
Post Office	100,000	3 „			
Custom-House	50,000	2 „			
Secretariat	80,000	3 „			
Military Academy, Barracks, Commandant's Residence, Arsenal and Factory	200,000	4 „	Premier's Official Residence	10,000	1 year.
			Minister for War	7,600	1 „
Treasury	50,000	2 „	Treasurer	7,500	1 „
Courts of Justice, Law Offices, Federal Records House, &c.	300,000	5 „	Attorney-General	7,500	1 „
			Laying-out City, &c.	250,000	
National Hall, with Art Gallery and Library	150,000	10 „		£2,117,500	

In view of the long interval of time that must elapse before the Houses of Parliament could be completed and ready for occupation, it is desirable that temporary accommodation should be provided. This could be ready in three years—that is, in about the time required for the erection of the major portion of the administrative buildings.

Relative cost of building on different Sites.

Taking the foregoing estimates as the average for all, the following will indicate the relative cost of the different Sites, Bathurst and Goulburn being bracketed as equal and taken as unity:—

Bathurst–Goulburn	1·00
Millthorpe–Yass	1·04
Orange	1·05
Albury (if supplied from Melbourne)	1·03
Albury (if supplied from Sydney)	1·12
Wagga Wagga	1·10
Bombala	1·15

The high cost of building at Bombala might be reduced if, for other purposes, coastal facilities were provided, with Eden, perhaps, as a port.

We have, &c.,

G. ALLEN MANSFIELD, F.R.I.B.A.,
Chairman.
W. L. VERNON, F.R.I.B.A.,
Government Architect.
JOHN BARLOW, F.R.I.B.A.,
Pres. Inst. Architects, N.S.W.
GEO. H. KNIBBS,
Pres. Inst. Surveyors, N.S.W., Sur. Lecturer, University of Sydney.

His Honor, Alex. Oliver, Esq.

Federal

Federal Capital Site.

Dear Mr. Oliver, Sydney, 17 September, 1900,

In accordance with your request, we have reconsidered the matter of the Bombala Site; and we are of opinion that if the Eden-Bombala railway were constructed, and deep water port formed, the cost of building there would be about equal to the cost of building at either Millthorpe or Yass, viz., 1·04 as compared with Bathurst and Goulburn, which, as before, are taken to represent unity for the purpose of comparison.

We are, &c.,
G. ALLEN MANSFIELD, F.R.I.B.A.
W. L. VERNON, F.R.I.B.A.
JOHN BARLOW, F.R.I.B.A.
GEO. H. KNIBBS.

To His Honor Alex. Oliver, Esq.

(D.)

New South Wales, Department of Navigation,
Sydney, 22 August, 1900.

Sir,

I have the honor, by direction of the Superintendent, to acknowledge receipt of your letter of the 17th instant, and in reply beg to state that the following are the distances in nautical miles by steamer's course between the places mentioned below:—

Perth and Albany	385	miles.
Albany and Twofold Bay, *viâ* Adelaide and Melbourne	1,882	,,
Twofold Bay and Sydney	208	,,
Adelaide and Sydney, *viâ* Melbourne	1,072	,,
Melbourne and Sydney, wharf to wharf	577	,,
Hobart and Sydney	630	,,
Launceston and Sydney...	544	,,
Brisbane and Sydney	510	,,

If I can furnish any further information, I shall be happy to do so.

I have, &c.,
NORMAN C. LOCKHART,
Secretary.

Alex. Oliver, Esq., President's Chamber,
Land Court of New South Wales.

PART IV.

Part IV.—Reports on Sites.

ALBURY SITE.

Statement of Case.

Topography.

THE following topographical description of Albury and the adjacent district has been furnished by Mr. Staff-Surveyor Barlow, of Albury:—

"The town of Albury is situated on the right, or northern, bank of the Murray River, at the historical spot where the explorers, Hume and Hovell, first crossed the stream on the 17th November, 1824, on their journey from Yass to Port Phillip. It is distant about 90 miles, as the crow flies, or about 390 miles by stream, from the sources of the Murray River, which take their rise in the Munyang Range of the snow-clad Australian Alps, near Mount Kosciusko, the average height of this range being 6,000 feet above sea level.

"Albury is on the Main Trunk Railway Line connecting Sydney and Melbourne. It is prettily situated in a basin almost surrounded by an amphitheatre of low hills, and fertile flats extend for several miles on either side of the Murray River. The most extensive and pleasing views of the town and the winding valley of the river can be obtained from either end of Dean-street, from a point of the Hospital Hill on the west, and from Schubback's Hill on the east; also from Poole's Hill on the north, and from Fallon's vineyard on the north-east.

"The proposed Federal City Site extends from the town boundaries northerly and easterly. On the north, the country is slightly undulating, having a gradual rise northerly to the foot of a range of low hills, locally known as the "Black Range" (the average height above sea-level of this range being 1,500 feet), and distant from 4 to 5 miles from the town boundary. The area is timbered with box and apple, and the soil alternates between rich red loam and decomposed felspathic granite. The average height above sea-level of this area is about 700 feet. It is drained by the Bungambrawatha Creek, which empties itself into the Murray River below the present town settlement.

"The hills on the north, which are of granite and slate formation, extend back for about 1½ miles, and the country then opens out northerly towards Jindera and Gerogery, being slightly undulating and of excellent quality for either grazing or agriculture. On the north-east of the town of Albury, along the old Sydney Road, and between Schubback's Hill and the Black Range, the country opens out into a wide expanse of undulating and well improved vineyard and grain lands, lightly timbered with box and apple, the soil being rich red loam. This description of country extends north-easterly to the village of Bowna (12 miles), and for a considerable distance beyond. The river flats lying to the south and east of the town of Albury are from a mile to 1½ miles wide, and are timbered with red gum; they are liable to partial inundation, and are exceptionally rich grazing lands. On the Victorian side of the Murray River, in the neighbourhood of Albury, the river flats extend back for about 2 miles. Rough ridges of granite and slate formation, heavily timbered with box and stringybark, are then met with, extending back for a considerable distance, but intersected by numerous fertile valleys, such as those of the Kiewa and Little Rivers, the Yackandandah, Talangatta, Middle and Indigo Creeks, which all empty into the Murray River.

"The country on the Victorian side gradually rises from Albury until the Victorian Alps are met with, the principal elevations, with their heights above sea level and distances from Albury, as the crow flies, being as follows:—Mount Begong, 50 miles, 6,508 feet; Mount Hotham, 65 miles, 6,100 feet; Mount Feathertop, 57 miles, 6,303 feet. These mountains are covered with snow for four or five months during the year—the snow being plainly visible from Albury.

"The town of Beechworth, with its salubrious climate and an elevation of 1,775 feet above sea-level, is distant 28 miles by road and 71 miles by rail from Albury, and the Victorian sanatorium of Bright is distant 45 miles by road and 96 miles by rail.

"The Murray River, as previously mentioned, takes its rise in the Australian Alps, in the vicinity of Mount Kosciusko, the highest point of the range, 7,328 feet above sea-level, and is, therefore, fed by the snow waters from the western falls of the Alps. The snow waters from the Victorian Alps (Bowna Mountains) also flow into the Murray above Albury, the principal tributaries on the Victorian side being the Limestone, Thowgla, Curryong, Wabba, Cudgewa, Burrowa, Cooyetong, Talangatta, Yackandandah, and Middle Creeks, and the Indi, Mitta Mitta, and Kiewa Rivers. The principal tributaries on the New South Wales side are the Kankobar, Swampy Plains, Spring Flat, Tooma, Maragle, Tumberumba, Mannus, Coppabella, Jingellic, and Bowna Creeks."

The proposed Federal Territory Site, comprising 64,000 acres, is shown by red edging, and the Capital Site by blue edging, on the Map of Albury Site (marked B, in Appendix), from which it will be seen that the Territory Site is nearly equally bisected by the Main Trunk Railway to Melbourne. That line also intersects the proposed Capital Site. The Murray River forms the southern and eastern boundary of the larger area.

Climatic conditions (temperature).

The mean temperature for * years shows for the summer quarter, 77·1; for the autumn, 53·7; for the winter, 51·3; and for the spring, 66·9. According to the evidence of one witness, the temperature in one year, 1865, rose to 118°, but had never approached that degree of heat since. Between 1872 and 1899 the highest recorded shade temperature was 117·3 in 1878, and the lowest on same day was 67·3. The character of the climate (from a health standpoint) is thus given by Dr. Andrews, the resident medical officer:—"Albury is as healthy as any district in the Colony. No complete mortality tables exist, but the death-rate among the younger members of the community is very low. Albury is used as a health resort. Epidemics and infectious diseases do not trouble the district much, and it is free from diphtheria and typhoid; very little rheumatism or rheumatic gout. Had recorded the temperature for many years. The lowest drop in temperature would be 60° or 65°. The maximum period of heat is confined

* The period of years for which these figures were given is not stated.

confined to about six or seven weeks in the summer. Sunstroke and heat apoplexy were rare. The heat is rarely oppressive during the day. It is not a depressing heat, but rather a stimulating, dry heat. The winter climate is perfect."

The evidence of this witness was corroborated by other resident witnesses, who agreed that January and February were the hottest months, but that even the summer heat was dry and healthy, and not relaxing.

Altitude. The height of the Albury Railway Station is 534 feet above sea level; but, according to Mr. Staff-Surveyor Barlow, the average altitude of the proposed Federal Territory would be 700 feet above sea level, and a height of between 1,500 and 2,000 feet is gained at a distance of 15 to 25 miles from the proposed Site.

Rainfall. The mean annual rainfall, as given by the Government Astronomer, is 28·82 inches. These figures cover a period of thirty-five years. The evidence shows that the rainfall is fairly well distributed over the four quarters of the year, and had never fallen in any one year below 20 inches.

Accessibility.

Albury is distant from Sydney by rail (main trunk)	386	miles.
" " Melbourne by rail (main trunk)	190½	"
" " Adelaide (approximately) by rail	700	"
" " Brisbane	900	"
" " Hobart	670	"
" " Perth	2,000	"

from Wagga, 77 miles; from Corowa, 35 miles; from Germanton, 36 miles; from Beechworth (Victoria), 28 miles; from Wodonga (Victoria), 3 miles; from Talangatta (Victoria), 29 miles; and from Carryong (Victoria), 80 miles. Mr. District-Surveyor Orr reports of the roads that they are good in all directions, both on the New South Wales side and the Victorian side. The Main Southern Road, and other leading roads centreing at Albury, are formed, made, and for the most part macadamised, and generally excellent means for intercommunication are provided to the adjacent towns and settlements.

Albury is accessible by water from Adelaide, and all points in the basin of the Murray, by that river, which is navigable for the greater part of the year.

Physical conditions (soil). The soil, largely of a reddish chocolate colour, is described as very fertile and suitable for the successful growth of cereals of all kinds, fruits, lucerne, tobacco. The alluvial flats on the river bank are particularly rich, and provide abundant pasturage for stock.

It is claimed that the soil of this district is specially favourable for the production of wine, and the area under vines is said to approach 1,000 acres.

Water supply and catchments. An abundant and permanent water supply is provided by the River Murray; but it appears from the report of Mr. C. E. Blomfield, who, in company with the Commissioner, examined the River Murray as far up as Talmalmo, 52 miles by road from Albury, that this point is only 125 feet above the Albury Railway Station, and 45 feet below the top of the present reservoir; and that Officer's conclusion is that a pumping scheme would have to be adopted for Albury if it should be chosen as the Federal City. (See Annexure—Albury, 1.)

Attention is also invited to an extract from Colonel Home's Report (Annexure—Albury, 2). It may be mentioned that neither Mr. Blomfield nor the Commissioner visited Murray Gates.

Information of the discovery of an efficient gravitation water supply from the Mitta Mitta River, in Victoria, was transmitted, together with a plan of the catchment, some time after the holding of the public inquiry at Albury; but whatever power the Commonwealth may have to acquire a catchment area situate outside its territorial limits, it is clear that the Mitta Mitta catchment could form no portion of the Territory situate in New South Wales which will be ceded to the Commonwealth.

Building material. Granite of good quality for building purposes, and in unlimited quantities, together with useful freestone and excellent clay for brickmaking, are said to exist within or in close proximity to the proposed Site; also of timber—red-gum, blue-gum, box, pine, mountain-ash, and stringy-bark. Lime is obtainable from limestone, at a distance of about 20 miles.

Drainage. The Site possesses good facilities for drainage as a whole, the surface formation being favourable.

Other physical features. The subsoil is described as solid, and affording good foundations. The Site is sheltered from high winds by the surrounding steep granite hills. It is distant about 80 miles in a direct line from Mt. Kosciusko, the highest peak in New South Wales; and on the Victorian side of the river, to the north-east, the Sanatorium of Beechworth, 2,000 feet above sea-level, can be reached in an hour's journey by train. The Buffalo and Bogong Mountains are also within easy reach.

Ownership and value. The area of alienated land is given as 50,200 acres, valued, as improved, at £452,980. The area of Crown lands is given as 13,800 acres.

Miscellaneous conditions. The following extract from the Report of the Albury Federal League supplies all necessary information on this head:—

"(*a*) The character of the country within a radius of 60 miles of Albury is admirably adapted to the production of food of all kinds. The country is principally occupied by station-holders and farmers, and in the Albury Sheep District alone, comprising an area of 856,121 acres, there are, according to the latest returns, 14,686 cattle, 573,000 sheep, and 1,772 pigs. The carrying capacity of the country as grazing land is estimated at one sheep to the acre, besides cattle and horses. Agriculture is largely practised in the district, all sorts of cereals being grown—wheat, barley, oats, sorghum, and lucerne being the chief. The estimated average yield of the land under crop is three bags to the acre. The land also produces abundance of fruit—the mulberry, orange, apple, peach, apricot, plum, cherry, walnut, and vines; the vines being world-wide in their reputation. The river flats are well adapted to the cultivation of vegetables, and the River Murray supplies fish in abundance. Area under crops is estimated at about 157,000 acres; under vineyards, 1,000 acres."

"(*b*) The mineral products of the country are gold, silver, and tin, no coal being produced in the neighbourhood, although boring operations were contemplated some years ago. It is anticipated that the increased price for tin, and the new legislation as to gold-dredging, will greatly increase the output of these minerals."

"(*c*) The country is well able to support a very large population, being, at present, a very large exporter of wheat, wool, tallow, hides, sheep, cattle, and pigs; and as, at present, intense cultivation is not practised by the farmers, there is no doubt that closer settlement would result in a greatly increased production, the soil being very rich."

"(*d*) The conditions are very favourable to commercial and industrial development, the businesses of wool-selling, milling, tanning, dairying, and brewing being at present carried on; and, with increased facilities, each of these businesses would be greatly increased. There is also every facility for woollen mills, boot-factories, freezing works, and various other factories, the country producing the various articles required, and the district affording opportunities for the successful carrying out of extensive manufactures."

ANNEXURES.

Albury, 1.

To the Federal City Commissioner, Land Appeal Court,—

Department of Works, Sydney, 6 June, 1900.

Sir,

The results of my investigations of the River Murray, above Albury, of 26th, 27th, and 28th ultimo, tend to show that a gravitation scheme for Albury as a Federal City would be out of the question.

The Murray River, at north-east corner of portion 21, parish of Talmalmo, county of Goulburn, 52 miles by road from Albury, is only 125 feet above the Albury Railway Station,—that is, 45 feet below the top of the present reservoir; so that a pumping scheme would have to be adopted for Albury if it is chosen as the Federal City.

CHARLES E. BLOMFIELD,
Resident Engineer, Department of Works.

Albury, 2

EXTRACT from Colonel Home's Report.

17. From an inspection of the river above Albury, and inquiries made on the spot, it appeared that there were not many places where a large volume of water could be impounded at all at a reasonable cost, the only likely sites heard of being above the Murray Gates, on the Swampy Plain River, in the county of Selwyn, and at Talmalmo, on the Murray River, in the county of Goulburn. Subsequent inquiries and rough surveys by Mr. Seaver confirmed this idea, it having been ascertained that a third site, at Tom Grogan's Flats, on the Indi River, was too inaccessible to be any use; so that the choice seems to lie between these two. The Murray Gates Site has the advantages of being entirely in New South Wales, of a narrow gorge in hard granite rock, and of only one small patch of land to be resumed; its disadvantages are—being a long distance from the head of the proposed canal, and somewhat difficult of access, and a possible difficulty in obtaining sufficient quantities of sand. The Talmalmo Site is only 60 miles by road from the head of the proposed canal, would require a comparatively low weir, and has a fine basin for storage above it; but a large area of valuable land and some houses would be submerged in both New South Wales and Victoria. The roads on both banks would have to be shifted to higher levels. The length of the dam would be about 1,400 feet, and the quality of the rock is not very good. As far as can be judged from the rough surveys, the required storage might be possibly obtained at either site without exceeding the height of dams that have already been constructed, but the cost at Talmalmo would probably be double that at the Murray Gates; so the latter site should be given the preference if a detail survey is undertaken.

BATHURST SITE.

Statement of Case.

Topography. THE Federal Territory, as proposed by the Bathurst Federal Site Committee, embraces an area of 100 square miles, or 64,000 acres, and its position, as well as that of the proposed Site for the Federal Capital, will be understood by referring to the Map of this Site, marked C, in the Appendix; the Territory being therein edged red and the Capital Site blue. The City of Bathurst is included in the larger area, but not in the Capital Site.

The following Topographical Sketch has been supplied by Mr. Clunies Ross, B.Sc. Lond., F.G.S., Resident Master in charge of the Technical College, Bathurst:—

"Bathurst, sometimes designated the City of the Plains, is a municipal city, commandingly situated on the west bank of the Macquarie River, in the county of Bathurst, at a height of about 2,200 feet above the sea. The population of the municipality, in 1898, was 9,450; of the county, 30,143. On the east side of the Macquarie, opposite Bathurst, and forming a suburb, is the village of Kelso, in county Roxburgh; population of Roxburgh, 2,162. Area of the Bathurst municipality, 2,560 acres. These figures are compiled from the Statistical Register for 1898.

"Bathurst is on the Main Western line, 145 miles from Sydney by rail. In a direct line, as the crow flies, the distance is about 98½ miles. It is slightly to the north of a line drawn due west from Sydney. The city is laid out in streets crossing at right-angles, each 1½ chain wide, running north east-south west and north west-south east.

"The ground on which the city is built slopes up gently from the river, and the highest parts are about 150 feet above it. From the top of the hill behind All Saints' College a very fine view of the basin of the Macquarie may be obtained, and it is seen that the river is bordered by rich flats of deep soil, mostly under pasture or lucerne. A general view of the greater part of Bathurst is also obtainable from the same point. The houses are generally built of red brick, locally made. The river runs in a broad and deep channel, which it seldom fills, and is spanned by a good bridge which connects Bathurst with Kelso. A short distance below the bridge, the Vale Creek, which skirts the southern side of Bathurst, enters the Macquarie.

"The city is divided into 10-acre blocks, several of which are reserved for public recreation. These are planted with trees, and one, Machattie Park, is beautifully laid out and contains a handsome fountain, ornamental lake, fern-house, and aviary. All the principal streets have the footpaths asphalted, and many are planted with trees—elms, white cedar, and pepper trees being chiefly used. The roads are made up of broken basalt (blue metal), obtained from the Bald Hills, just outside the town. The soil on which Bathurst is built is mainly decomposed granite, which breaks up into coarse sand. This very quickly dries, and there is seldom much mud in the streets. In the lower parts there are some beds of clay and alluvium, probably brought down by creeks, one of which, the Jordan Creek, runs through the town.

"There are terraces of gravel, consisting of quartz, pebbles, and sand, carrying a little gold, at various heights on both sides of the Macquarie.

"Outside the city, the Bald Hills are conspicuous. These are about 2 miles from the centre of Bathurst, to the south-west and south, and rise to about 650 feet above it. From the top one obtains a good view of the town, with its more conspicuous buildings, such as the Colleges, Court-house, Cathedrals, and Churches, and of the surrounding country—the Bathurst Plains. They would be more correctly described as downs, since there is very little level country, but the ground rises into gentle undulations. From the Bald Hills the course of the Macquarie may be traced from White Rock, about 6 miles above Bathurst, where it is formed by the junction of the Fish and Campbell Rivers. These rivers rise about 40 miles away in the Swatchfield district. "The

"The Bathurst Plains are nearly all under cultivation, and are surrounded, except for a gap between the two rivers abovementioned, by dark hills, closely timbered, which rise with a steep slope to a height of from 1,000 to 2,000 feet above Bathurst. These hills, which really form a tableland, broken by deep gullies, consist of old Silurian rocks, capped to the east by Devonian rocks of rather later age. At the foot of the hills, to the east of Bathurst, is the valley of the Winburndale Rivulet, which drains most of the country in that direction, and, after receiving many tributary creeks, falls into the Macquarie, about 15 miles below Bathurst.

"The Bald Hills themselves have a capping of about 250 feet of columnar basalt, resting on beds of gravel, fireclay, and sand, which in turn rest on the granite. They stretch away with a nearly level surface to about the village of Perth, situated about 6 miles to the south of Bathurst. To the north-west, a series of detached hills may be seen, mostly with a thin capping of basalt, the last being Mount Pleasant, at the foot of which is the residence of James Stewart, Esq. To the west, the hills slope steeply down to Evans' Plains, drained by Evans' Plains Creek, which enters the Macquarie near Mount Pleasant. To the south lie Perth and George's Plains, and beyond the hills rise, about Cow Flat, 12 miles away; beyond which, again, is Rockley, about 10 miles further south.

"As the Silurian hills are, at least, 10 miles from Bathurst in any direction, the view from the Bald Hills is a very extensive one, and, from the large amount of cultivation, indicates a very rich and fertile country, especially in spring, when the green of the young crops contrasts finely with the dark forest of gum-trees on the hills.

"The granite area around Bathurst is mainly devoted to wheat-growing, and the soil appears to be tolerably uniform, except on the alluvial flats and in the neighbourhood of the Bald Hills, where it is modified somewhat by the downwash from the basalt. The basalt is an old lava which flowed from a volcano a long distance away, probably near the sources of the present Macquarie, but which has been completely denuded from nearly all the intervening country.

"On the Silurian rocks there is little cultivation, except near the rivers and creeks, but sheep are grazed; and a good deal of mining is carried on, there being numerous quartz veins, some auriferous, and a considerable number of copper lodes.

"The granite, in places, is solid at the surface, and most of the undulations appear to have a core of rock less altered than that on the lower ground. It may be described in popular language as a grey granite, approximating in character and appearance to the well-known Scotch granite of Aberdeen. The Silurian rocks are mainly of a slaty character, much altered to the north and south; less so to the east and west. They include some thick beds of limestone, several of which form handsome marbles—white, red, bluish, and nearly black—when polished.

"The Silurian rocks stretch away for a long distance to the north, south, and west of the Bathurst area. To the east they soon pass under the Devonian rocks, and further away, in the Wallerawang and Lithgow districts, Carboniferous rocks and Coal Measures come in, resting on Devonian rocks or directly on the granite.

"The climate of Bathurst is similar to that generally characteristic of the Tableland. The summer is moderately warm, but the temperature seldom rises above 100 degrees, and, the air being dry, the heat is not usually oppressive. The winters are cool, but frosts are usually slight, and snow seldom falls, only two heavy snowstorms being recorded for over twenty years. The prevailing winds are from the west, and most of the rain comes from that quarter."

Climate (temperatures).

The mean temperatures for the Summer, Autumn, Winter, and Spring quarters for the years 1896–1899, are given as 84½ degrees, 63½ degrees, 61½ degrees, and 83½ degrees respectively, and these quarterly means show a general mean of about 73 degrees. These figures should indicate a very uniform climate as to temperature. The highest temperature recorded was on 3rd February, 1897, and reached 106 degrees, while the lowest, 20 degrees, was recorded on the 10th May of the same year.

Rainfall.

The average annual rainfall for the past forty years is 24½ inches. The best rainfall recorded since 1879 is that for 1890, which reached 34½ inches; the worst is that for 1888, which was no more than 15·03.

Altitude.

The mean altitude of the area of the Federal Territory Site is approximately 2,300 feet above sea level; that of Bathurst 2,200 feet. The height of Bathurst Railway Station is 2,155 feet above sea level.

Accessibility.

A sketch map, prepared under the direction of the Chief Surveyor (see Map, marked A, in Appendix), shows the radial line, measured from the western boundary of the City of Sydney, as intersecting the Federal Territory Site and including the City of Bathurst, if the prescribed distance as laid down in the Commonwealth Act is to be measured by the crow's flight, or direct-line rule. The distance of Sydney from Bathurst by that rule is given at 98¾ miles. The distance by rail from Sydney is 144 miles 70 chains (in round numbers, 145 miles), and by road 124 miles.

Mr. J. B. Suttor, Railway Engineer to the Commissioners (a witness at the Public Inquiry), put in evidence the appended Return of mileage distances:—

Bathurst to Sydney	145 miles.
Bathurst to Brisbane, *viâ* Sydney	868 „

Bathurst to Brisbane, *viâ* the proposed line from Wellington to Werris Creek, 702 miles, made up as follows:—

Bathurst to Wellington	103 miles.
Wellington to Werris Creek	130 „
Werris Creek to Brisbane	469 „
	702 miles.

Bathurst to Melbourne, *viâ* Harden, 483 miles, viz.:—

Bathurst to Blayney	27 miles.
Blayney to Demondrille	110 „
Demondrille to Melbourne	346 „
	483 miles.

Adelaide, being 483 miles from Melbourne, the distance from Bathurst to Adelaide, *viâ* Melbourne, would equal 966 miles,

Bathurst

Bathurst to Adelaide, *viâ* the proposed line from Cobar and Broken Hill, equals 894 miles, viz.:—

Bathurst to Cobar...	314 miles.
Cobar to Broken Hill	260 „
Broken Hill to Adelaide...	320 „
	894 miles.

Hobart to Bathurst, *viâ* Sydney...	775 miles.
Hobart to Bathurst, *viâ* Melbourne	968 „
Perth to Bathurst, *viâ* Adelaide and Melbourne ...	2,298 „
Perth to Bathurst, *viâ* Sydney	2,532 „

Bathurst has no river or water communication.

This is described geologically by Mr. Ross as being principally a decomposition from hornblendic granite or granitite, but with basaltic outflows in places, and limestones at a distance of about 20 miles from Bathurst. (See Report on Geology of Bathurst and its neighbourhood,—Annexure—Bathurst, 1.) Soil

The river flats, resulting from continuous downwash from the basalts, should be very fertile, and much better able to withstand exhaustion than the granitic soils. Mr. Dunnicliff, manager of (Bathurst) Government Experimental Farm, stated in evidence that cereals thrive in this district, especially wheat and oats, and that about 10,000 acres of the proposed Federal Territory are under crop, and, under a better system of farming, would average 12 bushels of wheat to the acre; and another witness, Mr. W. G. Thompson, secretary of the local Agricultural Society, stated that wheat grown in this district went as high as 67½ lb. to the bushel. A third witness gave 20 to 25 bushels as the oat crop per acre; and there was a concurrence of testimony in favour of the soil of the district for all kinds of root crops and for fruit growing, especially for English fruits. It was also an excellent stock fattening country. According to Mr. Patterson, head gardener to the municipality, the soil in the proposed area is, on the whole, fertile; some of it had been under crop for sixty years, and was still unexhausted.

I may add that, as far as my observations are of any value, I came to the conclusion, after a good many opportunities for judging, that for a granitic soil, which is the principal formation on the Federal Territory Area, it is a fairly good one, and with proper fallowing and moderate restoratives ought to continue such.

Water Resources (Catchments, &c.).

Bathurst has not enjoyed a good reputation for its municipal water supply, which is obtained by means of pumping, and is said to be, occasionally, intermittent. The Committee have, therefore, looked to other sources for the supply of the proposed Federal City. (See evidence of Mr. E. T. Webb, and Annexure—Bathurst, 4; also of Mr. R. S. Gilmour, Mayor of Bathurst, and of Messrs. T. McPhillamy, Paterson, and others.) A good deal of evidence on independent catchments was taken at the public inquiry, but as it appeared desirable to have the various Sites relied on examined by an expert, that task was undertaken by an officer of the Works Department, Mr. Blomfield, but as he did not report favourably on either the Apsley, Fish River (Locksley), or Bathampton Creek Sites as capable of providing a gravitation supply (see his Report, Annexure B2), he was instructed to make an inspection of another Site at Wallbrook Swamp, about 27 miles in a direct line from Bathurst, on the Campbell's River; and it was ascertained that, as regards head, this catchment would be 900 feet above the Bathurst Railway Station, by a dam 70 feet high and a length on the crest of about 250 yards, and give a collecting area of about 70 square miles. His Report on the Wallbrook Site is most favourable (see Annexure—Bathurst, 3). The pipe-line course would be, perhaps, 35 miles in length. It is claimed for the Wallbrook scheme that the catchment is almost wholly Crown land and very clean, and that there is a suitable locality for a service reservoir, about 10 or 12 miles distant from Bathurst, and 150 feet above that city. The site of the proposed weir is stated to be basalt, with a good foundation; and Mr. Gilmour estimates the cost of the pipe line, exclusive of the weir, at about £2,000 per mile.

Building Materials.

The evidence on this subject tends to show that excellent granite for building purposes can be obtained in any quantities at Locksley and other places, and that basalt is plentiful, but there appears to be no freestone nor sandstone nearer than Lithgow, and no Carboniferous rocks in the vicinity of Bathurst. It was thought by Mr. Ross that the Bathurst granite would prove superior to that of Moruya. Excellent marbles are to be obtained within easy distance of the proposed Capital Site; but though many of the samples produced by Mr. Roberts (retired Government District Architect) were very beautiful and suitable for internal work, there was none suitable for exterior facings, if such were thought desirable, for the more important Federal Buildings,—architecturally much disputed. The columnar and other basalt from the Bald Hills appears to be too curly for working. Ordinary limestones for the manufacture of lime are abundant; and for brickmaking the best of clays are close at hand, and the bricks from these clays are, it is stated, of good colour and impervious to damp. Sharp sand and shingle are easily obtainable in any quantities. Slate good enough for flagging can be had. As to timber, the supply for building purposes about Bathurst was meagre, and would have to come from distant districts.

Foundations.

In connection with building materials, Mr Roberts' evidence went to show that good foundations for the heaviest buildings could be obtained by going down to the substratum of decayed granite, presumably because this "rotten granite" does not contract or expand like the clays which have caused so many Bathurst buildings to show cracked walls.

Drainage.

The Drainage of the proposed Federal Capital Site was stated to be good, although that of Bathurst at present is not good, though it might be.

Values, &c.

The area of Crown lands within the proposed Federal Territory, as given by Mr. Paterson, is 1,421 acres, not including reserves or parks vested in trustees. Inside the municipal boundaries the aggregate value of improved land is estimated at £913,184, and of unimproved land within the same limits, but exclusive of reserves, the Model Farm, and Crown land, is £18,263. The balance of the Federal Territory, outside the municipality, is valued at £4 per acre, as improved.

The advantages claimed for this Site in respect to Facilities for Food Supply and other matters under the head "Miscellaneous Conditions" are set out fully in the Summary of Evidence (see Part V).

ANNEXURES

ANNEXURES.

Bathurst, 1.

GEOLOGY OF BATHURST AND ITS NEIGHBOURHOOD.

THE City of Bathurst is situated nearly at the centre of an undulating tract of country, forming a tableland, at a height of about 2,200 feet above the sea, and surrounded, at a distance of about 12 miles, by higher ground, which reaches, to the east of Bathurst, about 2,000 feet above the city.

The surface rock all round Bathurst is granite, overlain in places by beds of river gravel, and on the Bald Hills, as well as one or two other isolated hills in the neighbourhood, by a capping of basalt, which is an old volcanic lava, and appears to have come from a considerable distance. The granite is usually much decomposed to some distance from the surface, but most of the undulations appear to have a core of less altered rock. Where fresh specimens of the granite are obtainable, as at Mount Pleasant, it is seen to be a rather coarse-grained rock, composed of crystals of quartz, orthoclase, felspar, with some oligoclase, black mica, and hornblende. It might be called a hornblendic granite or a granitite. It is a handsome rock, and has a fine effect when used as a building stone, as may be seen at "The Mount," the residence of James Stewart, Esq. Near the boundary of the granite area the rock changes its character, the felspar becoming of a pinkish colour; there is less mica, and little, if any, hornblende. This may be well seen on the Orange-road, about 10 miles from Bathurst. Outside the immediate neighbourhood of Bathurst there are granites of several different types. One of these, at Locksley, about 16 miles east of Bathurst, is a very fine granite, carrying large crystals of deep red orthoclase in a fine-grained matrix.

At a distance of about 10 miles from the City one passes off the granite, which passes under Silurian rocks. The latter consists mainly of schists and slaty rocks, much bent and folded in places, and which run, roughly, north and south. Interbedded with the slaty rocks are beds of limestone in places. They are best seen to the north, in the neighbourhood of Limekilns, about 20 miles from Bathurst, and on the south between Cow Flat and Rockley, but occur in other places as well, as at Green Swamp, Wattle Flat, &c. The rocks have never been surveyed systematically, but it will probably be found that there are several bands of limestone, roughly parallel to one another. In the Limekilns area, the rocks, usually called marbles, are of very varied colours and markings, ranging from light brecciated rock with red patches through more compact limestone to others which are nearly black. These have already been obtained in large blocks, although only worked near the surface. In the Cow Flat area, white marbles predominate. At Bell's quarry, there is a face of quite 20 feet of pure white stone, jointed, but obtainable in large blocks, which analysis shows to be nearly pure calcite. There are also dolomitic limestones in the same area. In the neighbourhood of Rockley, Briar Park, a fine black and white encrinital limestone occurs.

From the country between the basins of the Fish and Campbell Rivers, the Silurian rocks have been denuded away for a long distance from Bathurst.

The hills to the east of Bathurst are capped with Devonian rocks, mostly soft sandstones, quartzites, and a few bands of impure limestone. These rocks dip to the east, and in the neighbourhood of Tarana, brown sandstones, which might serve as freestone, are found.

The basalt at the Bald Hills stretches for about 3 miles, forming a nearly level capping to the hills, at an average height of about 600 feet above the city. The foot of the Bald Hills is about 2 miles from the centre of Bathurst. The basalt is a rather fine grained columnar rock, with crystals of olivine and augite. It breaks with a bluish-black fracture, and at the Corporation quarry is a good deal decomposed, but further round, opposite Orton Park, it is more compact. The rock breaks into excellent road metal, and the columns form good kerbing for the streets. It has not been much used for building, but a few cottages are built of it, and, with white pointing between the blocks, have rather an attractive appearance.

Mineral Veins.—The Silurian rocks are traversed by many quartz veins, some of which are auriferous. Gold also occurs in other rocks—for example, in chloritic rock and dolomite, at Bunnamagoo, in the Rockley area. Copper lodes occur in several localities, notably Green Swamp, east of Bathurst, and around Cow Flat, where copper-mining was carried on for some time, and has recently been revived; also at Burraga, south of Rockley, and Wiseman's Creek. Silver has been extensively mined at Sunny Corner, and, probably, exists in other localities. Argentiferous galena has also been found near Newbridge, and manganese ore in several places. Some very large ironstone veins also occur at Newbridge.

Summarising, it may be said that gold, alluvial and reef, has been worked to the north—Wattle Flat, Sofala, and, further off, Hill End; to the east—Glanmire, Fontana Reef, Napoleon Reef, Sunny Corner, &c.; to the south and south-west—Caloola, Back Creek, Bunnamagoo, &c. Copper: South—Cow Flat, Burraga; south-east—Wiseman's Creek; east—Green Swamp, and, I believe, occurs about Wattle Flat. Silver: Sunny Corner, Back Creek, Newbridge, and specimens of argentiferous galena from other localities. Manganese: Green Swamp, Back Creek, near Rockley.

Fine specimens of mica are obtained at Brewongle, and molybdenite also occurs there.

Some rather promising looking slate comes from Duramana, north of Bathurst, but has not been followed down.

W. J. CLUNIES ROSS, B.Sc., Lond.

Bathurst, 2.

REPORT by Mr. Engineer Blomfield.—Federal City Water Supply—Bathurst Site.

Goulburn, 4 April, 1900.

Campbell's River (Apsley Site, favoured by Bathurst people).

Storage very good; catchment very good; foundations good, but likely to be deep; dam expensive in itself, but inexpensive with regard to quantity of water it will hold back.

The principal point against this site is that it will be only partly a gravitation supply, being only 80 to 90 feet above the Bathurst Railway Station, and a lot of the town is above this level, so that pumping will be necessary.

Could supply 300,000 people safely.

Fish River (Locksley Site).

Storage good; catchment good; foundations very good, and only short weir required.

This site, though higher than the Apsley site (about 134 feet above Bathurst Railway Station), is not high enough for a total gravitation scheme.

Bathampton Creek.

Site about 200 to 250 feet above Bathurst Railway Station; catchment small; storage good; foundations good.

CHARLES E. BLOMFIELD,
Resident Engineer, Department of Works.

To the Federal City Commissioner.

Bathurst, 3.

MEMORANDUM from C. E. Blomfield, Department of Works, to The Principal Assistant Engineer, Water Conservation, Department of Public Works.

WATER SUPPLY FOR BATHURST AS A FEDERAL CITY—WALLBROOK SITE.

Sir, Public Works Department, New South Wales, Water Conservation Branch, 24 July, 1900.

In accordance with instructions contained in attached paper, I made a flying visit to the Wallbrook site for Bathurst Water Supply, as a Federal City, on the 20th instant.

The site of the proposed reservoir is just below the junction of the Wallbrook Swamp with Campbell's River, near the north-west corner of portion 20, parish of Wallbrook, county of Georgiana. The hills come in fairly close together, with a very big basin above, and a dam 70 feet high could be put in with a top length of about 250 yards. The formation is slate, and rock is showing on both sides, so that the foundations would most likely not have to go very deep; in fact, it is a good site for a large reservoir at reasonable expense.

The height of this site is nearly 900 feet above the Railway Station at Bathurst, so that there is ample head.

The catchment is good and clean, and there are nearly 70 square miles of it altogether. I was unable to obtain any rainfall records taken on the catchment area; but Rockley, about 9 miles away, has a good rainfall (17 inches lowest recorded), and, as the catchment is considerably higher than Rockley, it would most likely have a better rainfall.

If 1 inch of the annual rainfall on this catchment were stored, there would be sufficient, after allowing 10 per cent. for evaporation, to supply a population of 80,000 people at 30 gallons per head per day.

The distance from Bathurst in a straight line is about 27 miles, and the country is not very difficult.

Taking everything into consideration the proposal is very favourable.

CHARLES E. BLOMFIELD,
Resident Engineer, Department of Works.

Bathurst 4.

Bathurst, 4.

MR. E. T. WEBB'S EVIDENCE.

Bathurst Federal Water Supply.

THIS is a question of the greatest importance to the future Federal Capital; and as no town in New South Wales that is over 100 miles from Sydney has, at present, an adequate supply for the Federal City, it will be necessary for the Federal Parliament to provide same; hence it is of the greatest importance to have the Capital placed in a locality where, practically, an unlimited supply can be obtained. In this respect, Bathurst is most favourably situated, as there are two sources of supply within a short distance of the City—one by gravitation, and the other partly gravitation and partly pumping.

The gravitation scheme is what is usually known as the Winburndale supply. In this instance, high dams would have to be built to conserve the water, which would then be brought in open trenches and pipes to the town, a distance of between, 12 and 15 miles. The water for this supply would be obtained from the Winburndale and Gulf Creek at a point about 600 feet above the City. This source of supply was favourably reported upon by the late Mr. Clark, but the estimated cost was more by £10,000 than the scheme carried out by the Government.

The other scheme is to dam Campbell's River, at the Lagoon. A dam here, about 50 feet high, and about ¼ mile long in the bottom, and not more than ½ mile long at the top, would impound as much water as is impounded in the Prospect Dam, from which the Sydney supply is drawn; and, in order to increase the supply, it would only be necessary to increase the height of the dam, which could be done up to 100 feet. The water would be supplied by Campbell's River and its tributaries, some of which have never been known to be dry, and which drain an area of over 400 square miles. It would have to be brought about 9 miles by pipes to town, and would supply all places in the City not more than 50 feet above the Town Hall by gravitation. For the higher positions of the town, the water would have to be pumped to the present or new reservoir.

The nature of the country about the site of the proposed dam is of granite formation.

Since sending in our last Report, three places have been visited, with the object of obtaining a gravitation scheme for the City.

The first place visited was Bathampton, about 12 miles from town. Here there is a good valley which would contain a large volume of water if a dam was erected at a point where the hills come close together, and which is 211 feet above the Town Hall.

The water would be supplied by Forster's Valley Creek, and a small creek coming from King's Plains; drainage area between 30 and 40 square miles. If this place were chosen, it would necessitate the alteration of the Carcoar-road; also the resumption of a large area of valuable land.

The next place visited was Wallbrook, about 25 miles in a direct line from town, and 1,000 feet above the City. The supply here would be obtained from the Campbell's River and Wallbrook Creek; drainage area about 150 square miles. There is a splendid site for a dam and reservoir. A dam could be erected here capable of containing three to five years' supply for a population of 40,000 persons, allowing 30 gallons each per day. Dam 50 feet high would be about 100 yards in bottom and 300 yards at top. The reservoir here would be as large as the Lagoon, and, being so far from town, the land could be resumed at a reasonable price.

The next place visited was Brisbane Valley Creek, 16 to 17 miles in a direct line from Bathurst, and 600 feet, at least, above the Town Hall; drainage area about 50 square miles. The site for the dam here is the best that could be imagined. A dam 50 feet high would, in the bottom, be about 30 yards across, and the rock right at the surface; the top would not be more than 100 yards across. The capacity of the reservoir would not be so large as at the other two sites, but a dam 50 feet high would impound sufficient water for a town of 40,000 people for from twelve to fifteen months without any rain. The rainfall over the watershed is about 30 inches.

BOMBALA-EDEN (SOUTHERN MONARO) SITE.

Statement of Case.

THE Site (about 80,000 acres) proposed for the Federal Territory, and, within it of the Federal City, is situate in the county of Wellesley, and is distant in a direct line from the Port of Eden (Twofold Bay), about 50 miles, and from the Victorian Border about 20 miles. The Federal Territory Site includes the town of Bombala, but the Capital Site lies some 2 miles west of that town. In addition to this area it is proposed to offer about 10,000 acres at Twofold Bay, including Eden, and a strip along the proposed railway route from Eden to Bombala. Southern Monaro falls from the heights of Nimitybelle and the country west to the Australian Alps, in gently undulating stretches of lightly wooded downs and rolling plains, along the courses of the M'Laughlin and Bombala Rivers, and of various rivulets having their sources in the Coast Range, towards Delegate and Victoria. It is intersected by the 37th parallel of south latitude and by the 149th meridian of east longitude. Its ridge or roof is at Nimitybelle, whence the country falls north towards Cooma and the Murrumbidgee, and south towards Bombala. Bombala is reached by coach from Cooma, the most southern station of the Goulburn–Cooma Railway, by a good road of 54 miles, and from Eden or the coast adjacent by three roads, *viâ* Tantawangło, Big Jack, and Bondi, which ascend the Coast Range at the most accessible points. As might have been anticipated from its position, on an easy descending grade, with the Coast Range on one side of the plateau and the Snowy River Ranges, culminating in Kosciusko, on the other, this tract of country is bountifully supplied with rivers and watercourses, all of which eventually find their way to the Snowy River, and so through Gippsland to Orbost and the ocean. Though long settled, chiefly, however, for grazing purposes, Southern Monaro has not attracted the notice to which its physical endowments entitle it, while the distance of markets from the best agricultural areas has made ordinary farming an unprofitable business. But for this serious drawback, Southern Monaro might be the agricultural replica of Orange. At present it is almost entirely devoted to the depasturing of sheep and cattle. Topography.

The vast tracts of sterile mountainous country lying between Bairnsdale and the Victorian Border have been an effectual barrier to any exploitation by Victorian settlers of this part of the Monaro Tableland; but this great barrier to intercolonial trade would be removed if the Victorian Railway, of which the terminus is now Bairnsdale, were carried to the border, near Bendoc or Delegate, and signs are not wanting that this extension only awaits a corresponding extension on the part of New South Wales of the Goulburn-Cooma Line to the Victorian border.

From observations and information furnished by the Government Astronomer extending over a period of ten years, the mean maximum is given at 68°, the mean minimum at 40·8. The hottest month average is 81·1, and the coldest 29·3; and the average for the seasons is—Spring 55·6, Summer 66·1, Autumn 56·1, Winter 43·6. The average night temperature is Summer 50·3 and Winter 31·4. During the last heat wave, the thermometer did not reach 100° in the shade on the hottest day. Sometimes 10° or 12° of frost are recorded. Snow falls in the district, but seldom lies on the ground all day, except on the higher land. Unpleasantly cold winds are experienced in winter, but they are infrequent and of short duration. During the summer, sea breezes set in about 4 o'clock in the afternoon, which reduce the heat and Climatic conditions (Temperature)

and are exhilirating and refreshing. As a rule, the nights are cool, and it is stated that mosquitoes and sand-flies are unknown. The comparatively mild climate of Southern Monaro (Bombala) is attributed, partly to the proximity of the sea, and partly to its position, and the fact that it is to some extent sheltered from the westerly and south-westerly winds blowing off the Snow Mountains.

Eden, which is embraced in the Southern Monaro Scheme, has a cool and equable climate, owing, no doubt, largely to its maritime situation and latitude.

Rainfall. The annual average rainfall is about 29 inches. This is the average for the past ten years, which includes the recent drought sequence, which would give, perhaps, an average of 20 inches. The rainfall at the sources of water supply would average over 30 inches.

Altitude. The mean altitude of the Territory Site would be about 2,400 feet above sea level, the highest points reaching 2,800 feet and the lowest 2,250 feet above that level.

Accessibility. The proposed Site would be distant from Cooma Railway Station about 60 miles, and from Sydney, by rail and coach, 325 miles; from Melbourne, by present railway routes, 573 miles, but, *viâ* Bairnsdale and extension to the Border, about 330 miles; from Adelaide the mileage distance would be about 804 by land and 900 by water; from Brisbane, 1,048 miles by land and 793 by water; from Hobart, by water, 360 miles, and by land and water, 420 miles.

In connection with these distances, and with the question of accessibility generally, it is an integral part of the Scheme to connect Eden with the proposed Federal Capital Site by a federally-owned railway; also to rely on the construction by Victoria of a connecting line from Bairnsdale (*viâ* Orbost, probably) to the Border. If this last-mentioned connection were in existence, the Bombala Site would be very nearly equi-distant between Sydney and Melbourne. As already mentioned, there are three roads from Eden to the South Monaro Tableland, with an average length of from 50 to 60 miles, and there are three railway routes proposed to reach Bombala from Eden, of which the two most favoured are estimated to cost, including stations, &c.—

	£
(1.) *Viâ* Wolumla, 81 miles 36 chains (Postle's route)	1,088,719
(2.) *Viâ* Bondi, 67 miles 9 chains	1,323,330

The first, or Wolumla, route, costing about £12,000, and the route *viâ* Bondi about £20,000, per mile, while there is a difference in favour of the more costly of the two routes—the Bondi route—of 14 miles. (See memo. of Mr. C. O. Burge to the Engineer-in-Chief, dated 20th August, 1900—Annexure—Bombala-Eden, 2.)

In addition to the connection by rail from the Port of Eden, this scheme contemplates the extension to Bombala and the Victorian Border of the Southern Railway, whose terminus is now at Cooma—either *viâ* Bobundara on the west, or *viâ* Nimitybelle on the east.

The following is the estimated cost of these extensions:—

	£	s.	d.
(1.) From Cooma to Delegate, on the Victorian Border, *viâ* Nimitybelle and Bombala, 91 miles, at £7,000 per mile	637,000	0	0
(2.) From Cooma to Delegate, on the Victorian Border, *viâ* Bobundara, about 105 miles, at £7,000 per mile	735,000	0	0

The extension from Bairnsdale to the—

(1.) New South Wales Border, at Delegate, is estimated to cost (say) 122 miles 67 chains, at £11,000 per mile	1,351,212	10	0
(2.) To a point near Bendock, 131 miles 9 chains, at £11,000 ...	1,442,237	10	0
(3.) Near Timbillica, 147 miles 71 chains, at £4,500...	665,493	15	0

(See letter of Mr. Rennick, Engineer-in-Chief for Construction, Victoria, of 15th June last—Annexure—Bombala-Eden, 1.)

A third route has been "inspected," leaving the Orbost to Timbillica route at Sydenham Inlet, and reaching the Border at a point between Timbillica and Bendoc, having a mileage of 147 miles (about) from Bairnsdale, and estimated to cost the same amount per mile as the Orbost–Timbillica route. If the Federal line from Eden to the proposed Site takes the Bondi, or most southern of the three routes, this third ("inspected") route would appear to take a favourable direction for connection with the Federal line, especially if the extension from Cooma by New South Wales adopted the route *viâ* Nimitybelle and Bombala, but not if the Cooma extension took the route *viâ* Bobundara. The promoters of the Southern Monaro Scheme favour the route from Cooma *viâ* Nimitybelle.

It is claimed for this scheme that it is the only one which, in offering a safe and commodious seaport (at Eden—Twofold Bay) with a sufficient area in the vicinity (10,000 acres), provides a Site equally accessible to all the Federating States by sea, and as between Sydney and Melbourne, one not much nearer to the former than the latter metropolis; the difference in favour of Sydney being about 161 nautical miles, according to Annexure.

Twofold Bay is capable of being made an invaluable naval base to the Federation, as well as a first-class harbour, by means of protecting breakwaters from the two headlands of Look-out Point and Jew's Head(*); the enclosed water varying from 12 to 3½ fathoms, and giving anchorage room of nearly 6 square miles. The cost of these breakwaters is estimated, by the Engineer-in-Chief for Harbours and Rivers, at £1,028,000, a proportion only of which would be provided by New South Wales, as the harbour, surrounding land, and railway connection with the tableland would be Federal property. The position of the proposed breakwaters is shown (Annexure—Bombala–Eden, 5), and the lengths and costs, in Mr. Darley's letter (Annexure—Bombala–Eden, 4).

(*) To those who have no knowledge of Twofold Bay, and the position of the little township of Eden, the Sketch Map referred to may give some idea of the great strategical value of the northern promontory of the Bay and its isthmus. For all purposes of fortification, these heights are far superior to any on the coast. The batteries on the sea front would have an effective fire-arc of more than 200 degrees, and the land front could be easily protected by one or more detached forts. In every respect, the position is an ideal one; and, as the two extremities of the breakwater would be fortified, the port would be impregnable as against any naval force likely to attack it, and, on emergencies, the protected anchorage would afford a most secure harbour of refuge, or for other purposes. If by any mischance or reverse the British fleet should lose control or touch at this side of the Tasman Sea, Twofold Bay, unfortified, would be an ideal base or lair for an enemy's commerce-destroyers, being the best place on the coast to refit, or save feel, and at the same time to command the fairway of three-fourths of our commerce. It becomes, therefore, a very serious question for the Commonwealth, whether it or the enemy shall secure this most important natural position.

No analysis of the soil of this Site appears to have been made, but a large proportion of the Site is of granite with some basaltic and slate formation. It is stated to be very fertile and of considerable depth, and to be capable of growing excellent crops of all cereals and most English fruits; 20 bushels of wheat to the acre and sometimes much more had been obtained, also excellent crops of oats and potatoes. No exception can be taken in the matter of foundations for heavy buildings. Besides conifers and other ever-greens, all the deciduous trees suitable for ornamental plantations, such as the oak, elm, poplar, willow, plane, are said to flourish in this district, and what vegetable products require a warmer climate, can find it in the adjoining and lower lying Bega and other coast districts. Physical (conditions soil).

The following extract from the evidence of the Inspecting Officer of the Works Department, Mr. C. E. Blomfield, shows that this site is exceptionally well favoured in respect to "Water Supply and Catchment":— Water supply and catchment.

"Inspected proposed Federal Territory for water supply purposes. Lord's Hill, at the 5-mile post, on the Bombala-Delegate Road, would make a good site for a storage reservoir to supply any part of the proposed Federal City site by gravitation. The Delegate River is the best of the sources. The water was pure and good, with a discharge of 100 cubic feet a second. If the supply was only one-sixth of this, it would suffice for a city of 250,000 people, at 36 gallons per head per day. A storage reservoir would not be required for some considerable time; but if required a good site was obtainable at an elevation of 60 feet above Lord's Hill, where an inexpensive weir could be erected 30 feet high and 600 feet long, with good foundations. This would be about 280 feet above Bombala. The Bombala River could also be utilised to bring water to Lord's Hill, and thus supplement the Delegate River if necessary. This site is about 250 feet above Bombala, and about 17 miles from the town. Other rivers, viz., Saucy Creek, Little Plains River, Jackson's Bog, Nicholson's Bog, and Coolumbooka River, could also be utilised for gravitation for the greater part of the proposed territory. Estimated cost of Lord's Hill scheme, £40,000. He had seen nothing that could be utilised for power for generating electricity, &c. The Lord's Hill supply could be used for hydraulic lifts, &c."

The same witness, in his comparison of sites for water resources, gives this Site second place after Buckley's Crossing for the possession of an ample gravitation supply from the Delegate River.

Even without having recourse to the never failing Snowy River, in the immediate neighbourhood, Southern Monaro is, without exception, the best-watered area of any of the Tableland Sites that have been proposed. With the Snowy River, according to the suggested enlargement of the Southern Monaro Scheme (see Part III, paragraph 79), not only would the Federal Capital be insured in perpetuity against want of water for domestic, sanitary, and kindred uses, but useful sources for the generation of electrical power would be available, as well as for ornamental waters, &c.

Building material. It is claimed that, within the short distance of 10 miles from the proposed Capital Site, there are unlimited quantities of good building stone, including blue and grey granite, sandstone, freestone, and slate, also limestone; also clay for brick-making, and gravel; and, within the same distance, extensive forests of ironbark, mountain ash, messmate, stringybark, blue and grey gum, as well as other useful timbers. This claim is well founded, both in respect of stone and timber. The forests on the slopes of the coast ranges are more promising for building purposes than those within, or in the vicinity of, any other inspected Site.

Drainage. Excellent drainage for the Capital Site is assured by the face and trend of the country, and, if absorption were necessary, the soil being of a porous loam would be sufficiently absorbent.

Ownership and value. The area of alienated land within the proposed Federal Territory Site is, approximately, 74,000 acres, the rest being Crown lands—say, 5,000 acres—and about 2 square miles included within the Municipality of Bombala.

The estimated value of the alienated land as improved is from 30s. to £5 or £7 per acre, and of the land within Municipal boundaries also as improved, £72,665.

The average per acre value of improved lands over the enlarged area ought not to exceed (approximately) £3 to £4 per acre.

Miscellaneous conditions. Under this head it is claimed that Southern Monaro assures an abundant food supply for a large population, partly of its own production, partly from the associated coast districts; and, it is contended, that the only impetus required for the development of its great natural resources is that which would follow the location of the Federal Capital within its limits. In regard to defensibility, it is pointed out that Twofold Bay could be easily fortified, and would form an important naval base; while the Coast Range, inaccessible in all but a few places, could easily at those points be made a second and impregnable line of defence.

In regard to minerals, though coal is not known to exist, it could be easily and cheaply obtained by sea from the northern mines on the seaboard. The precious or useful metals, such as gold, silver, iron, copper, lead, tin, &c., are said to exist in payable forms; and the late Rev. W. B. Clarke is claimed as an authority for the mineral wealth of the district.

From the health point of view, the evidence goes to show that the district of Southern Monaro is singularly free from such diseases as typhoid, diphtheria, consumption, and asthma,—some of these being almost unknown; and that, generally, owing largely to altitude and purity of water, Southern Monaro stands very high in the list of the healthy districts of Australia.

ANNEXURES.

Bombala–Eden, 1.

Board of Land and Works (Railways Construction Branch),
Engineer-in-Chief's Office, Melbourne, 15 June, 1900.

BAIRNSDALE TO NEW SOUTH WALES BORDER.

Dear Sir,

I have the honor to forward herewith map showing the different proposed routes between Bairnsdale and the New South Wales Border, together with mileages, cost per mile, and total cost, at the following places, viz.:—

	£	s.	d.
At Delegate River, 122 m. 67 c., at £11,000 per mile	1,351,212	10	0
Near Bendoc, 131 m. 9 c., at £11,000 per mile	1,442,237	10	0
Near Timbillica, 147 m. 71 c., at £4,500 per mile	665,493	15	0
Near Bondi, 147 m.	665,493	15	0

Copy of my Report of 31st ult., is also enclosed.

I have, &c.,
F. RENNICK,
Engineer-in-Chief

Alex. Oliver, Esq., Land Appeal Court, Darlinghurst, Sydney, N.S.W.

Board

Board of Lands and Works (Railways Construction Branch),
Engineer-in-Chief's Office, Melbourne, 31 May, 1900.

MEMO:—PROPOSED RAILWAY FROM BAIRNSDALE TO THE NEW SOUTH WALES BORDER.

First.—To Delegate or Bendoc.

THE country along this route may, as regards railway construction, be described as 37 m. to 45 m. medium; 86 m. difficult and very difficult; total, 123 m. to 131 m.

The cost of an economical railway through the difficult and very difficult portions will depend largely on what work such a line would have to do.

So far as may be judged from surface indications, the greater part of the country between Bairnsdale and Delegate, or Bendoc, and its resources appear of a very inferior character, and quite unfitted to maintain, under the present industrial condition of Victoria, any considerable population.

Unless it contains mineral wealth not yet discovered, any railway for purely development purposes should be of the cheapest possible character, consistent with efficiency and safe working.

All the railway trial surveys hitherto made in this district have been for lines of the old Victorian type, with fairly easy curves, but with steep grades in the mountains.

The present estimates for substantial railways by those surveyed routes are—through medium country, £5,600; difficult, £10,000; and very difficult country, £20,000 per mile; the average being £11,000, exclusive of land and rolling stock. There would be nearly 1½ mile of tunnel on the very difficult parts. Such lines, with a small additional outlay on station equipment, &c., would be capable of coping with a large traffic, both local and interstate, and permit a fair average speed for passenger trains of the best and most comfortable type.

The question is, Would any such line be justified within a reasonable period—say, twenty years?

By a very careful survey, and the introduction of sharp curves—say, 4 and 5 chains radii—and increasing the length through the difficult and very difficult sections, a light railway might be constructed at considerably less cost—say, about £5,000 per mile. A careful trial survey would be necessary before a definite estimate could be made for such a line.

Second.

A line to Timbillica, beyond Mallecoota, or to Bondi on the Border, would go through much easier, but, perhaps, poorer, country than to Delegate or Bendoc.

A railway of our second-class type, 60-lb. rails, and correspondingly light equipment, could be built for about £4,500 per mile.

The cost of rails is now an important factor in railway estimates. From 1892 till about eighteen months ago rails could be landed in Melbourne at from £4 to £5 per ton, or £400 to £500 per mile, cf, say, 60 lb. to the yard. Now, they would cost nearly double this money.

This difference, while not counting much in lines costing £10,000 or £12,000 a mile, becomes a considerable proportion in those costing £2,000 to £4,000.

F. RENNICK,
Engineer-in-Chief.

The Hon. the Minister of Railways.

Bombala–Eden, 2.

Department of Public Works (Railway Construction Branch),
Engineer-in-Chief's Office, Sydney, 29 August, 1900.

MEMORANDUM to The Engineer-in-Chief.

Bombala to Eden.

IN reference to Mr. A. Oliver's letter, dated 17th instant, herewith, I have brought up to date the approximate cost of the Bombala to Eden Lines, *viâ* Bondi, and *viâ* Wolumla, adding on to the latter, and substracting from the former, that due to the distance between Bombala and the proposed new capital, and taking both lines down to the waterside at Eden. The amounts and distances are as follows:—

Capital to Eden Wharf, *viâ* Bombala and Wolumla, 81 m. 36 chs. ..... = £1,688,719
Capital to Eden, *viâ* Bondi, 67 m. 9 chs. ..... = £1,323,330

The maximum grades and curves are the same in each case.

It will be seen that the Wolumla route, though over 14 miles longer, is the cheaper; but the extra working of this length would go against the Wolumla line. On the other hand, the portion of the latter line between Bombala and the Capital would form part of the line from Sydney to the new Capital, and the connection with the Port of Eden should not be entirely debited with the cost of this length.

The whole matter requires a good deal of consideration, in which the above question, and that of working expenses, would have to be fully dealt with.

Statement herewith.

C. O. BURGE.

BOMBALA TO EDEN, *viâ* BONDI.—Length 67 m. 9 ch.
With revised earthwork rates at 2s.

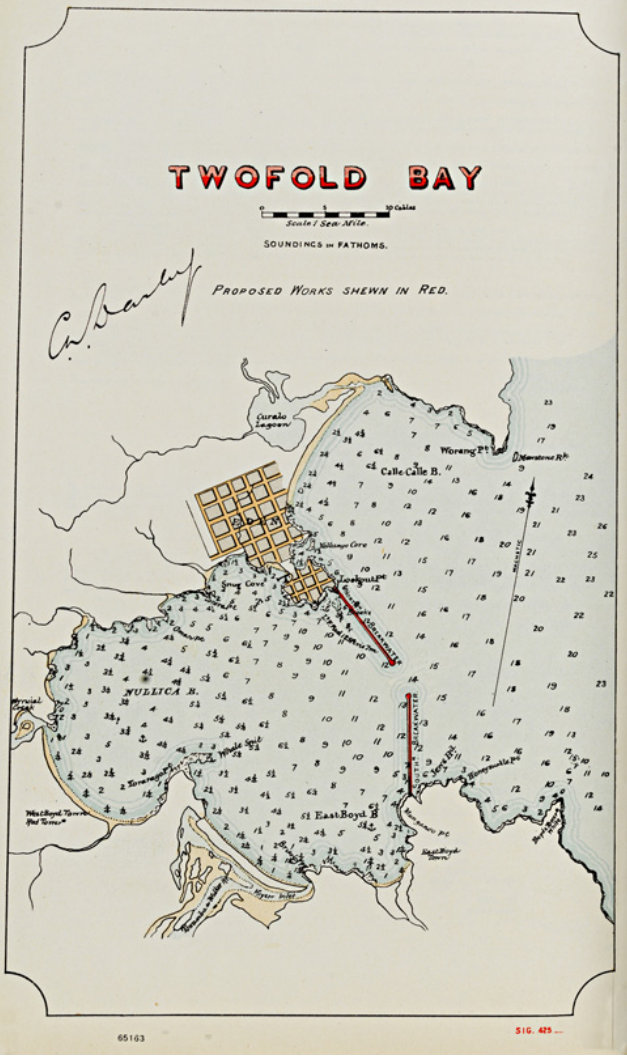
	£	£
Estimate of 1893 revised		1,283,679
Add for extra cost of rails	£26,067	
Add for Capital and Eden Stations	30,000	
Add for branch to jetty	20,584	
		76,651
		£1,360,330
Deduct length from Bombala to proposed site of Capital—7 miles at £5,000	35,000	
Deduct engine accommodation at Eden, included in second item above	2,000	
		37,000
Total cost—Capital to Eden waterside		£1,323,330

BOMBALA TO WOLUMLA—POSTLE'S ROUTE.—Length 54 m. 74 chs.

	£	£
Estimate of 1893 revised		729,322
Add for extra cost of rails	£19,466	
,, length, Bombala to proposed Capital	35,000	
,, Capital Station	15,000	
,, Bombala intermediate station	5,000	
		74,466
		£803,788

WOLUMLA

Bombala-Eden, 5.



WOLUMLA TO EDEN.—Length, 26 m. 42 chs.

		£
Estimate of 1893 revised		248,733
Add for extra cost of rails	£9,803	
,, Eden Station	15,000	
,, branch to Jetty	29,584	
		45,387
		£294,120
Deduct cost of Eden Station in 1893 estimate		9,189
		£284,931

TOTAL COST, CAPITAL TO EDEN WATER SIDE, *viâ* POSTLE'S ROUTE, £1,088,719.

	£
Capital to Eden water side, *viâ* Bondi, 67 m. 9 chs.	1,323,339
,, ,, ,, Postle's Route, 81 m. 36 chs.	1,088,719

Bombala-Eden, 3.

Department of Public Works, Railway Construction Branch,
Engineer-in-Chief's Office, Sydney, 18 September, 1900.

My dear Mr. Oliver,

In reply to your inquiry of the 12th instant, I beg to state:—

1. The length of the proposed line from Cooma to Delegate, on the Victorian Border, *viâ* Nimitybelle and Bombala, is 91 miles, and the estimate, which is very old, amounts to about £7,000 per mile, or, in all, £637,000.
2. The length of a line from Cooma to Delegate or the Victorian Border, *viâ* Bobundara, is about 105 miles, and its cost, at £7,000 per mile, would be £735,000.

Yours, &c.,
H. DEANE.

Alexander Oliver, Esq.

Bombala-Eden, 4.

Department of Public Works, Sydney, 4 September, 1900.

Dear Mr. Oliver,

I am afraid there has been too much delay in answering your letter of 20th ult. re Twofold Bay. I enclose you a small hand map showing the breakwaters I would propose. The Northern is 4,700 feet long, and Southern 4,850 feet long; width of entrance, 1,800 feet. The area enclosed would be 6¾ square miles, and area of water, over 24 feet deep, 3¾ square miles. This would form a most commodious and well sheltered harbour.

I estimate the cost at £1,028,000. This allows a liberal price for stone. It might be much less if really good stone can be obtained at each headland; but I doubt if the local stone is good enough.

I would not recommend overlapping breakwater; they are more costly, have really no advantage, but have some disadvantages.

Yours sincerely,
C. W. DARLEY.

BRAIDWOOD SITE.

Statement of Case

Topography

THIS Site is reached by a very good road, 30 miles in length, from the Tarago Station, on the Goulburn-Cooma Line, but has not yet been connected by rail with the Southern Railway System. A very conspicuous hill, known as "Gillimatong," rising abruptly from the elevated basin of the Shoalhaven River, which may be said to form the Braidwood District, marks the position of the township, which was established as far back as 1839, and now contains a population of about 1,300. The proposed Federal Territory Site contains an area of 100 square miles (64,000 acres), and the proposed Capital Site, which embraces the town of Braidwood, an area of 3,840 acres. The latter Site is distant about 4½ miles east of the Shoalhaven River, in south latitude 35° 30', and east longitude 149° 47', is in the county of St. Vincent, and includes parts of the parishes of Percy, Braidwood, Boyle, and Coghill. The Federal Capital Area, 3 miles by 2 miles, as proposed, extends beyond the town half a mile to the north and west, 1½ mile to the south, and 1 mile to the east, and is intersected by the Monkittee branch of Gillimatong Creek, about half a mile from the northern boundary, and the northern portion of the Area slopes to this creek in a gradual manner, except immediately north of the town, where the rise is more abrupt, and culminates at a level of 50 or 60 feet above the town, in the hill on which is the grave of Dr. Braidwood Wilson, one of the earliest pioneers, after whom the town is named.

The eastern portion of area is fairly level, and embraces the valley of Monkittee Creek and its tributary watercourses, on which are arable flats, separated by low undulations, and this formation extends at least 4 miles eastward.

Westerly, the Site takes in the continuation of the ridge on which the town is built, down to its termination at junction of Pound Creek, and on the south side of that creek extends over the foot slopes of Gillimatong Hill, which lies about 1 mile south-west of Capital Area. The trend of these slopes is north and east, and gradient easy, but the elevation towards the south-west corner of Area is somewhat above the town.

Southwards, the Site extends up the valley of Pound Creek, and over the range running south-east, which separates this creek from Monkittee Flats, and which rises by easy slopes from south boundary of town, forming an elevation above it towards the north-east corner of Area.

The Federal Capital Area, taking Braidwood as the approximate centre, is situated about 30 miles from Tarago, a station on Goulburn-Cooma Railway Line, and about 20 miles south of Goulburn, and is reached by a well-metalled road, classed as one of the Main Roads of the Colony, on which two coaches ply to and fro daily.

Other means of access are as under:—On the north from Nowra, distant 75 miles, *viâ* Nerriga and Sassafras; on the east, from Nelligen, on the Clyde River, distant 30 miles up Clyde Mountain; on the south, from Moruya, distant 52 miles, *viâ* the town of Araluen. Coaches run regularly on these roads.

There are also the roads to Queanbeyan, 40 miles away, and to Cooma, *viâ* Bredbo, on the south, with a branch to Captain's Flat, distant 30 miles.

A railway line about 30 miles in length has been surveyed between Tarago and Braidwood.

Jembaicumbene

National Archives of Australia: A18, 2, page26

Jembaicumbene and Sergeant's Point townships lie 6 and 8 miles, respectively, to the east and south, on good roads of access, while Araluen, on Moruya Line, 16 miles distant, and 1,600 feet lower level, supplies fruits and other products suitable to the coastal climate, including maize, and a considerable traffic exists, especially in the fruit season. Grapes, figs, peaches, apricots, oranges, and melons grow in Araluen freely, while in Braidwood English fruits thrive best.

The Braidwood Federal Territory, as proposed, extends north of the town about 5 miles; west, 2 miles; to the south, about 7½ miles; and to the east, 5 miles; comprising an area of 64,000 acres, and 13½ miles from north to south, and 7½ miles east to west; situate in the parishes of Boyle, Percy, Elrington, Braidwood, Coghill, and Seymour; and is located on the heads of Durran Durra, Gillimatong, and Jembaicumbene Creeks, draining into the Shoalhaven, which lies about 3 miles, on the average, from its western boundary.

The Territory is bounded on the south by the watershed between the Jembaicumbene Creek and the Araluen Creek, on the east by the low range separating the waters of the Shoalhaven and Mongarlowe Rivers, except at the south-east corner at Reidsdale, where the east boundary crosses the valley of a minor branch of the Jembaicumbene at Reidsdale; on the north and west, there are no natural boundaries.

The whole Area slopes to the west, and is of granitic formation, except on its eastern side, where basalt and slate are touched upon.

There is a considerable area of level ground, especially in the wide, flat valley of Jembaicumbene in the south, and in the Monkittee Flats east of the town, in the central portion of Area; but in the northern end, on Durran Durra Creek, the country is more broken, and the flats of less extent.

The principal area of cultivation is on the Monkittee Flats, east of the town, and on Jembaicumbene Creek, near the town of that name.

An extensive bird's-eye view of the Federal Territory, and Braidwood district in general, can be obtained from Gillimatong Mount, which has an elevation of over 3,000 feet above sea-level, and lies about 1½ mile south-east of the town, from which it is readily reached by a short walk.

Immediately to the east lies the valley of the Monkittee Creek, and about 5 miles away its sources n the divide from the Mongarlowe River; while the horizon is bounded by the Coast Range, about 13 miles distant, which rises into considerable elevations in the "Currockbilly" and "Budawang" Mountains.

To the south-east are the sources of the Mongarlowe, at a somewhat lower level, and the Monga Mountain, dividing the Mongarlowe from the Jembaicumbene; south can be seen the valley of the Jembaicumbene and the range forming the watershed between that creek and Araluen waters, while over this can be seen part of the ranges enclosing Araluen and the upper course of the Dena River, which is very rugged. On the west and south-west can be seen part of the course of the Shoalhaven River, which, rising about 45 miles south, at an elevation of about 3,500 feet above sea level, near the Big Badja Mountain at a point where the Great Dividing Range merge into one, runs north, and thence towards the sea. Unlike most rivers, the Shoalhaven has its upper course through fairly level country to within sight of its source above Snowball, while about 20 miles below Braidwood it begins to fall rapidly, and the valley deepens towards the north, and the river in places is difficult of access, even on foot.

The upper portion of the Shoalhaven Valley, between the Great Dividing Range and the Coast Range is rather narrow above the junction of Jerrabat Creek, 20 miles south of Braidwood.

Below this point the valley widens, but is again contracted west of Braidwood by the spurs of the Gourock Range, an offshoot from the Great Dividing Range, and which separates the Shoalhaven from its tributary, the Reedy Creek. This range rises into some lofty peaks, such as Elrington and Polemang, about 15 miles distant.

North of Braidwood the valley opens out and the Mongarlowe and Reedy Creek join on the east.

The mountains recede and diminish in height and disappear altogether due north, while north-west can be seen the Tarago Range, and to the north-east the Sandstone Hills, between the Clyde River and Shoalhaven, intercept the view. The intervening country is comparatively level, but though not containing much actual flat country, the ridges are of moderate elevation.

The proposed Territory Site is shown on the Map of Braidwood Site, marked E in Appendix, by the area within red edging, the Capital Site within blue edging.

Climatic conditions (temperature).

The mean temperature, taken for a period of twenty-one years, gives, for the first (summer) quarter of the year, 66·8; for the second (autumn), 49·9; for the third (winter), 46·2; and for the fourth (spring), 64·1; for the hottest month on record, 72·3; and for the coldest, 3·55; for the hottest day on record, 103·6; for the coldest, 14·3.

Altitude.

This is given as 3,157 feet above sea-level, but noted as "not verified." It is, probably, as stated by Mr. Bundock, formerly Road Superintendent, about 2,200 feet. The altitude of Sohns-street, in the township, as obtained from the Under Secretary, Department of Works, is given as 2,136 feet. These figures may be considered as accurate, being the result of levels taken in the course of the Tarago-Braidwood Railway survey.

Rainfall.

The mean rainfall for the same period is given as 28·90, distributed thus:—For the first quarter of the year, 8·47 inches; for the second, 7·86; for the third, 5·49; and for the fourth, 7·08.

Accessibility.

This Site is reached by railway to Tarago (on the Goulburn-Cooma Line), 158 miles; and thence by a good level road to Braidwood, 32 miles. A railway to the town, covering a distance of 30 miles, was surveyed some years ago, and the money for its construction voted, but never expended. Access is also obtainable by sea to Nelligen, where a steamer runs weekly from Sydney, and thence by road to Braidwood, 33 miles. The distances of Braidwood from other Capitals, by land, are as follow:—

Melbourne, *viâ* Tarago	492 miles.
Brisbane, *viâ* Tarago	933 „

and by sea and land as follows:—

Brisbane to Sydney, by sea	500 miles.
Sydney to Braidwood...	187 „
Total, Brisbane to Braidwood	687 „

Melbourne

Melbourne to Sydney, by sea	576 miles.
Sydney to Braidwood...	187 „
Total, Melbourne to Braidwood	763 „

Adelaide to Sydney, by sea, thence to Braidwood	1,271 miles.
Hobart to Sydney, by sea, thence to Braidwood	825 „

Physical conditions (soil).

Nearly all granitic formation, with alluvial flats and decomposed granite in the hills. Subsoil—clay and decomposed granite generally. Well adapted for growth of cereals, potatoes, root crops, and fruits suited to a temperate climate.

Water supply and catchment.

There is an abundant supply of water in the Shoalhaven River, which has a catchment area of about 450 square miles; but Mr. Blomfield, the Resident Engineer, who examined the river to a point about 20 miles above the town, reports as follows:—

"Braidwood is not well situated for a gravitation supply, as the town has a fairly high situation, and the fall in the Shoalhaven is small. As far as the quantity and quality of the water is concerned, there is no difficulty, but, for a large population, pumping would be necessary.

"In addition to the Shoalhaven, the Mongarlowe River has also a good and pure supply, but this would also require pumping, as, even if the river itself had sufficient elevation, there is a ridge over 200 feet high between it and the town."

Building material.

There is an inexhaustible supply of excellent granite easily procurable, which is claimed to be equal to Moruya granite. Abundance of good freestone is stated to be available at Corang, within 30 miles of Braidwood, whilst limestone exists within 14 miles. The timber supply consists of mountain-gum, messmate, mountain-ash, sassafras, blackwood, plum-tree, ironbark, spotted and blue gum, stringybark, &c., mostly obtainable on the Dividing Range, just outside the proposed Area; also at Reidsdale, and in the vicinity of Major's Creek. Good clay for bricks. Sand and lime can be obtained in the Area.

Drainage.

The Site possesses good natural facilities for drainage.

Other physical features.

The following extract is taken from the report furnished by the local Committee:—"The greater portion of the proposed Area consists of fairly level country, all suitable for cultivation and residences, with moderate sized hills in the northern and eastern portions. The whole Area is well-watered with creeks, many of which are perennial, whilst subterranean water of excellent quality is procurable at comparatively small depths."

Ownership and value.

The area of alienated or private lands is estimated at 63,000 acres, and that of Crown lands, including reserves, &c., 1,000 acres. The land is not highly improved. Inside the Municipal area, but excluding the town of Braidwood, the value, as improved, is estimated from £3 to £5 per acre. For the whole area, but excluding the town of Braidwood, a fair average value, as improved, was stated to be £3 per acre.

Miscellaneous conditions.

With regard to Food Supply, it is claimed that the Braidwood district could supply sufficient meat food for a population of 40,000. The country is more suited to cattle than sheep, and the natural grasses throughout the district are noted for their fattening qualities, Braidwood cattle being credited with topping the market. Cereals, potatoes, and other root crops can be grown, and good crops have been realised, but the top soil is shallow as a rule, and soon exhausts itself under crop. With closer settlement, the district could be rendered much more productive, and capable of supporting a large population. Dairying is carried on principally by the farmers. The district is suitable to the establishment of chilling and freezing works, but there are not sufficient sheep for the establishment of woollen manufactories.

With regard to minerals, Braidwood may be said to be well favoured. Gold is found in considerable quantities, and an already large output is likely to be considerably augmented when the numerous dredging plants, now being erected in the district, are going concerns. Deposits of silver, copper, and ironstone are known to exist, but have not hitherto attracted much attention. Stream tin is found in the Shoalhaven. Good coal and shale seams are said to be found within 25 miles of Braidwood, samples of which were exhibited at the Inquiry. It may be conceded that Braidwood, being the centre of an extensive pastoral, agricultural, and mining district, within easy reach of the metropolis and the seaboard, is favourably situated for commercial and industrial development.

From a health point of view, it is claimed that the district is remarkably free from epidemics, and that, owing to its altitude, tuberculosis and kindred complaints were of rare occurrence. The district is described as very healthy, favourable to longevity, and the death rate is below the average.

CARCOAR–GARLAND SITE.

Statement of Case.

This Site (shown on Plan, marked F, in Appendix), situated some 5 or 6 miles south-east of the small town of Carcoar, on the Blayney-Harden junction of the Main Western and South-western Railways, was inspected during the hottest part of the summer of 1899–1900, in company with its promoter, Mr. Lindon Biddulph, formerly a licensed surveyor, who has had the advantage of a long familiarity with the district. Evidence as to its suitability was taken at a public inquiry at Orange on the 27th March last. At that inquiry the only witness was Mr. Biddulph himself, whose evidence was given briefly, in view of the detailed statements contained in the report handed in by him, from which the following extracts have been made:—

Climate (temperature).

The mean temperature for the summer quarter is 67·5; for the autumn quarter, 48·6; for the winter quarter, 44·4; for the spring quarter, 61·7. The greatest recorded heat is 98·4, and the lowest 15·4.

Rainfall.

The average annual rainfall is nearly 31 inches, distributed in fairly equal proportions over the four quarterly periods; but it is claimed that the sources of supply for storage receive the 39 inches rainfall of the higher country. These results are given on the authority of the Government Astronomer, and covering a period of eighteen years to date, show a very equable climate.

Altitude.

The height of Carcoar Railway Station is 2,363 feet; the average height of the proposed Capital and Territory Site is given as 2,270 feet above sea-level.

Mr.

Mr. Biddulph reports as follows :—

Accessibility. "(*a*) It is exactly the same distance from Melbourne as Goulburn is ; 189 miles to Sydney ; 442½ miles to Melbourne ; about 700 miles to Brisbane, on completion of the Werris Creek to Wellington loop line ; about 923 miles to Adelaide, *viâ* the proposed Cobar to Broken Hill extension ; about 710 miles to Adelaide, *viâ* the Murray Valley (should Hay and Morgan ever be connected) ; about 820 miles to Hobart, *viâ* Melbourne ; about 2,200 miles to Perth (should the railway be laid down between Port Augusta and Kalgoorlie) ; to Adelaide, *viâ* Melbourne, 925 miles.

Physical conditions. "(*b*) By road, approximately the same to each chief city, as by rail, excepting in the cases of Brisbane and Adelaide—respectively about 180 and 100 miles nearer by road.

"(*c*) By water, the same as to Sydney (the Federal Port) from all State capitals, thence 189 miles by rail ; or ditto to Melbourne, thence 442½ miles by rail.

Physical conditions. "(*a*) Soil very rich and fertile in places, and for a considerable extent. May be quoted as 'fair to good' over the whole area, and resulting principally from the decomposition of ferruginous and aluminous slates, and, in a lesser degree, from the decay of iron-bearing intrusive rocks, such as basalt, diorite, gabbro, syenite, andesite, &c., &c.

"(*b*) There are several sites, adjacent to the City, with immense 'storage capacities.' Five of these would have a 'combined catchment area' of some 333 square miles. The creeks or rivers supplying these, like all Australian streams, are intermittent in dry seasons, though with unceasing flow in ordinary and good years. The whole of the Federal Area would lie some 300 feet below delivery pipes of these reservoirs, thus receiving the 'necessary pressure' to initiate an adequate and economical water supply by gravitation, also the lighting of 'Federal Area' by electricity, ample and frequent flushings of all drains and sewers, and a perfect 'fountain system' could thus be sustained for the necessities of gardens and public parks, &c., &c.

"(*c*) Granite, for building purposes, is obtainable on and near the area ; whilst marble, limestone, basalt, &c., are to be procured in the neighbourhood, though sandstone would have to be railed some 90 miles or so, from the vicinity of Wallerawang, &c., &c. There is an abundance of good brick-making clay on the area. Timber would come principally from Sydney and the districts around, though there is some fair material to be had from the country adjoining the Federal Area, on the south.

"(*d*) The sewage system would be a very complete one, as reticulation from all sides and over the whole site is available into a 'main,' discharging with the true fall of the country, and with an even grade throughout, at the north-western corner of the area. The undulating nature of the land, and the number of small streams intersecting the area, afford a good natural drainage for streets and surfaces generally.

"(*e*) The Site is upon the 'second' or 'subsidiary plateau,' the main tableland above, lying between Orange and Neville, averaging some 600 feet greater altitude. This position ensures a more equable climate than the higher lands. Being less exposed, it is practically as cool during the summer months, whilst their rigorous winter periods are avoided. A reference to the 'Thermometer Registrations' will verify these statements. Lying, as it does, alongside and just beneath Mount Macquarie (the second highest point in the West), the waterworks and City, &c., would be protected in case of an attack by an enemy, as Mount Macquarie rises 1,700 feet above the area, and would, of course, be fortified ; also, there are several lesser eminences around the site, which could be dealt with similarly. This great hill is an 'isolated mass,' about one-third of a mile long, and one-twelfth of a mile wide on top, and possessed of a flat cap. It is about 6 miles distant from City centre. Being remote from the sea coast (111 miles to nearest point, and 120 miles to Sydney as the crow flies), with the rough and intervening Blue Mountain Range, the site is almost unreachable by a foe. The railway runs diagonally through the area, from north-east corner at Carcoar to the south-west corner at Watervale. The scenery is also very fair.

Ownership and value. "(*a*) Omitting the 'Municipality of Carcoar' at north-east corner, areas alienated would be, roughly, 1,500 acres of town and suburban land, and about 50,000 acres of country lands ; total of about 51,000 acres.

"(*b*) Crown lands, including Church and Schools Estate, reserves, &c., equal about 12,500 acres.

"(*c*) Unimproved private town and suburban lands, about £20,000, and 30s. per acre for country, £75,000 ; total, £95,000 unimproved value.

"(*d*) Improved value, private town and suburban land £35,000
50,000 acres of country lands at 60s. £150,000

Total cost £185,000

Miscellaneous conditions "(*a*) 1. Wool material is assured, as the area is contiguous to the great wheat-producing centres in the Lachlan, Bogan, and Macquarie River valleys, &c., &c. ; is surrounded with a grand district, yielding all descriptions of animal and vegetable products, and is on the direct line of Queensland cattle supply to Sydney and Melbourne, &c.

"2. Coal must be railed about 90 miles ; iron is plentiful on the area ; gold, silver, and copper obtainable.

"3. It has the capacity to support a considerable population.

"4. Centrality, climate, existing railway connection, easy touch with Sydney, economic and ample water supply, ample food supply within easy distance, coal and building material handy, situated at a spot central to the important towns of Bathurst, Orange, Cowra, and Blayney (respectively 44, 39, 27, and 17 miles by rail therefrom), the 'Federal City' would benefit these centres of trade without being sufficiently near thereto to destroy their status, as it were ; whilst, on the other hand, the former would be advantaged and enriched in its position. I take it that the capabilities of a 'Federal Area,' as regards power of support and commercial development, *per se*, is a minor consideration only, compared with the greater questions of climate, centrality, and accessibility in regard to the bulk of Australasian population, cheap and ample water supply, and necessary pressure for complete sanitation, provided the districts contiguous thereto are naturally rich and able to provide all, or nearly all, the food material and other necessaries required by the 'Federal City'; and, unquestionably, this is the case with our Western Sites. Besides, gardens and parks, public offices, colleges, private mansions, &c., are not concomitants of chimney stacks and smoke, noise, and evil odours, &c., &c. Foundations good ; bedrock not too deep in most places, and capable of supporting weighty buildings."

Mr.

Mr. Biddulph adds :—"Were it not for one 'important obstacle,' I believe the best spot in New South Wales would be the locality of Spring Hill and Millthorpe as a centre. This region occupies the 'very roof' of the 'basaltic plateau,' and from this point the waters radiate towards the Lachlan and Macquarie River basins. It is a beautiful tract of rich, undulating country, with rather bitter winter periods—average elevation being somewhere about 3,000 feet above sea level. I have shown such by 'reel square' in the map supplied by me. I thought it might be considered as an 'alternative scheme,' perhaps. The great drawback I allude to is the fact that every gallon of water would, under great expense, wear and tear of plant, &c., have to be raised by 'pumping operations.' The cost of resumption at present time of these small towns and the area around would not be great, and the betterment that would accrue, through Federal expenditure, &c., in the shape of 'incremental values,' would be enormous, and the property of the Federal State recouping same several times over, maybe, on the transaction. I fear this impediment is nearly insurmountable. It is a matter for hydraulic experts to decide. However, if the question could be settled satisfactorily, I believe that the Site would be a better one, perhaps, than 'Carcoar-Garland.'"

Mr. Engineer Blomfield inspected the several sources of water supply, and reported as follows :—

Water resources. "*Coombing Rivulet Site.*—About 500 feet above the proposed Federal City ; foundations very good ; catchment good ; storage fair ; will require a high dam, say 100 feet, but not very long—less than quarter of a mile. If 1 inch of the annual rainfall on the area of this river were stored, it would keep a population of 100,000 going for twelve months, allowing 30 gallons per head per day.

"*Belubula River Site.*—About 390 feet above proposed Federal City ; foundations very good ; storage good ; catchment : the fact of Blayney being on this River condemns it as a prospective water supply. If the site were chosen, Blayney, as a junction, would most likely become an important place, and pollution of water in the Belubula would be certain to take place. However, as the storage and fall are good, it might be considered as a means for generating electricity, &c.

"*Brown's Creek Sites.*—Lower site will have to be rejected, as it is only about 100 feet above proposed Federal City. The alternative site, higher up, is about 350 feet above proposed Federal City. Foundations good ; catchment good ; storage very good. If 1 inch of the annual rainfall on the area of this creek were stored, it would keep a population of 90,000 going for twelve months, allowing 30 gallons per head per day.

"I did not inspect Flyer's and Cadia Creeks ; but I have been down the former twice during the late dry years, and there was a good supply of water running on both occasions. The catchment is good, and, from what I remember, I do not think there would be any difficulty in obtaining a site for a reservoir ; in fact, on a safe estimate, the Combing Rivulet, Brown's and Flyer's Crecks should supply a population of a quarter of a million easily."

COOTAMUNDRA SITE.

Statement of Case.

Topography. Cootamundra is an incorporated Borough, having an area of 3,040 acres and a population within the Municipal area of 2,560. It is situated on a level tract traversed by the Main South-western Trunk Railway (Sydney to Melbourne), and is the junction point of two branch Lines—Cootamundra to Temora, 38 miles on the north-west, and Cootamundra to Gundagai, 34 miles on the south. On reaching Cootamundra, the difference in altitude between the highest point along the Line and the commencement of the flat basin of the Murrumbidgee, is about 1,200 feet. That river, however, is distant from Cootamundra about 30 miles. The proposed Site for the Federal Capital is some 10 miles east of Cootamundra, and near to Wallendbeen Station. It has an elevation of about 600 feet higher than Cootamundra, and is a combination of undulating hills and valleys, some portions of which are under cultivation, while other portions are used as pastures.

Climatic conditions (temperature). The mean quarterly temperatures, for a period of thirteen years, are given by the Government Astronomer as 72·4 degrees for the first quarter (summer), 51·9 degrees for the second (autumn), 47·9 degrees for the third (winter), and 67·3 degrees for the fourth (spring). The mean of the hottest month is 81·1 degrees, and of the coldest 41·3 degrees. The greatest recorded heat is 106 degrees, and the lowest 27·9 degrees.

The climate generally is described as a salubrious one, the winters being mild and the summer heat not oppressive to any degree, and sunstroke is hardly known. Endemic diseases are unknown, and epidemics only as in other country districts.

Altitude. The height of the Railway Station at Cootamundra is given as 1,082 feet above sea-level ; but it is considered that the height of the proposed Site will be about 600 feet more, from which it would follow that the Cootamundra or Wallendbeen Site has an elevation above sea-level of about 1,600 to 1,700 feet.

Rainfall. The mean rainfall (taken for the same period) is 25·65 inches, distributed over the year thus :—For the first quarter, 7·01 inches ; for the second, 6·35 ; for the third, 6·32 ; and for the fourth, 5·97.

Accessibility. The proposed Site is distant about 242 miles from Sydney, taking Wallendbeen as the farthest point. Cootamundra itself is nearer by 70 miles to Sydney than to Melbourne, the distances being 323 miles from Melbourne, and 253 from Sydney. The distance from Brisbane is 976 miles, but about 876 by the proposed Werris-Creek Dubbo connection ; from Adelaide, 682 miles, which would be much reduced if the Cootamundra-Temora Line were extended westerly to Hillston and Wilcannia. There is no communication by water.

Physical conditions (soil). The soil is described as a chocolate loam, with belts of white granite country ; and Dr. Curran's authority is cited for the statement that the formation of the proposed Federal Territory Site is porphyritic. On Wallendbeen, granitic in parts.

Water supply and catchment. Cootamundra is at present supplied by gravitation and pumping. Two witnesses considered that an efficient gravitation supply could be obtained from Adjinbilly Creek, a tributary of the Tumut, and syphoned across the Murrumbidgee at a cost of about £200,000 ; also from the Tumut, at a point about 60 miles distant from Cootamundra, at a cost of about £250,000. A third gravitation scheme would, it was stated, be afforded by the Barren Jack or Goodradigbee Weir. Mr. Blomfield, who inspected the Adjinbilly, reported that that Site, as far as elevation, storage, and catchment were concerned, was a very good one, but would be expensive (the reservoir site being distant about 40 miles from Cootamundra), and that the gold-mining in that locality, which made the water very muddy, would have to be stopped. (See Annexure, marked Cootamundra, 1.)

There

Building material.

There is excellent granite for building purposes in Wallendibeen, and good rubble material at Bethungra, but no sandstone or marble. There is slate at Gundagai, and limestone at Galong and Illabo. Abundance of clay for bricks, and also at Temora for fire bricks. Of timber—ironbark, red-gum, stringybark, white-box, and pine, are obtainable within a reasonable distance; also mountain ash and messmate on the Tumut Ranges. Some of the hardwoods are liable to the attack of white ant.

Drainage.

The Wallendibeen Site would be well favoured in respect of drainage, as it is situated on the watershed of the Lachlan tributaries on the north, and of the River Murrumbidgee on the south.

Ownership and value.

The improved value of lands within municipal area is given at £254,000; the Water-works costing, when finished, £30,000, and the Gas-works, £11,000.

The average value of improved land outside municipality is about £5 per acre in the parishes of Cootamundra, Jindalis, Cowcumber, Cullings, Muttama, and Wallendoon; but there is some rough land in the parishes of Cootamundra and Muttama not worth more than 10s. to 20s. an acre.

There is no Church and School land within the proposed Site, and the area of Crown lands has not been given; but it is probably small.

Miscellaneous conditions. Facilities for food supply.

There can be no question that this Site is admirably situated for the purpose of commanding all materials for the supply of a large population. The Trunk Line, of itself, is an invaluable artery for this purpose, and the two branch lines to Temora and Gundagai tap country very rich in food resources. From its position, although coal is not known to exist in the district, Cootamundra would be well situated for the establishment of any industry depending on an ample supply of cereals, wool, hides, or live stock.

The mineral products are stated to embrace gold, chrome, asbestos, steatite, manganese, and iron.

ANNEXURE.

Cootamundra, 1.

WATER SUPPLIES FOR COOTAMUNDRA, AS A FEDERAL CITY SITE.

Wagga Wagga, 23 May, 1900.

Sir,

The result of my investigation at Cootamundra is to show that a supply by gravitation is possible, but expensive.

The proposal is to bring the water from the Adjinbilly Creek; and, as far as elevation, storage, and catchment, are concerned, it is very good. But this creek is on the other side of the Murrumbidgee from Cootamundra—it runs into the Tumut River not far above its junction with the Murrumbidgee); so that the water would have to be syphoned across the Murrumbidgee. Another thing, there is a lot of gold mining going on, making the water very muddy, and this would have to be stopped. The distance of the proposed reservoir site from Cootamundra is about 40 miles.

CHARLES E. BLOMFIELD,
Resident Engineer,
Department of Works.

To The Federal City Commissioner.

FOREST REEFS AND CALVERT (MILLTHORPE).

Statement of Case.

THE proposal of this Site purports to come from the combined Federal Capital Leagues of Millthorpe, Forest Reefs, Carcoar, and Blayney, and, for brevity, will be referred to as the "Millthorpe" Site. It is said to embrace an area of 82,000 acres, or, approximately, 128 square miles, and is situate in the county of Bathurst, parishes of Belubula, Beaufort, Calvert, Errol, and part of Lindsay. (See Plan of Site, marked G in Appendix.) Much of the Site may be said to be the watershed of the streams, which, on one side, flow into the Macquarie, on the other into the Lachlan, and, as might have been anticipated, it possesses small facilities for a gravitation water supply, on which point the Report of Mr. Seaver, of the Department of Works, may usefully be consulted. (Annexure—Forest Reefs, 1.)

The eastern boundary of the Federal Territory Area commences at a point on the Main Western Railway, and, excluding the town of Blayney, follows the course of the Belubula River, excluding Carcoar, and continuing to the junction of Flyer's Creek with the Belubula, from which point Flyer's Creek is taken as a boundary on the west to the north boundary of the parish of Calvert, and thence on the north by that boundary to the point of commencement.

Climate (temperature).

No records of temperature are kept for Millthorpe or for the Forest; but for all practical purposes it may be assumed that the temperatures (including ranges and averages) for the neighbouring Site of Orange, or Canobolas, may be taken as a fair guide for Millthorpe. (See "Canobolas"—Climate.)

Rainfall.

The mean quarterly rainfall for ten years, according to the figures supplied by the Government Astronomer, is: for the summer quarter, 8·99 inches; for the autumn quarter, 8·42 inches; for the winter quarter, 8·58 inches; and for the spring quarter, 7·48 inches,—showing a mean annual rainfall of 33·47 inches, distributed with remarkable evenness.

Altitude.

The height above sea level of Millthorpe Railway Station is 3,131 feet, or 285 feet above Orange Railway Station; and the highest point in the selected area is given as 3,500 feet.

Accessibility.

The Secretary to the League who prepared the returns under this head reports as follows:—

"The proposed Federal Area would embrace a tract of country lying between Carcoar, Blayney, and the Forest Reefs, and would be connected with Sydney by the Main Western Line—distance 181 miles; also with Melbourne (through the connection between the Western and Southern Lines of New South Wales, which already exists, the junction with the Western Line being by the Blayney to Harden Branch)—distance 456½ miles; also with Adelaide, *viâ* Melbourne—distance 939 miles to Carcoar at southern end.

"The connection of Brisbane by rail is at present *viâ* Sydney only—distance in all, 904 miles; but the proposed connection of the Western and Northern Lines of New South Wales—now under consideration of the Government—from Werris Creek to a point on the Western Line (probably at Wellington, 75 miles north of Blayney), will cause the distance by rail from Blayney to Brisbane to be reduced to about 700 miles, approximately. The distance from Sydney to Brisbane by rail is 723 miles. Another proposed line of railway is that to connect Adelaide (*viâ* Broken Hill) with the Western Line of New South Wales, probably by means of the Cobar line, which junctions with the Western Line at Nyngan, about 925 miles, and *viâ* Morgan and Murray Valley, about 724 miles to Carcoar.

"It will thus be seen that the proposed Federal Area has a central position on the existing and proposed railway lines between the various State Capitals.

"The connection with Hobart is, of course, *viâ* Sydney or Melbourne." The

The accessibility of this Site by roads has very little, if any, interest for the inhabitants of the other States. Access by water does not exist, as there are no navigable streams available.

Physical conditions (soil).

The soil of the proposed Site averages from 2 to 5 feet in depth, and is generally of volcanic origin, deep chocolate in colour, resulting from decayed basaltic overflows, with a clay subsoil underlying basalt. The bed rock is diorite. There are also rich alluvial flats. The soil is very fertile, and produces strong crops of cereals and potatoes, and, consequently, agricultural farming prevails, the country being rather closely settled in holdings averaging between 200 and 300 acres.

Water supply catchment.

The resident witnesses considered that a sufficient water supply could be obtained from Flyer's, Brown's, and Slattery Creeks by means of a weir and reservoir, and that a gravitation head could be got from within 2 miles of Millthorpe, and the rainfall and catchment of the Canobolas were relied on as auxiliary sources; but from the Report of Mr. Seaver (Annexure—Forest Reefs, 1), the hope of supplying this Site by gravitation gets no encouragement, and the nature of the agricultural occupation would be adverse to the storage of pure water; nor does it seem, according to the view taken by that officer, that a pumping scheme could be relied on. The proposed Site is evidently the roof (so to speak) of the watershed between the Lachlan and Macquarie Rivers, and that fact of itself should dispose of a gravitation scheme.

Building material.

This Site appears to be without granite, but to have limestone in large quantities, also marble, and at Byng, some 15 miles distant, freestone. Basalt is plentiful enough, and, it is said, cuts straight and works well. There is slate towards the Canobolas slopes, and of gravel there is abundance. The clay of the district makes good bricks. The timber supply is poor, though fair hardwood can be obtained in the vicinity.

Drainage.

The drainage is easy, being towards streams flowing south.

Ownership and values.

There are 50,640 acres of Church and School land, and 31,360 acres of alienated land, but no "Crown land," other than Church and School land, within the proposed Area. The following estimate of cost of resuming these areas of Church and School lands has been supplied by the Honorary Secretary of the Millthorpe League:—

		9,376 acres homestead selections, @ £4	...	...	£37,504
27 years to run		16,520 „ improvement leases	}		
10	„	2,902 „ „ „	@ £1	...	£22,525
7	„	3,103 „ „ „	}		
		6,761 „ pastoral leases.			
		4,667 „ 2 to 3 years to run	}		
		345 „ 5 „ „	@ 5s	...	1,252
		1,749 „ 9 to 11 „ „	@ 10s.	...	874
		614 „ farm leases @ 30s. ...	...	...	921
13 years to run		504 „ special leases @ 10s.	...	...	252
		10,860 „ Crown lands—Nil.			
		50,640 „ Church and School lands	...	...	£63,328

The improved value of the private land is put by one witness at £6 per acre; another estimate was £3 10s. as an average; but I am inclined to think that the higher estimate is nearer the truth.

The total estimated cost of resuming 31,360 acres of alienated land at £6 per acre (£188,160), and of the 50,640 acres of Church and School land (£63,328), would be approximately £251,488.

Much of the Church and School land is infested with briar and other scrub, and is held under improvement leases for varying periods; but resumption of this land would involve compensation, but there is no evidence as to the amount or basis of such compensation. It might, however, be open to the Commonwealth to take over these 50,640 acres of Church and School lands without any disturbance of tenures or tenants.

Facilities for food supply, &c.

With a soil and climate not surpassed (if, indeed, equalled) by any Site that has been the subject of inspection, Millthorpe can claim the possession of an ample Food Supply, particularly in the direction of breadstuffs and potatoes, the average wheat crop being about 20 bushels, and oat crop 30 to 40 bushels to the acre. Root crops thrive well, also all English fruits; and a considerable amount of stock is raised in the district, and there is a fair amount of mixed farming. It was thought that within a radius of 50 miles the country was capable of supporting a population of 40,000.

Mineral products.

Forest Reefs is a well-known auriferous tract, and there is an important copper-mine at Cadia.

ANNEXURE.

Forest Reefs, 1.

REPORT on Proposed Federal Capital Site at Millthorpe.

Orange, 29 July, 1900.

As instructed, I visited Millthorpe, and on the 27th and 28th instant inspected the creeks in its vicinity from which it was proposed to obtain water. From aneroid levels taken, I find that no sufficient head can be obtained; indeed, to get any elevation at all, it would be necessary to go to the very head of Flyer's Creek—the only one available—where the catchment area would be practically nil.

If water could have been taken from further down either this or Brown's Creek, the catchment area would be on highly-cultivated farms of from 50 to 100 acres. Even if water was raised by pumping, this latter objection would hold good.

I was unable to obtain the parish of Beneree at the Lands Office, but, from the small attached plan, it will be seen that Millthorpe is almost at the head of the watershed, which is shown by red hatching.

T. W. SEAVER.

GOULBURN

GOULBURN SITE.

Statement of Case.

GOULBURN, distant 134 miles by the Southern Railway from Sydney (the Intercolonial Southern Trunk Line connecting Sydney and Melbourne, *viâ* Albury), is a well-known and long established city, having, it is estimated, a population of about 10,000, and situated within the proposed 100 square miles Territory, edged red on the plan accompanying this Report; but the Site selected for the Federal Capital lies just outside, and to the south of, the city of Goulburn, and is intersected by the railway line at about 135 miles from Sydney, the Goulburn-Cooma extension joining the main line about a quarter of a mile to the south-west of that Site, and the junction of the proposed Crookwell line is within the proposed Site. The city is situated at the junction of the Mulwarrie Ponds Creek with the Wollondilly River which, flowing through the Burragorang Valley and the Warragamba Gorge or Canon, is known in its lower course as the Hawkesbury. The selected area for the Territory lies within the basin of an amphitheatre of hills, the continuation of the ranges that come from Lake George on the west, and on the east define the course of the Shoalhaven River. The 100 miles radius from Sydney cuts off about 5 acres from the Federal Territory Site.

Goulburn and the country lying south of it is a lightly-timbered tract of open, undulating downs, bearing a certain resemblance, in this respect, to Bathurst and Yass Plains. Its proposed Site was inspected on the 27th October, 1899, and 26th February, 1900, and the Public Inquiry was held on the 7th and 8th May of this year. (For proposed Territory, see Plan, marked H, in Appendix.)

Climatic conditions (temperature). According to the Temperature Table, furnished by the Government Astronomer, covering the past ten years, the mean spring temperature was 57·6; the mean summer, 68·3; the mean autumn, 57·1 and the mean winter, 45·0; while the mean maximum for the same period was 68·8, and the mean minimum 45·1. The greatest recorded shade temperature is given at 108 degrees on the 7th February, 1894, and the lowest at 20 degrees on the 24th July, 1892, and 10th and 30th July, 1895.

The mean daily range for the year varies from 29·89 in 1891 to 19½ in 1899.

The Site is about 50 miles from the sea in a direct line, and the cooling sea breezes set in invariably at the close of a hot day.

Rainfall. For a period of twenty-nine years (1870–1899) the mean rainfall works out at 25·76 inches, distributed thus:—First quarter of year, 7·49; second, 6·07; third, 5·49; and fourth, 6·71,—showing a fairly level fall. The fall is probably as much as 2 or 3 inches greater along the ranges, which form the sources of the watercourses.

Altitude. The mean altitude of eleven trigonometrical stations is 2,295½ feet above sea-level. Goulburn Railway Station has a similar altitude of 2,074 feet.

Accessibility. From the Table of Distances put in evidence (See Annexure—Goulburn, 4), which, in regard to distances by sea, would require a few corrections according to the official table of sea distances furnished by the Secretary of the Navigation Department (See Annexure D), Goulburn is 134 miles from Sydney; 443 miles from Melbourne; 924 miles, *viâ* Serviceton and Melbourne from Adelaide; 857 miles from Brisbane; from Hobart, *viâ* Melbourne, 899 miles, and *viâ* Sydney, 782 miles; from Albany, 2,234 miles, *viâ* Sydney, and *viâ* Melbourne 1,966 miles.

The district is well supplied with roads, and the old Sydney to Albury Road, still a first-class road, passes through Goulburn, running generally parallel to the railway.

Physical conditions (soil). Mr. A. J. Sach, Resident Master of the Goulburn Technical College, describes the soil as having been formed from Silurian shale, weathered down to clay, with extensive sandy areas (decomposed quartzites) and from limestone. West and north of Goulburn, about one-fourth of the area of the Territory Site is red and chocolate soil of volcanic formation, and very rich soil, capable of successful cultivation, connected with the Mulwarrie and Wollondilly and extending a quarter of a mile from their beds. No granite is found nearer than Marulan (20 miles by railway), and there is no slate, but very hard shale.

It is in evidence that large quantities of produce, inclusive of cereals, are grown in the surrounding districts, especially Taralga, Crookwell, and Gullen, and that dairying is an important and increasing industry. The soil is said to be very favourable for wheat, oat, barley, rye, and potato crops, also for almost all English fruits.

Water supply and catchment. The general opinion of the resident witnesses on these heads was that an abundant Water Supply was obtainable, to be stored by weirs and dams, and pumped to the higher levels. The District Surveyor gives the catchment area of the Wollondilly, above the weir, at 276 square miles, and of the Mulwarrie at 281, together 557 square miles, the Sydney catchment being given by another witness at 354 square miles, with a rainfall of 61 inches. But Mr. Blomfield, who gave expert evidence on the subject, while admitting that it was possible to combine three sources of supply for Goulburn, viz., Sooley Ponds, Wollondilly, and Mulwarrie, stated that, if combined, pumping would be necessary, as there was not sufficient elevation for gravitation. A gravitation scheme, however, might be obtained by going some 16 or 17 miles up the Wollondilly, the estimated cost being put down at £60,000 to £70,000 at 30 gallons per head of population. The Baw Baw catchment, he thought, might be useful in connection with a pumping scheme, but that of Mulwarrie was not good; and he knew of no place for the development of greater electric power for traction than those inspected by him.

The Mayor of Goulburn, Mr. Knowlman, with others who gave evidence, thought more favourably of the water resources available than did Mr. Blomfield. Upon this important question, the Reports of Mr. Blomfield—(Annexures—Goulburn, 1, 2, 3)—may be usefully consulted. It may be mentioned here that Mr. Blomfield, in his comparison of fourteen proposed Federal Sites as regards relative values of water supply by gravitation, places Goulburn eighth in the list—next after Queanbeyan, and before Cootamundra. (See Annexure B.)

Building material. As one of the witnesses said, the proximity of Goulburn to Sydney, whence all necessary building material can be quickly and cheaply obtained, is a great advantage. Still, apart from that fact, the evidence goes to show that the Goulburn district could supply marble, granite, limestone, and flagging slate in abundance, freestone at Marulan and Bundanoon, probably the materials for good cement and excellent clay for bricks. The timber supply, however, is probably no better or worse than that of most of the plateau Sites, and for practical purposes may be disregarded.

Drainage. The contour of this Site is favourable for drainage, and the geological formation is not unfavourable. The

The evidence shows that, of the 64,000 acres, 61,750 acres are private land, and 2,250 acres Crown lands and reserves; that the estimated values of lands within the Municipal boundaries of Goulburn, as improved, is £676,737; and of private lands, outside those boundaries, is from £3 5s. to £3 10s. per acre. Ownership and values.

With regard to the subjects collected under Head V.—Facilities for Food Supply; Mineral Products, especially Coal; Capacity to support a considerable population; and, Conditions favourable to commercial and industrial development—the evidence is by no means unfavourable. The returns furnished show that Goulburn is a large stock centre, and that, owing to railway facilities and climate, and its vicinity to other productive districts, it would be well adapted for the establishment of killing and chilling works, and the utilisation of by-products. The return of stock depastured in the district for the last year gives—sheep, 404,000; cattle, 36,874; horses, 7,654; and pigs, 5,000. Miscellaneous considerations.

Coal is known to exist at Bundanoon, about 40 miles distant, although not considered equal to Newcastle coal; and it is stated that a rich deposit of iron ore within the proposed Site is now under test.

ANNEXURES.

Goulburn, 1.

FEDERAL CITY SITE WATER SUPPLIES, GOULBURN.

Sir, Goulburn, 7 May, 1900.

There are three possible sources of supply for proposed Federal City Site of Goulburn, viz., the Wollondilly River, the Mulwarrie Ponds Creek, and the Sooley Ponds Creek.

The Wollondilly River has a large catchment area, and a lot of it is good; but, for a large population, storage and pumping would have to be adopted. A large reservoir with a short dam could be obtained at the village of Baw Baw, and from this the water would have to be pumped to supply the Federal City. By going about a mile above the site of Mr. Woore's old mill—*i.e.*, 15 or 16 miles up the Wollondilly River from Goulburn—sufficient head would be obtained for a gravitation supply, and the catchment area is large enough to supply a 70,000 population; but I did not see a good site for a storage reservoir, although sufficient storage might be obtained by putting in a series of weirs as the population increased.

The Sooley Ponds Creek has not got such a good catchment area as the Wollondilly River, and it would be impossible to obtain a gravitation supply from it; but there are good sites for storage from which water could be pumped to supply the city.

The Mulwarrie Ponds Creek has a large but very ineffective catchment area. A large reservoir could be obtained on this creek, not far from the town from which the water would have to be pumped. A gravitation scheme from this creek would be impossible. I do not think that, in very dry years, this creek would be of any use.

CHARLES E. BLOMFIELD,
Resident Engineer, Department of Works.

To The Federal City Commissioner, Goulburn.

Goulburn, 2.

FURTHER INSPECTION OF WOLLONDILLY RIVER AT GOULBURN.

Sir, Goulburn, 9 May, 1900.

The inspection which I made of the Wollondilly River on the 8th instant practically confirmed what I had already given in evidence, except that it is not possible to get any more head without going a long way further up. I found that, on my previous visit, I had been within 10 feet of the top of the rapids, and that above it the river gets very flat again. Although this stops the possibility of getting more head without considerable loss of catchment, it makes the storage a little better, as the weir will throw the water further back.

CHARLES E. BLOMFIELD,
Resident Engineer, Department of Works.

To The Federal City Commissioner, Land Appeal Court.

Goulburn, 3.

FEDERAL CITY WATER SUPPLY, GOULBURN.

Yass, 11 April, 1900.

THERE are three proposed sources of supply for Goulburn, viz., the Wollondilly River, the Mulwarrie Ponds Creek, and the Sooley Ponds Creek.

The Wollondilly has a large catchment area, and a lot of it is good. For a large population, storage and pumping would have to be adopted. A large storage reservoir with a short dam could be obtained at the village of Baw Baw, and from this water would have to be pumped to supply the Federal City. A gravitation scheme, except for a limited population, is out of the question. I think it would be possible to supply up to 40,000 people by gravitation; the storage would be the principal difficulty.

The Mulwarrie Ponds Creek has a large but ineffective catchment area. A large storage reservoir could be obtained on this creek, opposite "Wynella," not far above the town. It would have to be pumped to supply town. I am very doubtful about sufficient water running into it in very dry years to be of any practical use.

The Sooley Ponds Creek has a more effective catchment area than the Mulwarrie Ponds Creek, but it is not very good; and any scheme on this creek would have to be a storage and pumping one.

CHARLES E. BLOMFIELD,
Resident Engineer, Department of Works.

To The Federal City Commissioner, Albury.

Goulburn, 4.

ACCESSIBILITY.

Distances of the Capital Cities of the Constituent Commonwealth States from the proposed Federal Capital Site.

By Land.

Adelaide to Serviceton	196 miles.
Serviceton to Melbourne	286 ,,
Melbourne to Goulburn	442 ,,
Adelaide to Goulburn	924 ,,
Brisbane to Jennings	233 ,,
Jennings to Sydney	490 ,,
Sydney to Goulburn	134 ,,
Brisbane to Goulburn	857 ,,

Brisbane

Brisbane to Sydney	723 miles.
Sydney to Blayney	172 ,,
Blayney to Harden	113 ,,
Harden to Goulburn	94 ,,
Brisbane to Goulburn, *viâ* west, south, and east	1,102 ,,
Sydney to Goulburn, *viâ* west, south, and east	379 ,,

By Sea.

Hobart to Melbourne	457 miles.
Hobart to Sydney	626 ,,
Launceston to Melbourne	277 ,,
Launceston to Sydney	540 ,,
Melbourne to Sydney	564 ,,
Brisbane to Sydney	510 ,,
Adelaide to Sydney	

Distances from Goulburn to Melbourne, viâ Cooma Line.

Goulburn to Cooma	131 miles.
Cooma to Delegate, *viâ* Nimitybelle	86 ,,
Delegate to Bairnsdale (Victoria)	123 ,,
Bairnsdale to Melbourne	171 ,,
Total	511 ,,
Goulburn to Cooma	131 ,,
Cooma to Lower Bendock, *viâ* Boco Creek, Wangolloe, and Bombala	83 ,,
Lower Bendock to Bairnsdale (Victoria)	131 ,,
Bairnsdale to Melbourne	171 ,,
Total	516 ,,

The distances from Sydney to Melbourne are 645 and 650 miles respectively.

Existing Route.

Sydney to Albury	386 miles.
Albury to Melbourne	190½ ,,
Total	576½ ,,

ORANGE OR "CANOBOLAS" SITE.

Statement of Case.

THIS Site, comprising 64,700 acres, was originally submitted under the name of the town (Orange) which was included within the proposed area. The much more characteristic name "Canobolas," subsequently approved by the Committee, will be adopted in this Report.

I am indebted to Mr. District Surveyor Crouch for the topographical and general description, which follows :—

"The proposed "Canobolas" Federal Territory is intersected by the Main Western Railway Line, between 187 miles 45 chains and 197 miles 15 chains from Sydney, and it is also traversed for 7 miles 15 chains by the line to Condobolin. It comprises part of a plateau having an average elevation of about 3,000 feet above sea-level. The Territory generally includes low hills of trap formation, and gentle undulations sloping gradually to the north-west and north-east. The south and south-eastern parts are nearly level, but in the western parts the hills are higher, and in the south-western corner is situated the striking and well known Canobolas Mountain Peak, about 4,500 feet high, which, rising from 1,000 to 2,000 feet above the level of the surrounding country, is visible from all parts of the district, and, from its summit, enchanting views of from 40 to 60 miles in extent can be obtained in every direction. Towards the north and east light soils are found, in parts derived from shale formation, with diorite, quartz, trap, and serpentine rocks interspersed. In other directions rich red, black, and grey soils prevail (with gravelly ironstone subsoil in places), derived from the porphyritic basalt, the overflow from the long since extinct Canobolas Volcano. The climate and soil are particularly adapted to the growth of English fruits, such as currants, raspberries, strawberries, &c., whilst orchard trees, table grapes, vegetables, and all hardy plants thrive luxuriantly. Charming sites for homesteads abound throughout, more especially in the western parts. Almost all the land surrounding the Canobolas Mountain has been reserved, so that its sides, clothed with forest trees, its picturesque and fern-clad gullies, and the few isolated parts on the northern and eastern slopes, which have been cultivated, give beauty and variety to the scene. The well defined ridges which trend north and south from it, divide the county of Ashburnham from the counties of Wellington and Bathurst. From its slopes streams take their rise, which empty themselves into the Lachlan, Belubula, Macquarie, and Bell Rivers. The Territory is well watered by springs, and by Gosling, Brandy, Spring, Summerhill, Blackman's Swamp, Sportsman's, Molong, and Heifer Station Creeks. In all of these water can be obtained, except in very dry seasons, and in some the supply is permanent. On Gosling Creek, a reservoir has been constructed, from which water has been laid on to the town of Orange. This holds about

about 140,000,000 gallons, and during the severe drought of recent years, at no time was there less than 73,000,000 gallons contained. As the Territory is 124 miles distant from the coast, it is removed from the moisture of the sea breezes, whilst on the other side it closely approaches the fringe of the dry western plains. Its elevation and unique position combine to afford a cool, bracing, healthy atmosphere; so that it is thought Sir Hercules Robinson's forecast—that in future years it will become the 'Sanatorium of the West,'—must inevitably be fulfilled.

"The Municipalities of Orange and East Orange, which adjoin, and which are estimated to contain a population of about 7,000, are within the Territory, and lie respectively west and east of the railway line.

"The proposed Site of the Federal Capital has been designed to be adjacent to the southern boundaries of the Municipalities, so as to include about 1,200 acres of Crown land, and 1,650 acres of alienated land. The latter area has been but very lightly improved; so that a city can be designed and laid out on virgin ground, practically, without interfering with any improvements other than fencing; whilst the design of the existing Municipalities can be suitably incorporated in the suburbs of the Federal City. This Site has the advantage of being intersected in a north and south direction by the Main Western Line, and in a westerly direction by the Condobolin Branch Railway Line."

The sketch map in the Appendix, marked "K," shows by red edging the area proposed for the Federal Territory, and by blue edging that proposed as the Site of the Federal Capital.

Climate (Temperature).

The climate of "Canobolas," judged by the official records, appears to have everything to recommend it; the mean temperature during the hot season of the year being about 63 degrees, and during the other months about 46 degrees. The greatest recorded heat is 102 degrees; and cold, 16 degrees.

Rainfall.

The average annual rainfall is 39½ inches, which is very evenly distributed over the four quarters of the year. These figures cover a period of twenty-seven years.

Altitude.

The height of the Orange Railway Station above sea-level is 2,846 feet, and the mean altitude of the proposed Federal Territory may be set down as nearly approaching 3,000 feet, the highest point—the Peak of the Old Man Canobolas Mountain—reaching an elevation above sea-level of about 4,500 feet, roughly, 1,500 feet above the mean height of the Territory Site.

Accessibility.

Taking the Railway Station of Orange as a convenient point for the measurement of distances, Orange is distant 192 miles from Sydney by the Main Western Railway; 481 miles from Melbourne by the Harden-Blayney route; 963 miles from Adelaide by the Adelaide-Melbourne and Harden-Blayney routes, but if Adelaide is connected, *viâ* Broken Hill, with the Condobolin Line, the distance will be reduced to about 700 miles; 915 miles from Brisbane, *viâ* Queensland and Sydney Trunk Line, but about 685 miles if the proposed connection, Werris Creek to Wellington, about 56 miles to the north of Orange, be constructed; the distance from Sydney to Brisbane being 723 miles by rail. Communication with Hobart (Tasmania) would be, *viâ* Sydney, 818 miles, or, *viâ* Melbourne, 938 miles. Orange has no river or water communication, and those by road, though affording access in many directions, do not call for detailed description.

Soil

Derived from the decay of basaltic outflows from the great volcano now only partially recognisable in the peaks of the Canobolas, and from limestones elsewhere, the soil is of exceptional fertility, being generally in colour a rich chocolate on the slopes, with black moulds in the valleys, although with inferior qualities on the summits of the hills. Its natural productive powers, especially for wheat and potato crops, are very great, and, so far, there are hardly any signs of exhaustion. It is considered capable of giving in average seasons five to six sacks of wheat (say 25 bushels) per acre, and an excellent yield of potatoes. The district is renowned for its apples, cherries, and other English fruits, and the return, compiled from official materials, of produce forwarded by rail from the Orange district for the two years ending 30th June, 1899, annexed hereto, and marked Orange, 1, is evidence of the extraordinary fertility of the soils of the "Canobolas."

Water resources, catchments, &c.

Although the existing water supply of Orange appears to be ample for a population of 7,000, or even 10,000, the Gosling Creek Reservoir, having a storage capacity of 140,000,000 gallons, and being easily enlarged, yet to supply a population of 40,000 the present water supply would not suffice. It would, therefore, be necessary to bring other catchments and sources of supply into requisition. Mr. Blomfield, the engineer who examined all the useful and available catchments, gave evidence that at a point on the Molong or Meadow Creek, a good catchment of 8 square miles in area, with an elevation of about 100 feet higher than the Orange Railway Station, could be secured, which, by means of a dam about a quarter of a mile, and a pipe line 5 miles in length, would bring water of excellent quality by gravitation to the proposed Site, sufficient for the domestic requirements of 40,000 people. About 2½ miles higher up the same creek, at a place known as the Devil's Hole, the late Mr. William Clark, C.E., recommended the construction of a high-service reservoir. This reservoir would have a catchment area of about 2,240 acres, and its outlet would have an elevation of 315 feet above the highest point in the town of Orange. At this point, as reported by Mr. Clark, after a long spell of dry weather the flow was equal to 1½ million gallons per diem. Mr. Blomfield's evidence will be found in the Orange Summary of Evidence in Part V, and his comparative estimate of the "Canobolas" (Orange) will be found in the Annexure, marked B. Professor Liversidge's analysis of the water obtained from the source now supplying the town will be found in the Annexure hereto, marked Orange, 2. An important advantage possessed by this Site is the command, at the present time, of a water supply which would, probably, be found sufficient for the service of a large body of artisans, and, by increasing the height of the present weir a few feet, the supply could be made equal to a very large storage capacity, and in the immediate vicinity of the proposed Capital Site.

Building materials.

The evidence in connection with subhead (c) of Physical Conditions, namely, "The possession of, or proximity to, stone, timber, and other building material," is satisfactory, so far as it goes, to show that basalt (including columnar), granite, and limestones, are available in any required quantities, and in places not too remote from the proposed Building Site; but it is not so satisfactory in respect of the sandstones, and, indeed, it was not to be expected that any Devonian sandstones of this district could compare favourably with the best Hawkesbury sandstones for building purposes.

The clays, as is the case in nearly all the proposed areas, are sufficient for brickmaking, and, from an architectural point of view, would provide all necessary varieties of colour, with due moisture resistance. Good hardwood is, perhaps, procurable from some of the adjacent districts; but for "Canobolas," as for almost all other Sites, the forests from which contractors will obtain the building timber for the Capital are not in New South Wales, but on the west coast of North America.

The

Drainage. The selected Site drains chiefly in a northerly direction into watercourses that connect with the River Macquarie. There are no objections to the Site in respect of natural drainage.

Other physical features. The towering mass of the Canobolas Mountains, distant from Orange Railway Station about 8 miles, is easily accessible to buggies to within a few hundred yards of the Trigonometrical Station at the summit, and, by a small expenditure, a practicable track for buggies could be made to the summit. Not many prospects in New South Wales can vie with the panorama spread out to the spectator's eyes from the cairn on top of the highest peak of the Canobolas; and it may be said with truth that if a visitor should desire a bird's eye view of the most fertile districts of this Colony from the most commanding point, the cairn of Canobolas is that point. It is satisfactory to know that the most picturesque portions of this interesting mountain have been thoughtfully reserved for public recreation.

Values, &c. The area of Crown lands, including reserves, &c., embraced in this Site, is given at 10,800 acres. The improved value of all lands contained in the area, inclusive of lands within municipal areas, is given at £1,020,000, exclusive of roads. This valuation includes large areas of conditionally purchased land, which have been valued as on a freehold basis. The estimated value of lands embraced within the municipal boundaries, with existing improvements, was put down at £592,426, while the unimproved value of lands outside the municipal boundaries was given by one witness of experience at £2 per acre all round, and the improved value of the same lands at £5 per acre, which, excluding Crown lands, would amount to about £260,000. The District Surveyor would increase that value to £365,000, or nearly £7 an acre. It may, I think, be assumed that the resumption of the entire area would, in round numbers, cost not much less than a million sterling.

Miscellaneous conditions. With an evenly distributed annual rainfall of nearly 30 inches, a fertile soil, and a favourable climate, it would follow almost as a corollary that the ravages of drought, so calamitous in less favoured districts, must be practically unknown in the "Canobolas"; and the evidence shows that such is the fact. As a food centre, this district is favoured by almost exceptional conditions, and its ability to support a large population largely from its own resources cannot be questioned. As a stock emporium, also, its position is very attractive, and there can be but little doubt that these physical advantages indicate the district as one possessing the conditions which are likely to command attention when the metropolis demands country killed meat—a demand which, in the public interests, cannot be much longer retarded. The coal supply of the district is derived from Lithgow, distant about 96 miles, but the rate of carriage is very reasonable. From the health aspect, this district is well favoured; and on this subject the evidence of Dr. Keltie (Orange, Summary of Evidence, in Part V.) may be usefully consulted.

ANNEXURES.

Orange, 1.

Produce forwarded from the Orange District (Millthorpe, Springhill, and Orange Stations), for a period of two years, ending 30th June, 1899.

Potatoes	197,194 bags
Turnips	1,741 ,,
Pumpkins	3,029 ,,
Wheat	30,273 ,,
Oats	10,351 ,,
Chaff, Hay, Straw	26,735 tons
Flour	19,324 ,,
Fruit	76,021 cases.

Orange, 2.

The University, Sydney, 27 August, 1877.

Report upon a Sample of Water obtained from the source proposed for the Supply of the Town of Orange.

Colour, &c.—No trace of brown colour; fairly clear and bright, but with, however, a faint opalescence or milkiness. Only a small amount of sediment thrown down on standing.

Smell.—None.

Taste.—None.

Without previous filtration it yielded the following results:—

Free ammonia	·04	parts per million
Albumenoid	·09	,,
Chlorine	1·60	,,
Nitrates present—		
Total solid matter	51·00	parts per million, equal to 3·37 grains per gallon
Loss on ignition	10·44	,, ,, ,, ·73 ,,
Fixed solid matter	40·56	,, ,, ,, 2·84 ,,

The residue left on evaporation to dryness was nearly white, with faint brown patches.

On ignition this residue blackened slightly; but the carbon burnt quickly away, and the fixed solid matter was almost pure white in colour.

The percentage composition of the above residue was found to be as follows:—

Analysis of Residue.

Silica	73·62
Iron sesquioxide and alumina	7·97
Lime	7·36
Magnesia	3·49
Potash	undetermined
Soda	,,
Chlorine	·43
Sulphuric Acid	traces
Carbolic Acid	,,
Undetermined and loss	7·13
	100·00

Microscopical examination.—Very few organisms were found to be present. The forms met with were those commonly existing in spring and river waters, such as rotifera, diatoms, paramœcia, and other closely allied organisms.

Remarks.—On the whole, this water may be regarded as a very pure one, and one well adapted for household and manufacturing purposes. The amount of inorganic matter in solution is below the average.

ARCHD. LIVERSIDGE.

Orange

Orange, 3.

Particulars of Holdings formerly part of Church and School Estates in the parishes of Calvert, Beaufort, Eglubula, and Errol, county of Bathurst.

Within proposed Federal Territory Extension.

Class of Holding.	Date of expiry of lease.	Area.	Total area.	
		acres.	acres.	
Homestead Selections	.....	8,477	8,477	
Improvement Leases	29 December, 1907	3,103		
	13 February, 1910	2,902		
	26 October, 1927	2,998		
	29 December, 1927	13,133		
			22,136	
Pastoral Leases	31 December, 1902	1,947		
	31 ,, 1905	345		
	31 March, 1909	306		
	30 September, 1910	829		
	31 March, 1911	594		
	31 December, 1911	29		
	30 November, 1903	762		
	12 April, 1903	1,142		
			5,945	
Farm Leases	.....	614	614	
Special Leases	31 December, 1913	504	504	
Crown Lands (unoccupied)	.....	11,441	11,970	
Total	.....	.....	49,646	

Within parish Errol, but outside proposed Federal Territory Extension.

Homestead Selections	.....	899	899	
Improvement Leases	26 October, 1927	389	389	Mrs. Annie Glasson, lessee.
Pastoral Leases	31 December, 1902	816	816	
Crown Lands (unoccupied)	.....	105	105	
Total	.....	.....	2,209	

30th August, 1900.

H. A. CROUCH,
District Surveyor.

QUEANBEYAN SITE.

Statement of Case.

The proposed Territory at Queanbeyan (shown on Plan, marked I., in Appendix) excludes that township, and extends from its western and southern population boundaries in a generally south-western direction to the Murrumbidgee River, to which it has a frontage of about 15 miles, whilst its northernmost portion is intersected by the Molonglo River, and its eastern area by the Jerrabombera Creek, a tributary of the Molonglo. The Site is traversed by the Goulburn and Cooma Railway, between the 197th and and 206th mile posts, and comprises an area of 64,000 acres, embracing the parishes of Narrabundah and Tuggeranong, and parts of the parishes of Canberra, Yarrolumla, Gingerline, Queanbeyan, and Googong, in the county of Murray. The proposed Capital Site, on Canberra Plain, comprises an area of about 1,600 acres, situated on the Molonglo River, at its junction with Jerrabombera Creek, about 6 miles north-west of the township of Queanbeyan, and about 2 miles south of Mount Ainslie. The Site selected is one of the most picturesque in a district abounding in fine landscapes, and from it some magnificent views are obtainable.

Climatic Condition s (temperature From returns furnished by the Government Astronomer, the mean temperature at Queanbeyan during each quarter of the year is as follows:—

1st January to 31st March	...	...	...	...	...	...	68·9	degrees.
1st April to 30th June	...	...	...	...	...	...	50·0	,,
1st July to 30th September	...	...	...	...	...	...	46·0	,,
1st October to 31st December	...	...	...	...	...	...	63·7	,,

The hottest day on record was 109·4 degrees, and the coldest, 15·8 degrees. The average of the hottest month was 79·2 degrees, and the average of the coldest, 34·1 degrees. The temperature is described as changeable, but unless a thunderstorm occurs the fall is not material. The district is described as possessing a pleasant, healthy climate, conducive to longevity, and free from endemic disease. There might be one or two hot nights in the summer. The winter climate is very cold, and, perhaps, on that account, pneumonia is relatively more prevalent than in other parts of the Colony, but residents had not to protect themselves more from chills than elsewhere.

Altitude The altitude of Queanbeyan Railway Station is 1,901 feet. The mean altitude of the whole of the proposed Territory is stated to be 2,350 feet. The Site selected for the Capital is about 2,000 feet above sea-level.

Rainfall The average annual rainfall is 23·55 inches, as furnished by the Government Astronomer. This is for a period of twenty-nine years, viz., 1871 to 1899. The highest recorded fall was, in 1887, 41·29 inches, and the lowest, in 1895, 11·84 inches. From the quarterly averages, the rainfall appears to be evenly distributed throughout the year.

Accessibility Situated on the Cooma Branch of the Southern Main Trunk Line, Queanbeyan is distant 194 miles from Sydney. Yass, on the Main Trunk Line, may be reached by road, 30 miles. Melbourne is distant, by rail, 502 miles; but, if the proposed junction of the Cooma Branch Line with the Bairnsdale (Victoria) Line is carried out, the distance to Melbourne would be reduced to 420 miles, and the distances to Adelaide and Hobart proportionately reduced. At present, Adelaide is distant, by steamer and rail, 1,260 miles; Hobart, by steamer and rail, 660 miles; and Brisbane, by rail, 917 miles. Good roads from the surrounding districts also afford access to Queanbeyan, and it may also be reached by water to Nelligen, on the South Coast, thence, by road, 60 miles.

May

Physical conditions (soil).

May be described as alluvial slate formation, ferruginous, and decomposed granite—chiefly the latter—with an underlying soil of rotten granite and clay. There is a good deal of limestone and some evidence of basaltic formation. The soil, as an average, is fairly deep, and varies from the richest in the country to poor, but, on the whole, is very fertile and suitable for agriculture and mixed farming.

Water supply and catchment.

Under this head, Mr. Blomfield reports :—

"There are three possible sources of supply for proposed Federal Site at Queanbeyan—the Cotter River, the Murrumbidgee, and the Queanbeyan River.

"The Cotter has only one possible objection that can be urged against it ;—that is, expense. The point on the river from which the water would have to be brought for a gravitation supply is only about 16 miles, in a straight line, from the Federal City Site ; but the country is very rough, and an expensive syphon would have to be made across the Murrumbidgee Valley. Everything else is very favourable, the catchment is good and very effective, the stream is said to be permanent, and it has the appearance of being so. On 13th April, 1900, there was more than enough passing down to supply both Sydney and Melbourne. The water was very clear, while the waters of the Murrumbidgee were very turbid.

"The Murrumbidgee could also be utilised for supplying the Queanbeyan Site by gravitation, as the river, at Michelago, is about 150 feet above the proposed Site, the distance being about 33 miles. As it would be necessary to go further up to get a greater fall, a full investigation might prove the Cotter scheme to be not much more expensive, and in other points it is easily the best.

"With supplies like the Cotter and Murrumbidgee, I did not think it worth while investigating an intermittent river like the Queanbeyan."

The following information is extracted from the Committee's Report :—

"The catchment area of the Murrumbidgee, above Tharwa, is about 2,300 miles, and above its junction with the Molonglo about 3,500 miles. The summer flow of the Murrumbidgee there rarely falls below 100 cubic feet per second (54,000,000 gallons per day) at Tharwa, and 160 cubic feet per second (86,400,000 gallons per day) at the Molonglo junction."

Building material.

Large deposits of sandstone contiguous to the proposed Territory, and an inexhaustible supply of freestone of good quality at the Black Hill, a few miles west of the proposed building Site. Granite is plentiful. An unlimited supply of limestone exists at the junction of the Cotter and Murrumbidgee Rivers. Plenty of river shingle and clean sharp river sand, and abundance of clay for brickmaking. The available timbers are red and yellow box, stringybark, messmate, and mountain ash.

Drainage.

Naturally good. The proposed building Site has a fall in all directions.

Other physical features.

For foundations of heavy buildings the soil is very suitable. Stone or clay is met a few feet from the surface. Canberra Church, a heavy building with a spire, with foundations in clay 4 feet deep, shows no signs of subsidence or cracking. The Territory contains undulating plains and forest lands, is intersected by numerous watercourses and natural springs which could be easily utilised for watering parks and public gardens. Mount Kosciusko is within 80 miles, and Lake George is distant only 16 miles, whilst the Yarrangobilly Caves are within easy access. A great variety of climate is claimed for the Site, and within a few hours a height of 5,000 feet can be reached.

Ownership and value.

Nearly all of the proposed Territory is alienated or private lands, there being only 949 acres of Crown land, including Church and School land, reserves, &c. As a whole, and as improved, the land is estimated to be worth £3 per acre. The Committee's Report estimates the total value of private lands, with improvements, at £157,000.

Miscellaneous conditions.

The proposed Territory is chiefly pastoral, but about 30,000 acres in the Queanbeyan District are held by small holders, a large proportion of which is under cultivation for breadstuffs and forage. With closer settlement and mixed farming, it is claimed that sufficient wheat and other crops for a population of 40,000 would be forthcoming. In meat food, the district could supply a large population, as its stock carrying capacity is very high, as is evidenced by the fact that in the recent drought impoverished stock from other districts were sustained there. The grasses are remarkably fattening, and grazing is at present the most lucrative industry. English fruits are grown, and wine has been made in the district. Dairying would succeed with increased population.

The mineral products of the district are iron in extensive lodes, gold, silver, tin, antimony, shale, &c. Coal outcrops have been found in the district, but no coal-mines have been developed to any commercial extent.

The district is well able to support a large population, and is favourably situated for manufacturing industries, such as woollen manufactories, tanneries, iron manufactories, &c., whilst dairying, fruit-growing, jam making, and similar industries would follow with population. Chilling and freezing works for export could be established, the district being suitable for growing crossbreds of large frame. With existing railway routes, it is claimed that the State, commercially, is in favour of Sydney.

TUMUT SITE.

Statement of Case.

Topography.

Tumut, a municipal town containing about 1,400 inhabitants, is situated on the river of that name, and the most important affluent, after the Lachlan, of the Murrumbidgee River. Tumut is within the Eastern Division of New South Wales, and on the western slope of the Australian Alps. The area proposed for the Federal Territory (see Plan, marked M, in Appendix) contains 100 square miles (64,000 acres), of which 41,860 acres are alienated lands, and the balance, 22,000 acres, Crown lands. The Cootamundra-Gundagai branch of the South-Western Trunk Railway has its terminus at Gundagai, from which point Tumut is reached by two excellent roads, the distance being about 21 miles. A road from Wagga Wagga to Tumut (60 miles) passes by Mount Adrah, Tarcutta, and Adelong ; and branch roads lead from Tumut to Batlow, Tumbarumba, Adelong, Blowering, and other settlements. An extension of the Cootamundra-Gundagai branch Railway to Tumut has been recommended by the Public Works Committee, and there are strong hopes that it will shortly be constructed, and thus bring this most productive and beautiful district into touch with the Main Trunk Railway, Sydney to Melbourne.

For

For the appended topographical description of the Tumut River Valley, the Commissioner is indebted to Mr. Staff-Surveyor Chesterman, of Tumut :—

"Among the tributary streams of the Murrumbidgee River, if the Lachlan be excluded, the Tumut River must be accorded first position, both as to importance and size. This river—rising in the Big Bogong, on the Snowy Mountains, at an elevation of about 6,000 feet above sea level, and flowing generally in a northerly direction—empties itself, after a course of about 170 miles, into the Murrumbidgee at a point a few miles above Gundagai. The upper portion (comprising almost the southern half of the river) is mostly through rugged mountainous country, rising steeply from the valley into elevated tablelands, affording good summer pasturage. The main feeders on this portion, from the east, are the Doubtful, the Yarrangobilly, and the Jonnama Rivers ; on the west, Long Creek and Buddy Creek are the most important affluents. The longer portion of the river (from Talbingo, northerly) flows through more diversified country, broken by tributary streams, and, as the loftier mountains are left behind, the country opens out considerably, more particularly around the town of Tumut, which is reached when, roughly, about two-thirds of the river from its source has been traversed. Here we have the large alluvial flats of Tumut Plains and Bombowlee on the east, and the narrower, though no less rich, flats, of Blowering and Gocup on the west. Proceeding down the river, the hilly country approaches more closely to the river, narrowing the flat land, but only to again soon open out and disclose the rich lands around Brungle, Tarrabandra, and Darbalara ; the latter near the Murrumbidgee Junction.

"Centreing our attention more particularly around the vicinity of Tumut, we find alluvial flats extending along the banks of the main river and the larger tributary streams. Behind these alluvial areas, undulating and ridgy uplands, mostly suitable for cereals, extend back into steep, broken, inferior wooded hills. In some instances these hills flatten away into high ridgy tablelands, heavily timbered, but affording soil suitable for cold country growths. Variations of the above general conformation occur, in that occasionally forest uplands and even hilly country reach down to the banks of the streams, 'pinching' the alluvial flats. If, however, the positions of the tributary streams with regard to the trunk river be known, the dividing ridges and ranges forming the watersheds at once approximately locate themselves ; and from the above description a general idea may be grasped of the country in question. I say 'general' because, from the broken nature of the country intersected by its numerous watercourses and small streams, it is very difficult, if not impossible, to convey an exact idea in detail.

"Still confining our attention to the area more immediately around Tumut, we find on the east bank of the main river the Goobaragandra or Little River junctioning a short distance above the town, and the Bombowlee Creek a couple of miles below the town. These streams have a general trend easterly and westerly, and the richest country in the Tumut Valley is found on the north and south of where they junction with the main river—to wit, the flats of Bombowlee and the Tumut Plains. The ridge dividing them comprises broken wooded country, some distance back from the main river, however. North of Bombowlee Creek there is no feeder of consequence till the Killimicat Creek, with a north-westerly flow, is reached. This latter stream debouches near the confluence of another comparatively large affluent, known as the Brungle Creek, roughly about half-way between the town of Tumut and the mouth of the Tumut River.

"On the west bank of the Tumut River one stream of importance stands out prominently, viz., the Gilmore Creek, which has almost throughout a course practically parallel to and a few miles west of the main river, sweeping round north-easterly in the last 5 miles of its career to effect a junction immediately below the present town. Rich country, partly alluvial, but mostly upland, extends up the banks of this creek for miles, gradually narrowing ; but the range forming its eastern watershed, and dividing it from the waters proper of the main river, is high, steep, rugged, and affords mostly even inferior grazing. The range of hills on the west of the Gilmore Creek forms the watershed between that creek and the Adelong Creek, which latter stream has a general direction parallel to the Tumut River, ultimately emptying itself into the Murrumbidgee about 8 miles below Gundagai.

"About 4 or 5 miles from its mouth, the Gilmore Creek receives a tributary stream known as the Gadara or Sandy Creek, and it is the immediate basin of this latter stream, comprising a large extent of undulating country which has been suggested as a Site for a future Federal City. The general flow of the Gadara or Sandy Creek is south-easterly, a high stony range, known as Table Top, forming its north-eastern watershed, and separating its waters from those of the Gocup and Meadow Creeks, the latter being within suggested Federal Territory, but junctioning with the Tumut River proper some miles below the present town. The south-western watershed of Gadara Creek is partly the range mentioned before, separating the waters of Gilmore and Adelong Creeks, and partly a spur running easterly from this range and separating the Gadara Creek waters from the little streamlets flowing into the Windowie Creek, another feeder of the Gilmore. This spur at its eastern end forms a comparatively low "divide," and the general aspect of the whole Gadara or Sandy Creek basin may be described as undulating and ridgy with circling hills on the north, west, and south-west.

"The highest point on the suggested Federal Territory is probably the summit of Tabletop. North-east of this the country falls away through hills and ridges to the flats of Gocup, on the main river, while the country on the immediate west is described in the preceding paragraph. West of this again the suggested Federal Territory includes part of the Adelong Creek watershed. South of the present town of Tumut long spurs stretch northerly from the high range between the Gilmore Creek and the Tumut River.

"The general formation of the Tumut River Valley is granitic, interspersed with belts of limestone (more particularly on the Yarrangobilly, where the well-known limestone caves exist), schistics, and trap.

"The extent of alluvial land in the valley of the Tumut was, some years ago, estimated as follows :—

"Tumut River (including the Goobaragandra, from 4 miles below Brungle to Talbingo)	14,860 acres.
"Brungle Creek	600 "
"Killimicat Creek	500 "
"Bombowlee Creek	600 "
"Gilmore Creek	800 "
	17,360 "

"These

"These flats are rich alluvial, producing large crops of tobacco, maize, potatoes, and, where cultivated, of fruit; while the uplands, to the foot of the ridges, are well adapted for cereals." (The above is quoted from a printed Report by Mr. H. A. Gilliat, Examiner of Public Works proposals, laid before the Legislative Assembly in 1891.)

"The abovementioned Report estimates the extent of arable upland at 100,000 acres. This, of course, will vary according to the limit adopted. The area remaining may be classed as pasture land, better adapted to sheep than large stock. Some of it is very inferior, while, in other places, sheep thrive well."

Climatic conditions (temperature).

There being no official Meteorological Observer for temperature at Tumut, the records of temperature were those kept by a resident witness, who stated that the highest recorded temperature in his knowledge was 110 degrees, and the lowest on the same day, 90 degrees; that the highest average summer reading for ten years was 90 degrees, and the lowest for the same period, 60 degrees; the highest autumn temperature being 70 degrees, and the lowest 40 degrees; and that he had never known the winter temperature to go below 40 degrees at mid-day. The prevailing wind in summer was from the east, and in winter from west and south-west.

Altitude.

This is given by Mr. Staff Surveyor Chesterman as 925 feet for the town of Tumut, and, for the proposed Capital Site, from 1,000 to 2,000 feet, with an average of about 1,300 feet above sea level.

Rainfall.

The Rainfall Observer for the Government Astronomer gives the average annual rainfall for eleven years, commencing with the year 1889, as 33 inches, distributed thus:—1st quarter, 7·40 inches; 2nd quarter, 9·86 inches; 3rd quarter, 8·54 inches; 4th quarter, 7·17 inches,—from which it will be seen that this ample rainfall is very evenly distributed over the year.

Accessibility.

From Sydney, Tumut is distant by railway to Gundagai, and thence 21 miles by road, 310 miles; and by rail and road from Melbourne, 350 miles; from Brisbane, 1,000 miles; and from Adelaide, 810 miles. As already mentioned, the Public Works Committee has recommended an extension to Tumut of the Cootamundra-Gundagai Branch. There is no water communication with Tumut.

Physical conditions (soil).

The soil is generally of granitic formation, with outcrops of basalt and volcanic rocks, and varies from rich alluvial flats to forest country, suitable for cultivation, and high ridges. Belts of limestone occur close to the proposed Site, and there are outcrops of slate in the north-east corner and the eastern slopes.

The soil on the alluvial flats is a rich chocolate, basaltic in places, with firm, loamy clays. The flats and hill slopes are especially suitable for cereals of all kinds, and, on the basaltic soils, excellent fruit and vegetables of all kinds are produced in profusion.

Water supply and catchment.

The Tumut River, which is a strong running permanent stream, would provide an ample water supply, and the catchment area of that source is very large, with excellent facilities for storage. There are, in reality, three collecting areas—the Tumut, Adelong, and Sandy Creeks.

Mr. Blomfield's Report (Annexure, T 1) shows that he examined the Buddong River, an affluent of the Tumut, for a gravitation supply. The following extract from that Report would promise very satisfactory Water Resources:—

"The proposed offtake from above the Buddong Falls is about 1,800 feet above the highest point on the proposed Federal Area, and there is no difficulty about bringing the water in over an intervening range of hills. The catchment area is fairly large, and is nearly all forest reserve, so the water will not be liable to pollution.

"This proposal, with storage (easily obtainable), would be equal to supplying a population of 40,000 inhabitants; and if the Federal City should ever grow to large dimensions, the Tumut River could be made use of for a large supply by gravitation, at reasonable cost. In fact, Tumut, situated as it is at the foot of the mountains, could be supplied from a number of sources, such as the Adjinbilly and other Creeks that flow into the Tumut River."

Building material.

Blue granite occurs in unlimited quantities, and in large blocks, and it is said to be the best building stone in the district; also limestones, including marble and slate, with freestones within a reasonable distance of the proposed Capital Site. There is abundance of good clay for brickmaking, also of sand and gravel. The timbers include ironbark, pine, box, mountain ash, mesquite, and urabbi within easy reach.

Drainage.

The physical conformation of the country is very favourable for drainage, whether by ordinary system of sewerage or by more modern methods.

Ownership and value.

Alienated lands (freehold, conditional purchase, conditional lease, &c.):—

41,000 acres of country lands, worth (unimproved)	£104,000
300 acres of town lands, worth (unimproved)	37,000
500 acres of suburban lands, worth (unimproved)	10,000
Approximately estimated	£151,000
41,000 acres of country lands, worth (improved)	£172,000
300 acres of town lands, worth (improved)	125,000
500 acres of suburban lands, worth (improved)	25,000
Improved value of alienated lands,—that is, with existing improvements (approximately estimated)	£322,000

Crown lands (including reserves, commons, &c.) are made up thus:—21,500 acres of country lands, 300 acres within town of Tumut (recreation reserves, parks, other reserves, streets), 400 acres of suburban lands (mostly within common of Tumut).

The following is extracted from the Report furnished by the Local Committee:—

Miscellaneous conditions.

"1. The area within a radius of 20 miles of the proposed Site is composed of 170,000 acres of rich chocolate-coloured volcanic soil, and 30,000 acres of rich alluvial flats (much of which has been cultivated for fifty years, with little or no deterioration), whilst the more elevated portions afford splendid grazing country for sheep right to the mountain tops. The alluvial land is eminently suited to the growth of tobacco, maize, hops, fruit, and vegetables, and for that purpose cannot be excelled in Australia. For wheat-growing, our forest lands are also in the front rank, the published statistics clearly showing that the returns

returns per acre are among the highest in the Colony. With such an area of land at command, sufficient foodstuffs could be raised to supply a population of 200,000 people. Failure of crops in the district has never been known. All through the past droughty seasons, when in many parts of the Colony despair had seized the people, and ruin stared them in the face, the district of Tumut was unaffected, and starved-out owners from other localities brought their flocks and herds in hundreds of thousands to its pastures to save their lives. These owners also furnished the fodder products of Tumut farms, and sent them to their drought-stricken holdings to feed the remainder of their stock.

"2. In minerals, the district excels. The best and most extensive gold-fields in New South Wales are within 5 miles of the proposed Site, viz., at Adelong. Chrome, iron, and copper are found in abundance. Silver and tin are also procurable in considerable quantities.

"3. The capacity to support a considerable population is assured by the extent to which agricultural, pastoral, and mineral, resources can be utilised. Work could be found for all, as commercial and industrial development is but concomitant with the foundation of a large city, and is necessary to ensure its stability and progress.

"4. From a commercial point of view the district has much to recommend it. The suitability of its soil for the growth of malting barley and hops, bespeaks for it a great future in the manufacture of malt and its concomitants—ale, beer, porter, cider, &c. With the advent of a larger population in the district, maize would be converted into cornflour, maizena, maizemeal, and probably whiskey. The unlimited supply of fruit ensures the manufacture, in a wholesale way, of jams, jellies, preserves, dried fruits, &c. Honey, which is now almost a waste product, would, under different circumstances, have its output increased a hundredfold. Dairy farming, too, would in such a favoured district advance by leaps and bounds, and, with its kindred occupation of poultry raising, would form no mean item in the commercial wealth of the city. Conditions are favourable in the extreme to the establishment of woollen mills, boot factories, tanneries, refrigerating works, and other factories, as all the necessary raw materials are at hand. With the increased development of the mineral areas, large reduction works, employing many, will be erected."

ANNEXURE.

Tumut, 1.

Water Supply for Tumut proposed Federal City Site.

Sir,

The proposed source of Water Supply for the Federal Area, at Tumut, is from the Buddong River, a tributary of the Tumut River.

The proposed offtake from above the Buddong Falls is about 1,800 feet above the highest point on the proposed Federal Area, and there is no difficulty about bringing the water in over an intervening range of hills. The catchment area is fairly large, and is nearly all forest reserve, so the water will not be liable to pollution.

This proposal, with storage (easily obtainable), would be equal to supplying a population of 40,000 inhabitants; and if the Federal City should ever grow to large dimensions, the Tumut River could be made use of, for a large supply, by gravitation, at reasonable cost. In fact, Tumut, situated as it is at the foot of the mountains, could be supplied from a number of sources, such as the Adjinbilly and other Creeks that flow into the Tumut River.

CHARLES E. BLOMFIELD,
Resident Engineer,
Department of Works.

WAGGA WAGGA SITE.

Statement of Case.

Topography.

Wagga Wagga, a borough estimated to have a population of about 6,000, is situated on the south or left bank, and in a bend of the Murrumbidgee—the second largest river in New South Wales. The Sydney to Melbourne, or South-west Trunk Railway, touches the town at its south-east corner, 309 miles from Sydney, and from Melbourne 267 miles. The geological formation is granitic, and the Site proposed for the Federal Capital sweeps in gentle undulations from the present town, southerly, towards Lake Albert. The area of the proposed Federal Territory is 100,000 acres, or 156¼ square miles, of which 8,000 are Crown lands, reserves, &c. This area is intersected by the river, rather more than one-half being situated north of it; and the proposed Site of the Capital, embracing about 3,000 acres, includes the town on the north or river-ward. In shape, the Area is fairly compact, and does not contain much poor land, while the river flats on both banks are of exceptional fertility, but are liable to inundation on the occurrence of high floods. The town occupies a commanding position, commercially, and in close touch with some of the finest farm and pasture lands in the district known as Riverina. The basin of the Murrumbidgee is well indicated by the hills that mark the westward course of that river. (See Plan of Site, marked N, in Appendix.)

Climatic conditions (temperature.)

The mean quarterly temperature for a period of twenty-seven years, from information furnished by the Government Astronomer, shows, for the January to March quarter, 74·2 degrees; for the April to June quarter, 53·1 degrees; for the July to September quarter, 49·5 degrees; and for the October to December quarter, 67·9 degrees. The mean temperature for the hottest months are respectively 85 degrees, 66·3 degrees, 57·5 degrees, and 79·7 degrees; and for the coldest months, 61·7 degrees, 39·9 degrees, 40·6 degrees, and 56·9 degrees.

Altitude.

The altitude of Wagga Wagga Railway Station is 609 feet. The mean altitude of the proposed Capital Site is, approximately, about 710 feet above sea level.

Rainfall.

This, for the past seven years, is given at 22·94 inches; and for a period of twenty-seven years, the Government Astronomer is quoted as the authority for the following figures, showing distribution of rainfall over the four quarters of the year:—From January 1st to March 31st, 5·197 inches; from April 1st to June 30th, 6·480 inches; from July 1st to September 30th, 5·637 inches; and from October 1st to December 31st, 5·435 inches; the mean for the year being 22·749 inches.

Accessibility.

Wagga Wagga is distant from Sydney, 309 miles.
" " Melbourne, 267 miles.
" " Brisbane, 1,033 miles.
" " Hobart, 637 miles.
" " Adelaide, 750 miles.
" " Perth, 2,119 miles.

By

By road, Wagga Wagga is on the Main Road from Sydney to Melbourne, and numerous branch coach roads lead to the outlying districts. The Main Stock Route from Queensland passes through Wagga Wagga.

By water—once the principal mode of bringing supplies to this district. The river, since the establishment of railway communication, has been very little used; but it is stated that, with a moderate outlay, it could still be made available.

In common with many other projected Sites, the advantage of shorter distances from adjacent States, such as Western Australia and Queensland, is claimed for this Site.

Physical conditions (soil).

The soil of the Site selected for the Capital is described as a firm loamy clay, with quartz grit. Properly cultivated it is said to be very productive. Wheat and oats are the principal cereal crops, and the cultivation of the vine for wine is increasing. Root crops do well, except in very dry years; likewise citrus and stone fruits and raspberries. A large area has recently been taken up and planted with tobacco, which is expected to become in time a very successful industry. There is an important Government Experimental Farm close to Wagga Wagga.

Water supply and catchment.

The present Water Supply is by pumping from the Murrumbidgee, and this is relied on as being ample and most effective for a population of 40,000. Of course, the catchment area is that of this river.

An examination of Tarcutta Creek for a gravitation scheme was made by Mr. Blomfield; but his Report is unfavourable, and he thinks that no other kind of supply than a pumping one can be depended on. (See Annexure hereto, marked Wagga Wagga, 1.)

Building material.

The Report states that "there are large outcrops of boulder granite within 5 miles of Wagga Wagga, from which stones of any reasonable size may be hewn. There are also large quantities of metamorphic slate with level beddings and smooth faces, well suited for random rubble work or building in behind parapet walls. Limestone of excellent quality is plentiful about 40 miles from Wagga Wagga, but the supply is at present obtained by rail. Gravel suitable for use in concrete foundations, &c., abounds in large quantities along the river bed. Sand of good quality is abundant in and about Wagga Wagga. Bricks of excellent quality are burnt at Wagga Wagga, where an unlimited quantity of good earth for making them is obtainable. The local timber is somewhat limited in quantity, and consists of Colonial pine—a very useful timber for many purposes,—and river gum, which is very durable and useful for heavy studs, &c."

Drainage.

On this head, the Report states: "The facilities for drainage are great, as the valleys between the undulating hills trend westerly from the range of hills along the eastern boundary of the proposed Site of the Federal Capital, and the drainage would reach the river a long way below the town, if not absorbed in sewage farms. The undulations are of such a gentle character that the gradient of all streets and roads would be very easy.

Other physical features.

"The Murrumbidgee flows through a rich alluvial flat midway, and for the entire length of, the tract of country under notice. The Kyeamba Creek, a permanent and important watercourse, flows along the south-eastern boundary. Lake Albert, a natural basin 40 feet lower than the bed of the Crooked Creek, which could be diverted into it at a comparatively small outlay, is capable of being rendered a permanent and highly ornamental sheet of water, which would ensure a plentiful supply of water to the neighbourhood, and provide an excellent rowing course.

"Houlaghan's Creek, on the northern boundary of the proposed Federal Territory, is not permanent, but offers facilities for conserving water in very large quantities. The higher hills about Wagga Wagga present strategic positions which, if fortified, would command a large expanse of the surrounding country.

"The Site of the proposed City is a long way above the level of the highest river floods, and there is no local catchment to cause freshets. Quartz and dykes of quartz and diorite occur in the vicinity of Wagga Wagga, which provide an ample supply of good road-making material."

Ownership and values.

Of the 100,000 acres proposed for the Federal Territory, it would seem that about 9,000 are Common Reserves, and probably 6,000 acres are covered by water, or are the sites of roads, &c.; but the values, as improved, given in the Report, are for 94,000 acres, and are thus estimated:—

23,440 acres improved private lands, at	£8	...	...	£187,520
31,680 " " "	£5	...	...	158,400
38,850 " " "	£3	...	...	116,640
				462,560
Estimated value, as improved, of lands within Municipal boundaries				500,000
				£962,560

There are no Church and School lands within the proposed area.

The District Surveyor on this head reports as follows:—

Miscellaneous conditions (food supply, &c.).

"Wagga Wagga is the chief centre of the celebrated Riverina District, which contains probably the richest and most productive agricultural lands in the Colony. The country for miles around is eminently suited for the production of wheat, oats, barley, and other cereals, and vegetables and fruits of many varieties. Its success as a pastoral district provides unlimited supplies of beef, mutton, and pork. It is the natural and most convenient market to the Tumbarumba District; consequently the English fruits and vegetables prolifically produced in that more elevated district are readily obtainable.

"The agricultural and pastoral resources of the district, as previously detailed; the convenience of this Site as a central market; the fertility of the soil, rendering it favourable for the establishment of small homesteads on limited areas; its ready accessibility by rail and river, &c.,—represent special capacity to support a large population.

The same officer also reports that, out of four Sites within his district which had been considered as regards the suitability for the Federal Capital, Wagga Wagga is the most suitable, because, among other reasons, that Site "embodies all the advantages represented by Albury, but is more centrally situated between the two most important capitals, viz., Sydney and Melbourne. This Site would also include the whole of the channel or waterway of the Murrumbidgee River; whereas Albury or Corowa would only, of necessity, embrace the waterway of one side of the Murray River. Again, Wagga Wagga is pre-eminently fitted, as regards natural features and surroundings, &c., for the important purpose of a Federal Capital."

ANNEXURE.

ANNEXURE.

Wagga Wagga, 1.

WATER SUPPLY FOR WAGGA WAGGA AS A FEDERAL CITY.

Sir, Wagga Wagga, 23 May, 1900.

I have examined the Tarcutta Creek, with a view of getting a gravitation scheme from it for Wagga Wagga, and find that it would be necessary to go so far up it to get the required height that there would not be enough catchment left to supply a large population.

Upper Tarcutta is only 90 feet above the Wagga Wagga Post Office, and the creek for a long way above Upper Tarcutta is very flat.

I think that Wagga Wagga will have to depend for its supply on pumping from the Murrumbidgee.

CHARLES E. BLOMFIELD,
Resident Engineer, Department of Works.

To The Federal City Commissioners.

WELLINGTON SITE.

Statement of Case

THE Site of the Federal Territory, proposed by the Wellington Federal League, comprises an area of 150 square miles, or 96,000 acres, in the form of a rectangular figure, having the present town of Wellington for the centre. (See Plan, marked O, in Appendix.)

Wellington, though longer an established town than Orange, is estimated to contain a population of not more than about 2,200 within municipal boundaries. At a distance of 248 miles from Sydney, it, like Orange, is intersected by the Main Western Railway Line. From Orange to Stuart Town (the once well-known Mining Camp of Ironbarks), in a distance of 36 miles, the loss of altitude is 1,046 feet; and from that station to Wellington, a distance of 20 miles, there is a further loss of 804 feet. Thus, Wellington stands at 926 feet above sea level. From Stuart Town to Mumbil the country is rather poor, but from thence it improves rapidly as the line passes for the remaining 14 miles between prominent wooded heights, along a well-defined valley, until, when nearing Apsley, it emerges into the beautiful and fertile Wellington Valley. The Bell River, rising from the slopes of the Canobolas, joins the Macquarie, which has its source above Bathurst, at the north-western extremity of the town of Wellington, the junction being locally known as "The Meeting of the Waters." On the western side the town is sheltered by a pine clad range of Devonian formation (chiefly of conglomerates and sandstones), being the northern end of the Catombal Range. The district on the eastern side of the Bell River abounds in limestone of Upper Silurian age; and at a distance of 4 miles south from the town are the limestone caves, containing considerable deposits of bone breccia, as described in the travels of Sir Thomas Mitchell. This breccia consists of fragments of the bones of marsupials, of both extinct and existing species; amongst the former may be mentioned Diprotodon and Thylacoleo, the lastnamed being also known as the marsupial lion. The soil, which is very fertile, is comprised, principally, of decayed basalt, and forms rich alluvial river flats. To the north and north-west, on the right bank of the Macquarie River, there is a magnificent expanse of lightly undulating, rich, agricultural country, within which is included the Site of the proposed Federal Capital. This country is intersected by the railway line and the main roads to Dubbo, Coborah, and Mudgee.

Climate (temperature).

The climate of Wellington is described by a very good judge, Mr. C. H. Barton, as one of the healthiest climates in the world, though for four months in the year the heat is very great. For a period of eighteen years the records of the Government Astronomer show that during the summer quarter the mean temperature is 73·3; during the autumn quarter, 55·3; during the winter quarter, 49·7; and during the spring quarter, 68 degrees. The greatest recorded temperature reached 105·9, and the lowest, 19.

Rainfall.

The quarterly rainfalls during the same period are very regularly distributed, being 6·83, 6·30, 5·58, and 6·84 inches, showing for the year a rainfall of very nearly 25 inches.

Altitude.

The altitude of Wellington is 925 feet, and of the proposed Federal Territory averages 1,200 feet.

Accessibility.

On this subject the evidence of the witness above quoted, Mr. Barton, went to show that the pretensions of Wellington to possess the Seat of Government depend mainly on the construction of the railway from Werris Creek, on the Northern Line, to Wellington, and that, without that connection, Wellington could not be considered accessible so far as Brisbane is concerned—an objection which, in the opinion of the witness, is common to all the Western Sites; but that, if connected with Broken Hill and Werris Creek, Wellington would be a singularly central Site, and would be very accessible to Adelaide, Brisbane, and Melbourne. On this head he produced the annexed Tables and Report:—

(a) TABLE of Distances from Wellington Railway Station to Adelaide, Brisbane, Melbourne, Sydney, and Newcastle by Railway Lines now in existence:—

From Wellington—	
To Adelaide, *viâ* Melbourne	1,020½ miles.
To Brisbane, *viâ* Sydney	971 "
To Melbourne, *viâ* Blayney	537½ "
To Sydney, *viâ* Bathurst	248 "
To Newcastle, *viâ* Sydney	350 "

(b) TABLE of Distances from Wellington Railway Station to Adelaide, Brisbane, Melbourne, Sydney, and Newcastle with proposed connections from Cobar to Broken Hill and Wellington to Werris Creek:—

From Wellington—	
To Adelaide, *viâ* Cobar	*784 miles.
To Brisbane, *viâ* Werris Creek	589 "
To Melbourne, *viâ* Blayney	537½ "
To Sydney, *viâ* Bathurst	248 "
To Newcastle, *viâ* Werris Creek	*272 "

* Approximate distances.

Keeping in view the all important part that coal plays in maritime warfare and commercial intercourse with other nations, also the desirability of our chief coaling centres being as near as possible to the point where in time of war the Federal troops would be mobilised (viz., the Federal Capital), it is a matter of vital importance, in the consideration of the question of accessibility, that the Wellington proposed Site is (*viâ* Werris Creek) only 272 miles from Newcastle, and 152 miles from Lithgow.

Due consideration under this section must also be given to the fact that, under our present arrangement of Colonial Governments, the respective Railway systems of the colonies have been devised and constructed with a view to the development and advancement of each individual Colony; but it is reasonable to conclude that Federated Australia will gradually merge these Railway systems into one, and that the future extension of the main trunk lines will become a national undertaking. Thus

Thus the Western Line of New South Wales, now terminating at Bourke, will, probably, junction with the Western Line of Queensland at Cunnamulla; Cobar will, in course of time, connect with Broken Hill, and the Queensland Central Line seems destined to junction with the transcontinental line from Adelaide to Palmerston.

The ultimate extension of our Railways in the direction above indicated is merely a question of time.

Wellington, situated as it is on the Western Line, 248 miles from Sydney, will then be more accessible to the enormous area of magnificent country thus opened up than any other of the proposed Sites, and at the same time easily accessible from our main seaport.

CHARLES H. L. BARTON.

Physical conditions (soil).

The soil of this Area is described as partly limestone, partly basaltic, with rich alluvial flats on the river frontages. A considerable portion is under cultivation, chiefly for wheat, for which it has a great reputation, the average being put down at 20 bushels an acre. It is claimed that continued cultivation has but little effect on the fertility of these wheat lands. Mr. R. M. Smith, manager of the well-known "Towri," estate, who farmed some 6,000 acres, described the soil as a rich chocolate with some limestone on it, and stated that cereals, lucerne, maize, and fruits grew well, but that for root crops, the rainfall was hardly sufficient. Mr. M'Leod, a local miller, described the wheat grown in the district as splendid milling wheat, the best in the Colony, taking first prize at the late Sydney Exhibition, and weighing 68½ lb. to the bushel. The general opinion was that the district was easily capable of supporting an increased population of 40,000, both in meat and grain foods. A large part of the Crown lands within the area is poor. The average size of holdings would be about 320 acres, but generally speaking the country, with the exception of that near Wellington, is capable of closer settlement, and therefore of greater productiveness.

Water resources, catchments, &c.

The evidence on this subject was not convincing as to the existence, within any reasonable distance of Wellington, of a sufficient gravitation supply; and it was Mr. Barton's opinion that the Macquarie River did not give a sufficient fall to serve the Federal Capital Site, assuming its average height to be 450 feet above Wellington Station, and that neither would the Bell River, although water might be conserved at a distance of about 30 miles from Wellington, provide a gravitation head. It was believed, however, by some witnesses that at Burrandong, some distance up the Macquarie, a sufficient supply could be obtained by gravitation with an ample catchment. For a pumping scheme, the evidence went to show that a population of 40,000 could be supplied without difficulty. Other witnesses thought that sufficient water could be obtained by storage reservoirs; but, taken as a whole, the evidence of competent Water Resources for a Federal Capital is not very encouraging.

Drainage.

The proposed Site of the Federal Capital would, no doubt, from the formation and undulations of the country selected, be entirely unobjectionable.

Building materials.

Sandstone, it was stated, occurred at Mitchell's Creek, and basalt fit for building purposes within a few miles of Wellington, and, within 8 or 10 miles, limestones (including marble), granite, and fireclay. Excellent clay for brick-making was to be had in unlimited quantities. It was claimed by one witness (a monumental mason) that freestone of a very strong and durable character, though reddish in tint, was obtainable, and was "the best stone in the country after Pyrmont stone"; also workable marble, capable of taking a good polish; and that the limestones produced very good lime. With respect to timber, though ironbark and pine were obtainable at greater or less distances from Wellington, no reserves of useful timber for building purposes were shown to exist within or near the proposed Site.

Values.

Mr. Pridham, an experienced valuator, values the private lands within the Area selected for the Site at about £3 per acre including improvements, but excluding lands within Municipal boundaries. The estimated value of lands within Municipal limits is put (exclusive of improvements) at £167,535 10s.

Miscellaneous conditions.

In respect of Mineral Resources, the Manager of the Mitchell's Creek Freehold Gold-mining Company, Bodangora, only a few miles out of Wellington, stated that the result of ten years' working of that mine was a product of £234,142 worth of gold, and he thought the country round Bodangora (Mitchell's Creek) auriferous for a radius of 20 miles, and though on present discoveries it would not support a large population, yet that further gold and copper discoveries, which might be expected, would alter the conditions. Evidence was given that coal had not been profitably worked in the district, but that there was a coal seam 7 feet thick about 22 miles north from Wellington, at a depth of only 30 feet, but was not a first-class coal, and was not thought suitable for railway purposes; also, that on the proposed line of the Werris Creek-Wellington Railway a discovery of coal had been made in 1852. (See Annexure—Wellington, 1.)

In regard to health, the resident medical authorities gave Wellington a very good character. It was admitted that the summer was hot, but the climate generally was bracing and the changes neither sudden nor violent; and that the winters were delightful, and the district very favourable for chest and renal complaints, and the rate of mortality below the average.

ANNEXURE.

Wellington, 1.

EXTRACT from a Report upon Geological and Mineralogical Survey, by S. Stutchbury, July 1st, 1832. (See Volume of Votes and Proceedings, 1832, Public Library, Sydney.)

MR. STUTCHBURY reports as under:—The Talbragar River, below the station, exhibits sandstone fit for building purposes, similar to that at Dubbo, and would be easily quarried. In the dry bed of the river, picked up some slabs of coal, evidently brought down the stream. Barbigal is 18 miles from the confluence of the Talbragar with the Macquarie River—14 miles through the bush. Tried for gold without success. Mitchell's Creek falls into the Talbragar about 1½ mile above Barbigal. Traced the coal first found loose at Barbigal to its site. Found it on the Talbragar River, 2½ miles above the station (Gillie's Murrinurtgulgundi), and 3 miles above the junction of Spicer's Creek. The section exhibited in the bank of the river is the following:—Large rocks of coarse conglomerate, sloping back to a height of 200 feet; fine-grained sandstone, 20 feet; loose, scaly, culm-like coal, 6 feet; hard fissile coal, resembling the splint coal of Lanarkshire, 5 feet to the water-line—probably more. The upper bed of coal would answer well for calcining metallic ores, or burning lime. The lower bed is highly inflammable and useful for most purposes, greatly resembling the splint coal so much valued in Scotland for smelting iron. These beds are, probably, extensive, and easily got at by sinking into, the angle of dip being very small—scarcely perceptible from the horizontal.

YASS

YASS SITE.

Statement of Case.

YASS JUNCTION, situate on the Southern Trunk Railway Line—Sydney to Melbourne—is distant from Sydney 187 miles; and Yass township is reached by a short tramway of 3 miles from that Junction. The proposed Federal Territory embraces an area of 144 square miles, or 92,160 acres. It includes the whole of the parishes of Yass and Hume and portions of Bango, Boambalo, Bowning, Derringullen, Manton, Murrumbateman, Nanima, and Warroo; but the promoters of this Site would not be averse to its reduction to 100 square miles. The distance from Yass to Albury is 199 miles, and from Albury to Melbourne, 190½ miles; altogether about 390 miles from the Capital of Victoria. The proposed Federal Territory is shown by red edging on the Plan marked P in Appendix; the Federal Capital Site by blue edging. The District of Yass, included within the Territory Site, is stated to embrace an area of 36 square miles.

On three occasions I have had opportunities, by personal inspection, of considering the suitability of the Yass Sites for the establishment of the Federal Territory in, or about, the proposed Area; and I do not think the general description of the Yass League, allowing a very pardonable prepossession in favour of the writer's district, in the appended description is exaggerated:—

"The area recommended as Federal Territory consists of undulating downs, in places fairly heavily timbered, but for the most part devoid of trees. The latter applies more particularly to the two Sites suggested for the Capital. European and native trees flourish well throughout the district, and, with the almost unlimited water supply to be obtained, the formation of beautiful parks and ornamental gardens surrounding public buildings is rendered comparatively easy. Amongst other species, we particularise the oak, elm, poplar, plane, pepper, and willow trees; also many varieties of pines. All these flourish well at Yass. The equable climate favours also the growth of all garden plants, even under the present disadvantage of a want of irrigation. Roses, chrysanthemums, wisteria, &c., &c., indicate, by rapid growth and profuse blooming, that our climate is all that can be desired. Among fruits, the apple, pear, cherry, plum, walnut, grape, and fig bring their produce to perfection. The panoramic view, obtainable from any one of the numerous coigns of vantage in the Territory, increases, in a marked degree, the claim of Yass district to be the selected Site. From the summit of Bowning Hill, near the north-west corner of the Area, there is an uninterrupted view for some 40 miles in every direction. A National Observatory on this eminence might be easily erected, as the approach to the summit is not difficult from the south-east. Many permanent creeks intersect the Territory. By the expenditure of a comparatively small amount of money, artificial lakes and smaller areas of ornamental water could be provided for. The open downs are most suitable for carrying out extensive military manœuvres, such as would take place when the troops from different States are mobilised. We understand this would, probably, be annually. In the event of the construction of the great weir on the Murrumbidgee River, a magnificent lake will be formed, and, although the site of the weir is not within the Federal Territory, yet a great National Park could easily be dedicated in the neighbourhood. Not far from the weir site, some fine caves exist, which add greatly to the other attractions of the district. These caves only require exploring to reveal, we believe, much that is lovely and interesting to sightseers."

Climatic conditions (temperature).

The mean temperature for the summer quarter of the year is given at 69·9; for the autumnal, 52·6; for the winter, 55·2; and for the spring, 64·4. The highest recorded temperature is 105 degrees, and the lowest, 21·5 degrees.

Rainfall.

The average annual rainfall is 24·20 inches, distributed thus over the year:—Summer quarter, 5·91 inches; autumn, 6·26; winter, 6·01; and spring, 6·02;—a very equable rainfall.

Altitude.

The altitude of Yass Town is 1,626 feet above sea-level; and of the proposed Site, the mean altitude is given as 1,800 feet. Upon the general Climatic Conditions, the Government Medical Officer for the district and Meteorological Observer, describes the Yass climate as very healthy, and for about nine months of the year very bracing, being neither too moist nor too dry. He had known a drop of 30 degrees in the course of the twenty-four hours, but the average drop would be 15 degrees or 20 degrees. Had only once known the temperature to reach 103 degrees, when the drop would be about 30 degrees or 35 degrees. For January, the mean maximum was 89 degrees; for February, the hottest mean maximum for fifteen years was 87 degrees, for December, 84 degrees; the highest night temperature would be about 75 degrees for a night or two during the summer. There was always a cool change at night, and the sea breeze reached Yass about 6 in the evening; but not of any strength. The district, in his opinion, was not liable to epidemics and was particularly free from typhoid.

Accessibility

The distances of the proposed Site, in miles, are thus given:—

From Sydney	... ...	193 miles.
„ Melbourne	... ...	395 „
„ Adelaide	... ...	878 „
„ Brisbane	... ...	909 „
„ Albany, *viâ* Sydney	... ...	2,293 „

The Secretary of the Yass Federal League, while admitting that the Yass Site was not centrally situated as between Sydney and Melbourne, considered centrality not altogether a matter of mileage; adding, that if the Site were 100 miles further south, it would be in a much hotter climate,—which statement cannot be gainsaid.

There is no water communication in connection with this Site.

Physical conditions (soil)

The soil of this Site was stated to be derived from the decay of granite and limestone and from sedimentary rock; and as evidence of its productive powers, the estimated wheat yield for 1899 is put down at 18 bushels, per acre. Most of the country inspected was sound grazing country, but on the frontages there are greater or less areas of good agricultural land.

Water Supply and Catchment.

The result of the examinations made by the expert officers of the Works Department, Messrs. Blomfield and Scaver, shows:—

(1) That an abundant supply of water can be obtained from the Murrumbidgee River, which at Good Hope, about 10½ miles up the river from Yass, is 540 feet below Yass, and 870 feet below the Trigonometrical Station on Yass Plains; and at the Dog Trap Ford, 22½ miles above Yass, that river is 310 feet below Yass and 660 feet below the same Trigonometrical Station; and that it would be possible, although costly, to get the necessary supply by pumping about 600 feet.

(2)

(2) That the Yass River offered no facilities for a gravitation supply. Mr. Blomfield, in his comparative estimate of the various Sites, in regard to Water Supply, gives Yass third place, and for a pumping, not a gravitation, scheme. (See Annexures—Yass, 1 and Yass, 2 hereto, also Annexure B.)

(3) Subsequently to Mr. Blomfield's inspections, Mr. Scaver examined some of the Murrumbidgee tributaries on the left bank of that river, and particularly the Micalong River, which flows into the Goodradigbee, about 3 miles above Weejasper. His Report (See Annexure—Yass 3) gives promise of an ample gravitation water supply from a point about 2,123 feet above sea level and 500 feet above Yass township. The watershed of this source of supply is given at 44 square miles, the available head at 400 feet, and the length of pipe line about 38½ miles. The cost has been roughly computed at about £303,000, but this estimate is based on an 18-inch pipe; if a 14-inch pipe were laid, there would be a saving, on first cost, estimated at £70,000. (See letter of the Engineer-in-Chief, of 13th September last, Annexure—Yass, 4.)

(4.) If, however, the building Site of the Federal Capital were shifted eastward towards Hall, or even further east, the Cotter River might afford a good gravitation supply; but it would have to be brought across the Murrumbidgee River by a conduit, as in the case of the Micalong gravitation scheme.

(5.) Wherever in this Site the Federal Capital is located, the water supply would most probably be procurable only from some catchment situated at some considerable distance from the proposed Federal Territory, and it will necessarily be a very expensive one; and herein, perhaps, lies an element of weakness inseparable from the Yass Site, whether as originally proposed or as enlarged. In addition to the cost of the permanent supply, the cost of obtaining a temporary supply for a large body of artisans and others engaged on the buildings, street foundations, &c., would have to be taken into account; and, as present, it is not quite clear how such temporary supply could be obtained.

Building material.

In regard to the ordinary building stones occurring on tablelands, as well as to timber, Yass is in no better or worse position than its rivals. It has yet to be shown that the sandstones or freestones are such as would be used in the erection of large and costly buildings, although they might be, and indeed are, used for ordinary building purposes. On this subject the Report of Mr. Geological Surveyor Andrews (Annexure—Yass, 5) should be consulted. The timber supply may, for all practical purposes, be disregarded.

But the promoters of the Yass Site claim that marble of a quite exceptional quality exists in unlimited quantities at a very short distance from Yass Township, and it is claimed that this marble is particularly well suited for important public buildings. (See Annexure—Yass, 7.) A local builder and contractor of long experience has described the various building stones of the district in a Report which was given in evidence at the Public Inquiry. (See Annexure—Yass, 6.)

Drainage.

Either of the proposed Sites would, without doubt, be very capable of being easily drained, the fall of the country being toward the west and south-west; and the absence of swamps or morasses shows that the natural drainage is good.

Values

There is but little Crown land within the proposed area, few reserves, and no Church and School land. The estimated value per acre of freehold land is £3, and of conditional purchase land £2 10s., as improved. The improved value of land within municipal boundaries is given as £213,000.

Facilities for food supply.

Mr. J. R. Ross, a grazier, stated in his evidence (which was corroborated by other witnesses) that "Yass Stock District would supply animal food for a population of 40,000. As a stock district there is no healthier in the Colony. There are probably only two other towns between Sydney and Albury which pass more stock than Yass. The five years just passed were as bad as the Colony has passed through; but taking three years, ending 1899, there was an increase of 20,000 sheep in the district. The loss of stock through drought was comparatively small. With closer settlement a much better supply of farm produce would be forthcoming. A large area is suitable for agriculture; but to support a large population, the district would have to depend on outside sources for wheat. Artificial grasses can be grown successfully on the alluvial. Lucerne can be grown with success. The rich agricultural land is along the river, but as a farming district it is only on a small scale."

And Mr. McCallum, a grazier and farmer, stated that: "District principally pastoral, though there was a large amount of agricultural land. Wheat grown, but not in large areas. He (himself) had grown 100 bushels of maize to the acre in exceptional seasons. Oats and barley are grown in small patches; apples will grow anywhere, and the climate suits peaches; lucerne is grown. District very suitable for stock. Droughts occur, but stock are not lost. Stock come here in drought time from elsewhere. Yass Plains carry about one sheep to the acre; with closer settlement probably more. On 31st December, 1899, there were 12,131 cattle, 527,938 sheep, and 3,992 horses in the district. It would be a good place to establish chilling and freezing works."

ANNEXURES.

Yass, 1.

FEDERAL CITY WATER SUPPLY.—YASS.

Yass, 11 April, 1900.

THE Yass proposal is easily described, as it is to be pumped from the Murrumbidgee. There is no doubt about the quantity of the supply, as, from my personal knowledge of the Murrumbidgee lower down, I am sure that it would be a long time before the maximum daily consumption of the Federal City exceeded the minimum daily flow of the Murrumbidgee; but the lift is large.

At Good Hope, a point of the river about 10½ miles away from Yass, it (the river) is about 540 feet below Yass and about 870 feet below the Trigonometrical Station out on the plain near Yass.

At the Dog Trap Ford, about 22½ miles from Yass, and a bit higher up the river than Good Hope, the river is 310 feet below Yass and 660 feet below the Trigonometrical Station mentioned above. (This Trigonometrical Station is about 5 miles from Yass.)

It might be possible to obtain a water supply from the Murrumbidgee with a lift of 500 to 600 feet by not fixing the Site of the City too high.

A supply from the Yass River would have to be obtained by storage and pumping. There is a storage site about 5 miles above the town of Yass.

CHARLES E. BLOMFIELD,
Resident Engineer, Department of Works.

To The Federal City Commissioner, Albury.

Yass 2.

Yass, 2.

FEDERAL CITY SITE WATER SUPPLIES.—YASS.

Goulburn, 7 May, 1900.

Sir,

There are two possible sources of supply for the proposed Federal City Site at Yass, viz., the Yass River and the Murrumbidgee River.

In the Yass River the fall is so small that a gravitation scheme is out of the question, as, going high enough up to get the necessary head, no limits the catchment area that there would not be sufficient water for a large population. A supply could be obtained by storage and pumping; but, as storage would be unnecessary in the Murrumbidgee, and the supply would be purer, it would be best to obtain the supply from the latter river.

At Good Hope, a point of the Murrumbidgee River about 10½ miles away from Yass, the river is about 540 feet below Yass, and at the Dog Trap Ford, about 22½ miles from Yass, the river is 310 feet below Yass. By carefully choosing some point between these two places, and not fixing the Site of the Federal City too high, it would be possible to get the necessary supply by pumping about 600 feet. As far as the quantity of water is concerned, storage would be unnecessary until the population was approaching half a million. The height of the lift would be about equal to that between Ryde and Wahroonga. The pipe line would be less expensive, and the fuel more expensive.

CHARLES E. BLOMFIELD,
Resident Engineer, Department of Works.

To The Federal City Commissioner, Goulburn.

Yass, 3.

MINUTE PAPER:—PROPOSED SITE, NEAR YASS, FOR FEDERAL CAPITAL (re WATER SUPPLY).

Department of Public Works, New South Wales, Water Conservation Branch,
Engineer-in-Chief's Office, Sydney, 14 July, 1900.

As instructed, I visited Yass for the purpose of seeing if a supply of water, sufficient for a city of 40,000 inhabitants, could be brought to it from the Goodradigbee River.

From my previous knowledge of the district I did not think this could be done, and upon going over level books, &c., with Mr. Oxley of the Roads Branch, I satisfied myself that such a scheme was out of the question. I then inspected the Micalong River, which enters the Goodradigbee about 5 miles above Weejasper, and found a suitable supply. This river rises in precipitous granite country, subject to heavy falls of snow during many months of the year; and what is known as the Micalong Swamp at its upper end seems to act as a reservoir, keeping up the flow for a long time after rainfalls.

From statements made to me by Messrs. Jones and McKean, station-holders, Messrs. Martin, Vaughan, Marrol, and others, small land-holders, and Taylor, a working miner, as well as from discharges taken by myself, I consider that the least flow of this river during the driest years does not fall below 12 cubic feet per second, and at the time of my visit, after rain, the discharge was 2,000 cubic feet per second.

The best offtake for a gravitation scheme would be on portion 20, parish of Weejasper, at an elevation of 500 feet above Yass township, or about 2,123 above sea level, and at a distance by road of 35 miles.

The pipe line would follow the Micalong River, cross the Goodradigbee, then go by the main road across the Taemas Bridge to a storage reservoir, say, 100 feet above the proposed Site, the available head being thus 400 feet. From Yass to Weejasper, a distance of 30 miles, the pipes would be laid along or close to a good road, and for the last 5 miles up and round steep mountain sidings, to which the cost of carriage from Yass is 20s. per ton.

At the time of my visit, although all the rivers and creeks were in high flood, the Micalong water was clear and sparkling. The watershed of the creek above section 29 is 44 square miles, on which are a few settlers but no agricultural land. There are also a few miners washing gold in dishes.

I attach a map showing catchment area coloured red, and the pipe line to Yass, with aneroid levels marked along its course, and also the rainfall observation taken at Weejasper for 1899, and the first six months of 1900.

The heights of the various portions of the proposed pipe line are as follows:—

Yass Tramway	1,623	feet	above Sydney h.w.m.
Murrumbidgee River, at Taemas Bridge	1,223	,,	,,
Narrangullen Hill—highest point between Yass and Weejasper	1,813	,,	,,
Goodradigbee River	1,203	,,	,,
Weejasper Creek	1,278	,,	,,
Crossing on Micalong River	1,338	,,	,,
Section 21 on Micalong River	1,778	,,	,,
Section 20 on Micalong River	2,123	,,	,,

T. W. SEAVER,
Assistant Engineer.

Rainfall at Weejasper for Year 1899.

January	1·42 points.	August	3·1 points.
February	1·47 ,,	October	2·89 ,,
March	1·18 ,,	November	2·71 ,,
April	1·97 ,,	December	6·12 ,,
May	2·17 ,,		
June	4·28 ,,	Total	22·89 ,,
July	1·21 ,,		

This year was the lowest rainfall for many years past, and during last summer the Nottingham Creek almost ran dry, which had not occurred before since selectors first took up land upon it.—T.W.S.

For 1900 (first half).

January	2·36 points.
February	Nil
March	3·96 points.
April	4·9 ,,
May	5·50 ,,
June	6·26 ,,
Total	22·17 ,,

NOTE.—The above gives the rainfall at Weejasper; but, as the Micalong catchment area is about 1,500 feet higher than this, the rainfall will be increased.—T.W.S.

Yass, 3a.

MINUTE PAPER:—PROPOSED SITE, NEAR YASS, FOR WATER SUPPLY.

Department of Public Works, New South Wales,
Engineer-in-Chief's Office, Sydney, 12 October, 1900.

SINCE my previous Report on the above subject, I have again examined the Micalong River, which, on my previous visit, was in high flood, and the surrounding country difficult of access.

The Federal City Site, which was before fixed on the south side of Yass, has now been transferred to the plains along the Railway Line, under Bowning Hill.

From the point of view of Water Supply, this is a better position, as, being lower than the other, a better head is available, which will equal about 690 feet; or, allowing 100 feet head for distributing reservoir = 590 feet available head.

I have made further inquiries as to the flow in the Micalong Creek, and all the replies I received showed that it was permanent during the driest summer. In case, however, it is found necessary to store water at the head of the pipe line, a good reservoir could be constructed on portions 9, 20, and 30, parish of Napier, as shown on attached sketch:—A dam could be built in the narrow gorge, as shown, which, with a height of 60 feet, would store about 500 million gallons of water = 403 days' supply for 40,000 people; or, allowing for evaporation, say, one year's supply. The

The foundations of the dam would be on red granite on bottom and slopes [sample herewith]. The length of the pipe line to the new Site will be about the same as the first line, viz., about 35 miles.

Attached is a statement of the average and least rainfall at Kiandra, Red Hill, and Weejasper for a series of years :—

Rainfall at Kiandra—average, 1866 to 1898	= 64	inches.
,, ,, least (1895)	= 53	,,
,, Red Hill—average, 1886 to 1898	= 37	,,
,, ,, least (1896)	= 23¼	,,
,, Weejasper—1899	= 22·89	,,
,, ,, half of 1900	= 22·17	,,

The year 1899 was the driest ever experienced in this district, and in that year the Nottingham Creek went dry for the first time.

F. W. SEAVER.

Note.—This copy of Mr. Seaver's Report was received on the 17th October, therefore after the "Conclusions" arrived at had been laid before Parliament.—A.O.

Yass, 4.

Yass Water Supply.

Dear Mr. Oliver, Public Works Department, Engineer-in-Chief's Office, Sydney, 13 September, 1900.

When the rough estimate, sent to you on the 12th July, was prepared, we had very limited information available. Subsequent investigation shows that the length of pipe-line would be about 38¼ miles, or 3¼ miles longer than first anticipated. This would necessitate a larger pipe to carry the same quantity of water; so I have now estimated for an 18-inch pipe. This, with the greater length, brings the cost of pipes up to £270,000; to this must be added (say) £33,000 for head works, weir for storage reservoir, service reservoir, and reticulation; making the total cost (say) £303,000. Of course, this is a very rough estimate, as it is impossible to say at this stage what extent of reticulation would be required. Approximately, this may be put down at £1,000 per mile. I have included 20 miles, or £20,000 for this service.

Seeing that the growth of the town must be more or less gradual, it is a question whether a lesser quantity of water might not suffice for some years to come, and thus a smaller pipe might be laid.

The 18-inch pipe estimated for would carry 2½ million gallons per day. A 14-inch pipe would carry nearly 1¼ million gallons per day, and effect a saving on first cost of £70,000.

The total cost for the smaller pipes, with head works, reservoirs, and reticulation, &c., as before, would be £233,000.

When the consumption demanded it, a second main could be laid, and the town would not be dependent upon one main.

Yours, &c.,
C. W. DARLEY.

Alex. Oliver, Esq.,
President of Land Court.

Yass, 5.

11 May, 1900.

The stone examined by me at "The Gap," Mundoonan, and Hatton's Corner, in the neighbourhood of Yass, appears to be of fair quality for ordinary building purposes, and occurs in considerable quantities.

1. "*The Gap*" (10 miles south-east of Yass).—The stone here consists of soft red, brown, and yellow sandstones, shales, mudstones, and quartzites, occurring in narrow beds and having a vertical dip.

The stone could be easily worked, but the bedding planes are set close together, thus preventing the quarrying out of large blocks.

2. *Mundoonan.*—Similar stone to that found at the "Gap" (2 miles away) occurs here. Two of the most massive sandstone beds are from 4 to 6 feet thick. They are, however, intersected by closely set master joints. This prevents the extraction of stone suitable for important edifices.

Good flagstones can be obtained easily.

3. *At Hatton's Corner.*—Beds of an indurated sedimentary rock, from 1 to 2 feet in thickness, underlie the limestone beds in that locality. A system of joints causes them to split into lozenge-shaped patterns, from which they would have to be squared by the "plug and feather" system. These beds have a dip of about 29 degrees.

The stone is similar to granite to chisel.

Quartz-felsite and porphyry of black colour occur in vast quantities in and about the town.

Massive limestones and marbles exist in the neighbourhood.

E. C. ANDREWS,
Geological Surveyor.

The Government Geologist.

Yass, 6.

Yass Federal City League.

Report of Mr. Geo. Thompson (for many years a builder and contractor at Yass), on the various kinds of building stone to be found in and near Yass.

Freestone.—This is found in Mundoonan Range, distant from Yass between 7 and 8 miles. Two places have been worked, viz., on the old Sydney Road, near "The Gap," and on the Yass River, road to Gundaroo. Both places are about equal distances from Yass, and about 1½ mile from each other. There have been no regular quarries opened, but simply surface work. The stone is yellow colour and very fine in the grain. That which is taken from the surface is soft when quarried but hardens afterwards; it stands the weather well. A store which has been erected in Yass for more than forty years from surface stone (no quarry being as much as 6 feet in depth), has stood well, there being no sign of decay about it.

There is, to all appearances, every facility for opening good quarries, as the hills rise to a considerable height above the gullies, and stone is to be found all over them.

Sandstone.—This occurs at several places in and around Yass, viz., at "Bellevale," Jones' Creek, Barber's Paddock, near the tram line, at the Show Ground, and on the high ridge on Douro Estate towards the Trigonometrical Station. There have been no quarries opened on this line—merely surface work. The stone is hard and well suited for building. It makes excellent steps, standing any amount of wear. Steps made of this stone are to be found in all the gate openings and most of the door openings at the Court-house and the Convent School. The largest shows of this stone on the surface are in Barber's Paddock, Jones' Creek, and near the Show Ground.

Local Greenstone.—On Black Bog Creek, at the back of the township range, there are large deposits of stone of a greenish tint, very strong and hard to work. It would probably take a beautiful polish. There have been only a few natural face steps taken from here; but if the stone is the same under the surface, there are then, practically, unlimited quantities of it.

Limestone.—Limestone is found in large quantities all over the proposed Federal Area. At the Murrumbidgee, from 10 to 14 miles distant, it forms great ranges of hills. It could be quarried in any size and is not too hard to work. It is very suitable for buildings. The limestone of this district burns into a powerful lime, much in request for making mortar.

Granite.—There is no granite proper in the neighbourhood; but a bastard granite forms the bulk of the stone on the north-east of the bridge over the Yass River within the township; also to the west and north-west. It presents a bold face at the precipice near the Police Barracks. This stone is of a very dark blue colour and is very hard; some of it is very fine in the grain. It could be quarried in any sized blocks with proper appliances, and is inexhaustible in extent.

Marble.—There is a deposit of marble or white limestone near Coolalie, 6 miles distant, but it has not been worked except for burning into lime. It would not be hard to work as a building stone, and could be got in fair sized blocks.

GEORGE THOMSON,
Stonemason, Yass.
Yass, 7

Yass, 7.

Note on the Deposit of Marble at Yass, by G. W. Townsend, C.E.

Yass, 7 September, 1900.

In view of the possibility of the Site for the Federal City being chosen in the vicinity of Yass, I can conceive, save in the matter of water supply, no more important factor in favour of such a choice than the existence of a durable, strong, easily worked, and beautiful building stone in practically unlimited quantity within the area chosen.

Such a stone is to be found within 8 miles of the town of Yass, and 1 mile from Coolalie Station, on the Main Southern Railway, in the form of an extensive bed of very handsomely variegated light-coloured marble of excellent quality for building stone, blocks of the largest size required for large buildings being readily obtainable. A geological surveyor from the New South Wales Department of Mines recently inspected Yass District for deposits of building stone, and in his report mentions the fact of the existence of massive deposits of limestone and marble in the Yass District.

It is a pity that the valuable bed of marble at Coolalie was not brought prominently under the notice of the officer making the inspection, as there can be but one opinion as to the vast importance of this deposit, both as regards a practically unlimited supply of excellent building stone, as well as lime of exceptionally good quality, that can be burnt from the quarry refuse.

The marble deposit at Coolalie has been proved to exist over an area of 25 acres, and there are fairly sure indications that it extends over a considerably larger area—probably about 50 acres. From my experience of similar beds over a large portion of the Colony, I consider the depth of the Coolalie deposit will probably be found to be about 300 feet. As a matter of fact, the supply is practically inexhaustible.

As a building stone, marble of coarse ranks among the most valuable, though its usual costliness precludes the use of it for general purposes. The resistance to crushing is about 8,000 pounds per square inch, equal to over 3½ tons;—rather less than that of granite of average quality.

The durability of marble—unless exposed to air containing acid fumes, as is the case in districts where large smelting operations are carried on—is quite equal to that of the best granite, while the ease with which it can be sawn into blocks of any required size make it as easy to work as an ordinary freestone. I saw a piece of Yass marble tried under a mason's chisel, and it worked as easily as any good freestone would do; while the superiority of this marble, in point of durability and strength to resist crushing, place it far, in point of value as a building stone, in advance of the best Sydney sandstone. I see no reason why it should not be obtained at a moderate price—probably not exceeding that at which the Pyrmont or Waverley stone is sold in Sydney.

GEO. WM. TOWNSEND, C.E.

Part V.—Summaries of Evidence.

ALBURY SITE.—Summary of Evidence taken at a Public Inquiry held at Albury on 2nd, 3rd, and 11th April, 1900.

Robert Atkins, Hon. Secretary, Albury Federal Capital League.

Produced Report prepared by League in response to the Commissioner's circular, also returns furnished by the Government Astronomer, showing—(1) Highest shade temperature with the lowest shade temperature recorded on the same day; (2) Lowest shade temperature with the highest shade temperature recorded on the same day. These returns cover a period of twenty-eight years.

Robert Rixon, hospital collector.

Climate.—Had forty-two years' experience of the climate of Albury district. Had been engaged in farming, and was brought up amongst stock. The rainfall over the 64,000 acres proposed as Federal Territory was evenly distributed, and was well suited for stock.

John Maclure, wine-grower.

Rainfall.—Seventeen years resident of district. Considered the rainfall as good as in any part of the Colony. It averaged about 29 inches, fairly well distributed through the year. Had never known a failure of the crops through drought, though frosts sometimes caused a deficiency in the vintage and fruit-trees.

Food Supply.—Considered the district well adapted for growth of all ordinary cereals and root crops. The district, with intelligent labour, was as good as, if not better than, any part of Australia for cereals, and quite capable of supporting a population of 40,000 souls.

Patrick Edwin Fallon, wine merchant.

Food Supply.—Forty-six years resident in Albury. Had forty years' experience in wine-growing. Had never known a failure of wine crops from want of rain. As good a wine crop could be grown in the district as anywhere, and the industry was capable of large expansion, so that a population of 40,000 could be supplied. Had grown wheat and oats and other cereals. As high as 48 bushels of wheat to the acre had been obtained near the town. The district would support an immense number of farmers.

James Colquhoun, wheat buyer.

Food Supply.—Had fourteen years' experience in the district, buying and selling wheat. The wheat grown was of excellent quality, and averaged 10 to 12 bushels per acre per annum,—in good seasons, 20 bushels or over. A great deal more of the land would grow wheat, and cereal products to support a population of 40,000 could be grown in the district. The rainfall is suitable to cereals. Fruit of nearly all varieties can be grown in sufficient quantities for all requirements.

Thomas Plummer, retired fruit-grower and dairyman.

Food Supply.—Resident in district over forty years, and had large agricultural experience. Never had a crop that did not pay. The district would grow fruit of all kinds, and cereals sufficient for a population of 40,000. Potatoes grow in large quantities. By sowing artificial grasses, enough stock for all requirements could be raised.

Climate.—Had worked in the hottest days in summer. The climate was genial and bracing, and very healthy. He had never had a day's sickness.

Accessibility.—As regards productiveness, water supply, climate, and accessibility, Albury was the best Site in the colonies. Beechworth (Vic.), a beautiful and bracing climate, only 10 miles distant.

Defence.—For defence purposes, Albury is well situated, being surrounded by hills.

Charles Lucas Griffiths, auctioneer, and stock and station agent.

Climate.—Had lived in Albury district about twenty-two years. The district has a varied climate within a reasonable radius. That of Albury was preferable to that of Melbourne or Sydney. Hot nights in summer were exceptional. The district was not subject to sudden or violent changes of temperature. The biggest drop he knew of was about 50 degrees, and the highest temperature 106 degrees in the shade.

Rainfall.—Very regular. Has never gone below 20 inches, and is suitable for cereals and any farming and grazing. Droughts practically unknown.

Water Supply.—The Murray River, than which no better could be had anywhere.

Facilities for Food Supply.—Had large dealings in cattle, horses, and sheep, and for over ten years was a grazier. Albury and Wodonga one of the largest stock centres in the interior of Australia. Had never to go outside their own district for supplies. Local demand always over supplied. District capable of much higher development. Many present holdings too large to work profitably. Dairying can be profitably carried on.

Arthur Andrews, resident medical officer.

Climate.—Albury is as healthy as any district in the Colony. No complete mortality tables exist, but the death rate among the younger members of the community is very low. Albury is used as a health resort. Epidemics and infectious diseases do not trouble the district much, and it is free from diphtheria and typhoid; very little rheumatism or rheumatic gout. Had recorded the temperature for many years. The lowest drop in temperature would be 60 degrees or 65 degrees. The maximum period of heat is confined to about six or seven weeks in the summer. Sunstroke and heat apoplexy were rare. The heat is rarely oppressive during the day; it is not a depressing heat, but rather a stimulating dry heat. The winter climate is perfect.

Drainage.—The town is well drained. Garbage could be disposed of by sewerage farms, treated bacteriologically as in London, Exeter, and Taunton.

Water Supply.—This is excellent and unlimited; an analysis was taken a few years ago.

Building Stone.—There is an unlimited supply of granite suitable for building purposes. Some of this had been tested at the Sydney Museum, and was reported to be the soundest and best sample produced in the Colony. There is also useful freestone at Tabletop (about 15 miles distant), which was practically imperishable; and an abundance of clay for brickmaking.

W. N. M. Edmondson, Merchant.

Climate.—Had resided in the district since 1860. Considered the climate very endurable, summer or winter. The summer climate would not affect the most delicate constitution. In 1865 the temperature rose to 118 degrees. There was a great drought that year. It has never approached that temperature since.

Accessibility.—It is on the main trunk line, and had several branch lines. Beechworth, a cool climate, was within easy reach, and the high Bogong and other mountains are easily accessible. The Murray River could easily be rendered a valuable alternative means of approach by an inexpensive system of locking.

Facilities for Food Supply.—The district could grow anything, except tropical products, and was capable of supporting 100,000 people.

Climate.—

Climate.—Resident thirty years in the district. Knew of no better climate in the colonies than that of Albury. Droughts, in the ordinary acceptation of the term, were unknown.

George Edward Mackay, stock inspector.

Rainfall.—The average is about 28 inches. The district is not subject to destructive floods.

Food Supply.—A large quantity of stock is exported to other colonies, as also to other districts of this Colony. During 1899, 40,156 fat and 69,427 store sheep were exported to other colonies, and 40,120 fat sheep and 1,905 cattle were, during the same period, exported to other districts of the Colony. District celebrated for its fruit.

Maurice Barlow, Staff Surveyor.

Altitude.—Had been Staff Surveyor for thirteen years. Produced plan of the proposed Federal Territory. There was ample area alongside the present town, and extending north and east, to provide for a city of 40,000 people. The altitude of the proposed Territory would on an average be 600 feet above sea level. It was 694 feet at Ettamogah, 534 feet at Albury, 571 feet at the Racecourse, and 797 feet at Tabletop.

Water Supply.—Colonel Home had furnished a report *re* a scheme for water supply from a place 40 or 50 miles above Albury, where a reservoir could be constructed sufficient to irrigate a great portion of Lower Riverina. He put in a copy of reports of analysis of the water from the present water supply of Albury.

Accessibility.—Albury is 190½ miles from Melbourne and 386 from Sydney. Thought the site of Albury would be most suitable to the Southern Colonies, and admitted that, under a common tariff, Sydney could not compete successfully with Melbourne for the trade of the Albury district.

Malcolm McTaggart, Government Architect.

Food Supply.—He had an intimate knowledge of the district, and considered it, within a radius of 50 miles of Albury, capable of supplying a population of 40,000 with cattle, sheep, and grain. Produced statistics of wool, wheat, hay, and chaff passing through the railway stations of the district. The average yield of wheat for the last six or seven years has been about 12 bushels to the acre.

Drainage.—The facilities for drainage were good.

Foundations.—Suitable for heavy buildings.

Climate.—An ideal spot for the Federal City; climate most agreeable; rarely an oppressive night in summer. Heat in daytime never so oppressive as to debar work being done.

Foundations.—Was familiar with the site of Albury, and had practical experience of important buildings there. No signs of subsidence were visible in their foundations. Heavy buildings could be erected with perfect safety. Concrete was hardly necessary.

Drainage.—The buildings would not be affected by the drainage.

Climate.—Hot days occasionally, but no hotter than elsewhere.

Walter Joseph Billeon, Mayor of Albury and Chairman of the Federal Capital League, brewer.

Water Supply.—A scheme was proposed to utilise the river for electric lighting and other motive power, and the figures show that it was ample for a city of ten times the size of Albury.

Ownership and Value.—Knew the contents of document produced; assisted in preparing it, and believed it to be substantially correct. The Crown lands were made up by two Commons. The unimproved value of private lands, estimated at £5,400, refers only to the private lands which have not been improved. It does not include estimated unimproved value of improved land. If the Commonwealth resumed our waterworks at face value, would be glad to hand them over to-morrow; the same with regard to other Municipal works.

John Charles Chemery, auctioneer and stock and produce manager for Youngbusband & Co., Ltd.

Climate.—Had lived in the Albury district for fifteen years, and considered the climate a very good one; had been in Queensland and all through New South Wales, and thought Albury the best average climate.

Food Supply.—It was one of the finest stock and wool-producing districts in the Colony.

Accessibility.—Albury is very central, both with regard to Victoria and New South Wales.

Water Supply.—A fall of 70 feet can be got within 30 miles, and of 200 feet by going further, with good foundations for a weir.

James Mitchell, grazier, of Tabletop.

Climate.—Fifty-nine years in the district; forty years at Tabletop, 14 miles from Albury. One of the finest and healthiest in Australia. There had been no epidemics within his knowledge. Had never seen a case of sunstroke. For a few days of two months of year the heat may be oppressive, but when hot at Albury it is hot everywhere.

Food Supply.—The district was extremely fertile. A magnificent wheat country. All kinds of cereals could be grown. The district was not subject to droughts. The district could easily support a population of 40,000, with closer settlement.

Building Stone.—There is plenty of granite and freestone in the district; also fireclay, a few miles from Albury, and sandstone and lime at Tabletop.

Henry Headley, brewer.

Climate.—Eighteen years resident of Albury. Particularly healthy district. The summer heat is a bright dry heat. The changes are not sudden. Was not aware of any epidemics.

Building Material.—Particularly good clay for bricks. Plenty of sandstone at Tabletop.

Patrick Kennedy medical practitioner.

Climate.—Resident in Albury for twenty years. From a sanitary point of view Albury is very healthy and conducive to longevity. There is no endemic disease, except an occasional outbreak of typhoid, which you get everywhere. The climate would not be conducive to pneumonia or phthisis. Only two months of the year to which exception could be taken, but then it is a dry heat. It is not a relaxing heat. Sunstroke is rare. The nights are not invariably cool, but most frequently so.

David Reid.

Climate.—Resident in the district for sixty-two years. The district is decidedly conducive to longevity; was himself 80 years of age, and an evidence of it. His wife is strong and well, and she had been in the district since 1845. They had ten children, all born in the district. District not subject to epidemics.

Food Supply.—Thought the district would support a population of 400,000 without any trouble. Better country for grazing and agriculture could not be found.

Irwin Smith licensed surveyor

Altitude.—Albury is 534 feet above sea level, at the railway station. The average height of the proposed Federal Territory would be about 700 feet.

Accessibility.—Albury is most central, being on a main trunk line, with feeders on each side of the Murray River.

John Wenke, farmer.

Climate.—Thirty-one years in the district. Had to work a great deal out of doors, and never felt any inconvenience from the climate.

Food Supply.—Thought the district could support 400,000, and endorsed prior evidence as to fruit-growing facilities of the district.

Climate.

Thomas James Pinskett, farmer and grazier.
Amos Crisp, builder and contractor.

Climate.—Thirty-nine years in the district. Was out in all sorts of weathers. January and February were the hottest months. It was a dry heat, but did not interfere with his work.

Climate.—Twelve years in the district. Did not think Albury hot; never found the heat interfere with his work.

William Joseph Gordon, architect.
George Arthur Thompson, merchant.

Foundations.—The foundations were good; no better could be got.

Building Material.—Good freestone was obtainable; also timber, lime, bricks, &c.

Foundations.—Engaged in district twenty-three years. Had generally found clay bottoms in connection with buildings. On the whole, the foundations were as good as could be got anywhere.

Accessibility.—Thirteen years in the district. Albury eminently suited for the Capital, being on the Main South-west trunk line. It was not altogether under the sphere of trade influence of Victoria. In the event of a uniform tariff, the possession of coal would give Sydney a commercial ascendency over Melbourne.

Climate.—As an employer of about eighty hands, he could speak of the healthiness of the climate. They never had anyone away on account of heat.

BATHURST SITE.—Summary of Evidence taken at a Public Inquiry held at Bathurst on 2nd, 3rd, and 4th July, 1900.

Gloster Searle White, Joint Secretary of Bathurst Federal Committee. Exhibit A.

COMMITTEE formed to forward claims of Bathurst as a Site for the Federal Capital, at a Public Meeting held February 25th, 1899; sub-Committees were also appointed. Committee still in existence, and ratifies reports of sub-Committees. Put in plan showing proposed Federal Territory.

William Frederick Bassett, Medical Practitioner and Local Government Medical Officer.

Climatic Conditions.—Had been practising in Bathurst over thirty years. Produced a report (Exhibit B) prepared by himself, on the suitability of Bathurst from a health and sanitary point of view. The report is true, to the best of his knowledge and belief. He could give no information as to the death rate of Bathurst, but it is less than the sea coast. There were no endemic diseases. They had had cases of typhoid, but they came from all parts; he did not attribute the cases to the defective drainage of the town. The climate was antagonistic to consumption, asthma, and kindred complaints. They had a considerable range of temperature, but not injurious to health. The evenings, as a rule, were cool, and sunstroke was of rare occurrence.

Altitude.—Bathurst is about 2,200 feet above sea level.

Physical Conditions—Drainage.—Not satisfactory, but could easily be made so.

George Hurst, Medical Practitioner.

Climatic Conditions.—Resident of Bathurst seven years; previously practising in Sydney twelve years. The proposed territory generally is very healthy, and especially beneficial to weak lungs, asthma, &c. The climate was dry and bracing. Personally, he had been a great sufferer from asthma, and derived great benefit from the Bathurst climate. The sea breezes which reach Orange pass over Bathurst. He could not attribute any ailment to the Bathurst climate, and acquiesced in the report furnished by Dr. Bassett, which he had read.

Drainage.—Was familiar with the proposed territory, and thought it could be easily drained. Bathurst, at present, is not well drained, but it was no worse than any other country town; but it could be easily drained if taken in hand.

Water Supply.—The present water supply to the town was insufficient.

William Alfred Blackstone, Telegraph Master and Meteorological Observer at Bathurst. Exhibit C.

Climatic Conditions.—He produced certain returns (Exhibit C) obtained from a work published by the Government Astronomer. He was the local Observer, and first furnished the information to the Government Astronomer. These returns are accurate copies of the official information. The mean altitude of the whole Federal area was about 2,300 feet. The rainfall average is for each year, and the average for forty years is 24¾ inches.

John High, Suttor, Railway Engineer to the Commissioners. Exhibit D.

Accessibility.—Was a resident of Sydney, but was engaged mostly travelling on duty on all lines. The radial limit of 100 miles from Sydney would cut through Bathurst at about the Railway Station. Bathurst is 145 miles from Sydney by rail, and about 100 miles direct. Produced a Return, showing the distance of Bathurst from the various Capitals of the colonies, compiled from official sources, and true to the best of his knowledge and belief. This Return includes distances by projected railway lines. Also produced a map showing a system of railways in connection with a transcontinental railway in relation to Bathurst and district. This line would open communication with all the eastern ports, and lessen the time of journey to England by ten days. The location of the Capital at Bathurst would make the Blayney-Harden line a paying one. There is a good prospect of the Werris Creek-Wellington Line being constructed. In the absence of large rivers, a transcontinental railway is inevitable, and, in such case, Bathurst would be the most central place for the Federal Capital.

Water Supply.—Simply a question of choosing one of three Schemes. The Campbell's River Scheme would meet all requirements. It is a clean catchment, nearly all Crown land, and a gravitation scheme which would be as good a supply as the Prospect Dam in Sydney.

The Possession of, or proximity to, Stone, Timber, and other Building Material.—Good timber, such as turpentine, blackbutt, and mountain-ash can be obtained from the mountains in the police district of Bathurst; also pine on the Mudgee Line. Bathurst is not well supplied with timber within a few miles radius, but is well situated as a centre to command good supplies of timber. Good ironbark commences at Koorawatha on the Southern Line, and extends to Narrabri. At Mundooran there are 260,000 acres reserved for timber. Very good freestone is obtainable at Wallerawang and on the western slopes of the Great Dividing Range; and good bricks are got from Orange and Lithgow.

Foundations.—Granite foundations would be obtained, and none are better. The Railway Station at Bathurst, erected in 1876 on granite foundation, has not a crack in it.

W. J. Clunies Ross, B.Sc., London, and F.G.S., Resident Master in charge of the Technical College, Bathurst. Exhibit E.

Nature of Soil.—Nearly the whole of the proposed Federal Area is granitic—that is, a granite basis, with basaltic deposits or overflows in places on the Bald Hills. The granite is hornblende, very much decayed near the surface. The rotten granite is not an ideal foundation for heavy buildings; but, with proper precautions, a good foundation can be obtained. The shifting of foundations at Bathurst is due to a substratum of clay under the surface soil. Produced Report on the Geology of Bathurst and its neighbourhood, which he had prepared.

The

The Possession of, or proximity to, Stone, Timber, and other Building Material.—Fine granite obtainable at Locksley and Mount Pleasant—a good building stone for decorative purposes. It is in any quantity, and superior to the Moruya granite. There is no freestone near Bathurst, and no sandstone like the Pyrmont stone nearer than Lithgow. Limestone exists, but not suitable for building purposes. Marble occurs in large quantities. Basalt is plentiful in the Bald Hills. There is firechay at the Bald Hills, and deposits of very fine sand. There is no sign of Carboniferous rocks around Bathurst. Produced Notes on the Topography of Bathurst for the information of the Commissioner. Exhibit F.

Alfred Allen Dunnicliff, Manager of Bathurst Government Experimental Farm.

Nature of Soil.—Had resided in Bathurst since 1897, and had been engaged in similar work all his life. The proposed Federal Area included the Experimental Farm. The soil was generally granitic, with deep black clayey loam on the river frontages. The surface soil generally was about 10 inches deep, resting on rotten granite.

Facilities for Food Supply.—Cereals thrive in the Bathurst district, especially wheat and oats. About 10,000 acres of the proposed Federal Area are under crop. The country would average 12 bushels of wheat to the acre under a better system of farming. Splendid lucerne has been grown on the river bottoms. Root crops and all English fruits grow splendidly.

Alfred Andrew Patterson, head gardener to the Bathurst Municipality.

Nature of Soil.—Had been in Bathurst eleven years, and was well acquainted with the proposed Federal area. The soil varies—parts decomposed granite, and parts volcanic loam—but, as a whole, is fertile. Some of it had been cropped for sixty years. Was not an expert in agriculture, but was a horticulturist. The soil in the area was still unexhausted. On the downs above the river flat the cultivable soil is 3 or 4 feet deep.

Other Physical Features.—Most of the European trees grow at Bathurst. Oaks, elms, and plane trees thrive in perfection, but the district generally has gone in more for coniferas than deciduous trees. The proposed area is well situated for ornamental tree planting and landscape gardening, and several sites in the area are especially suitable for a park with artificial lakes.

William Roberts, Government District Architect (retired).

Nature of Soil. (Foundations).—Had been connected with the Government Architect's Department about thirty-three years, and had had considerable experience in putting in foundations of large buildings during twenty-three years. Underlying the whole of the Bathurst district is a layer of decayed granite, on which is a layer of decayed granite in clay, and above which again is a layer of soil. The clay beds are undulating, and to get a good firm foundation you must go down to the substratum of decayed granite, following the deep undulations of the clay. Good foundations for the heaviest buildings could thus be obtained. Some of the river flats would be suitable for building. There the depth of soil varies. Generally, over the whole area of Bathurst, a sound foundation could be obtained at from 6 to 15 feet deep.

Possession of, or proximity to, Stone, Timber, and other Building Material.—The available material consists of stone, brick, and river shingle. Basalt, from the Bald Hills, is used for foundations and guttering. It is too curly for working. Excellent building granite at the Rocks, large blocks of which, capable of polish, can be obtained. There is no sandstone, but excellent marble is obtainable in various colours. Tolerably good slate, suitable for flagging, can be got, and lime is plentiful. Some of the finest clay for brickmaking exists in the district. The clay is impregnated with iron in solution distributed equally through it, and makes bricks of good colour, and impervious to damp. Fire bricks are also made. Sand and good river shingle can also be obtained.

Robert Baldwin, builder and contractor.

Foundations.—Had forty years' experience of building in Bathurst, and confirmed Mr. Roberts' evidence in respect of foundations.

Edmund Tom Webb, merchant. Exhibit G.

Water Supply and Catchment.—Was familiar with the Bathurst district, of which he was a native. Knew the proposed Federal Territory and had been all over it, and had visited all the proposed sites for water supply but one. Visited the Lagoon Site, but found it too low for a wholly gravitation scheme. He wrote the Report on the Wallsbrook scheme from information supplied, and favoured either that scheme or the Brisbane Valley Creek scheme. Did not favour the Winburndale scheme. The Brisbane Valley Creek is 16 or 17 miles from Bathurst, and the site of the weir would be 600 feet above the town. There was a good foundation, and the dam would be 100 yards long by about 50 feet deep. The catchment area is about 40 or 50 square miles. A weir 50 feet high would cover with water an area of about 1,100 acres, about 25 feet deep. About 25 miles of pipe would be required. He had not personally inspected the Site.

Other Physical Features.—He considered the land south of Bathurst, at the foot of the Bald Hills, the most favourable building site. There is a band of clay running through Bathurst, varying from 18 inches to 5 feet in depth; foundations on that would crack unless carefully laid.

Robert Lionel Gilmour, Mayor of Bathurst.

Water Supply and Catchment.—Was a native of Bathurst, and had been engaged in agriculture and grazing. The Committee decided on the Federal Capital Site shown on plan by blue edging. The Site adjoins the city. There are three schemes of Water Supply to that area. He preferred the Wallbrook, the catchment of which is about 100 square miles, mostly Crown lands, including the sources of all the tributaries on the Abercrombie Mountains. The proposed reservoir would be on freehold land, worth about 30s. per acre, and is about 1,000 feet above Bathurst. There could be a service supply from the Lagoon, 10 or 12 miles from Bathurst, and about 150 feet above the town. The pipe lines would be about 35 miles, and would cost about £2,000 a mile, exclusive of the weir. The site of the weir is basaltic, with a good bottom, and the crest of the weir would be about ¼-mile wide. There are two other schemes, but the Committee prefer the Wallbrook.

Ownership and Value.—Had been a grazier all his life, and knew something of land values. If the whole area of 64,000 acres were valued for sale with improvements, he would assess it at £4 per acre. Some of it, on the Bald Hills, was only worth £1 per acre, and some is worth £30 per acre.

Facilities for Food Supply.—The district was principally used for fattening stock. If Bathurst were chosen as the Site, there would be no difficulty in housing and feeding 2,000 operatives, and when the city was built, Bathurst and district could supply it with food. Closer settlement would render the land five times as productive.

John McPhillamy, Solicitor.

Water Supply and Catchment.—Was a native of Bathurst, and knew the upper part of the Campbell River. Knew the Wallbrook Swamp, and knew the proposed site of weir. The catchment was clean and at least 100 square miles, mainly Crown lands. Had never seen the watercourse dry; it is beautiful water.

Water

Alfred Andrew Patterson (recalled).

Water Supply and Catchment.—Had accompanied Mr. Blomfield (the Water Conservation Officer) in his inspection of the Lagoon and Bathampton Schemes. The latter would be high enough for Bathurst, but not for a higher town. Had also examined, with Mr. Campbell, the upper part of the Campbell River. Wallbrook is 35 miles from Bathurst by road, and 25 miles direct. Wallbrook is one of the best sites for water supply for Bathurst. It is about 1,000 feet above the town, and the swamp runs back, with varying width, for 3 miles. The Campbell River runs through the swamp. By making a weir, enough water could be impounded to supply Sydney. The catchment is 100 square miles, mostly Crown lands. A weir 50 or 60 feet high would throw the water back about 23 miles. The water is pure and clean.

Exhibit H.

Facilities for Food Supply.—He put in the following returns :—

(1) Return of live stock in the Bathurst District.
(2) Total area of green and grain crops in Bathurst District, year ending 31st March, 1897.
(3) Butter, cheese, and bacon made in District, year ending 31st March, 1897.
(4) Production per acre of grain and hay crops in Bathurst District, year ending 31st March, 1897.
(5) Return of Crown lands within boundaries of proposed Federal Territory.

The Returns are for the Police District of Bathurst, and were prepared by direction of the Committee, from Mr. Coghlan's last available Return.

Alfred Gordon Thompson.

Was familiar with the Campbell River, and knew the proposed weir site for thirty years, and concurred with Mr. Patterson's evidence. Had never known the river dry. There was always a strong stream of clear water.

John Job Copeman, architect. Exhibit J.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Put in a return of building material procurable in the locality of Bathurst. The statements therein he stated to be true, to the best of his knowledge and belief.

William Henry Hudson, timber merchant.

Had been in the timber trade for twenty-five years. The local supply of timber was very meagre. For a large city, timber would have to be imported. Did not regard the Blue Mountains as part of the district, and timber there was only suited to cheap buildings. A little Dubbo pine was used in the district, but for good sound timber you had to go to the Northern Rivers.

James Dewar, brickmaker.

The clay in Bathurst was the finest in Australia for bricks. They were impervious to damp, and could be baked any colour. Fireclay could be obtained in the Bald Hills at a depth of 100 feet. There was splendid gravel under the clay.

James Rutherford, resident of Bathurst since 1861.

Nature of soil.—Had heard evidence as to foundations, and had good experience in building. The cracks in the Bathurst buildings were the fault of the builders. If timber were put in so that the foundations would settle evenly, the cracks would not occur.

Was familiar with the proposed Federal area, and endorsed the evidence of the previous witnesses as to building material. There was plenty of timber for rough heavy buildings. There was plenty of splendid freestone at Lithgow.

Water Supply and Catchment.—There was catchment enough in the Campbell River to supply, with storage, 100,000 people. The water was clear and pure.

Facilities for Food Supply.—The district could supply itself with food generally for an additional population of 40,000 people. It is a good district for wheat and other cereals, also for English fruits, and would carry as much stock per acre as any place he had seen.

Mineral Products.—Gold and iron were plentiful, and copper could be got at Cow Flat. The nearest coal was at Piper's Flat and Wallerawang, but the coal used in the town was mostly brought from Lithgow.

John Joseph Sullivan, grazier. Exhibit K.

Facilities for Food Supply.—Put in a statement in reference to the capabilities of the Bathurst District for grazing, raising, and fattening stock. The statements therein were prepared by him, and were true and correct, to the best of his knowledge and belief. The district could support an additional population of 40,000 from its own resources and drawing on adjoining districts.

Peter Furness, farmer.

The proposed Federal area is good wheat-growing country, and would average 12 bushels per acre, or 20 to 25 bushels of oats per acre. English fruits flourish in the district. The soil varies in depth, but did not think it was being exhausted, though there had been some exhaustion which could be minimised with more skilful cultivation.

Jacob Knights, farmer and produce dealer.

Resident in Bathurst since 1855. The soil of the proposed area was good and fertile, suited to all kinds of cereals, roots, and English fruits.

William Gilbert Thompson, Secretary Local Agricultural Society.

Their exhibition of farm produce was one of the most successful in the Colony. Wheat grown in the district went as high as 67½ lb. to the bushel. Oats grow fairly. Barley for malting can be grown successfully. Root crops and English fruits thrive in the district. Some of the finest cattle in the Colony are produced in the district. It is a splendid fattening district.

Daniel Veness, Town Clerk.

Water Supply and Catchment.—The present water supply of Bathurst was handed over by the Government, and is used by about 99 per cent. of the people. Did not think it an inefficient or precarious supply, though at times they had to make it intermittent. It is a pumping scheme, and the water is of fair quality. The average cost of the supply is £1,100 or £1,200 a year.

Ownership and Value.—Had been Town Clerk for ten years. Inside municipal boundaries, the population of Bathurst is approximately 9,300, as per census of 1891. The aggregate value of improved lands inside those limits is £913,184, and in the same area the unimproved land, exclusive of reserves, the Model Farm, and Government land, is valued at £18,263. He could not give values outside the municipal area.

William Henry Webb. Exhibit L.

Miscellaneous Conditions.—Put in a return prepared by him as one of the sub-Committee, showing mineral products and capacity to support population, also conditions favourable to commercial and industrial development.

Captain Forsyth Cheffins, Captain of Reserve of Officers.

Defence.—Was Captain of the 3rd Regiment stationed at Bathurst, which he thought the best naturally defended city in New South Wales. Surrounded by hills, some of which were practically impregnable. There was good ground round the city for manœuvring troops. It had natural facilities for hasty defence, and you could heliograph to Sydney by intervening stations.

BOMBALA–

BOMBALA–EDEN SITE.—Summary of Evidence taken at a Public Inquiry held at Bombala on 24th, 25th, and 26th April, 1900.

Produced copy of report (Exhibit A) sent to the Commissioner, which was a true copy of original, prepared by sub-Committee, appointed by their League.

Coulson Murphy, auctioneer and commission agent, Hon. Secretary of the Southern Monaro Railway and Federal Capital League.

Climate.—Resident of the district about fifty years. Had kept a thermometer, but did not keep records. During last heat-wave the thermometer did not quite reach 100 degrees in the shade on the hottest day. In extreme cases there might be a fall of 40 degrees from highest to lowest temperature. Never saw the thermometer below zero. There might be 10 degrees or 12 degrees of frost. Southern Monaro is milder in winter than Northern Monaro. This is due to the prevailing direction of the wind and the distance from the mountains. The figures in report under climatic conditions were prepared from information furnished by the Government Astronomer. Snow falls in the district, but seldom lies on the ground all day except in the highlands. Southern Monaro is visited by unpleasantly cold winds in the winter, but they are infrequent and of short duration. Bombala gets sea breezes in summer about 4 o'clock in the afternoon. They reduce the heat, and are exhilarating and refreshing. The nights are, as a rule, cool. There might be two or three hot nights in the summer. Eden possesses one of the best climates in New South Wales.

Ronald Campbell, grazier, Member and Chairman of the Southern Monaro Railway and Federal Capital League.

Altitude.—The figures produced in report were furnished by the Government Astronomer. Bombala is about 2,400 or 2,500 feet above sea-level. Murray's Look Out on the proposed Site is about 3,190 feet. The lowest point of the proposed territory is 2,150 feet above sea-level.

Rainfall.—The annual rainfall is 29 inches for a period of ten years, including the last droughty years, when the average would be only about 20 inches. The district is not subject to droughts. The proposed source of water supply averages over 30 inches per annum.

Accessibility.—The Bombala–Eden Site is nearly equi-distant from Melbourne and Sydney. The distances are :—

Bombala from Sydney, by land	...	...	...	325 miles
Bombala from Melbourne, by land	...	...	...	330 „
Eden from Sydney, by water	...	...	...	290 „
Eden from Melbourne, by water	...	...	...	397 „

Adelaide, 804 miles by land, and 900 miles by water; Brisbane, by land 1,048 miles, by water 793 miles; Hobart, by water 360 miles, by land and water about 420 miles; New Zealand, by water 1,260 miles. Cooma must be connected by rail with Bombala for defence and commercial purposes, and thence through the proposed Federal Territory to the Victorian Border. A railway from Bombala to Eden is part of our scheme, with a strip of land along such railway together with 10,000 acres round Eden as Federal Territory. The Cooma–Bombala Railway, *viâ* Nimitybelle, which we favour, would cost £455,270. That estimate is ten years old. This line must be constructed at the expense of New South Wales to relieve the congestion of traffic on the main trunk line, Sydney to Melbourne, *viâ* Junee and Albury. We favour the proposed line, Bombala to Eden, *viâ* Bondi. This route would be about 70 miles, and the cost of construction would be borne by the Commonwealth. Eventually the railway would have to be carried on to the Victorian Border to join with Bairnsdale, and thus complete the connection between Adelaide and Brisbane.

Physical Conditions—Nature of Soil.—Principally a rich loam, a slight proportion of basalt and some granite; very fertile, and for the greater part deep. No analysis has been made, but the formation might be classed as principally granitic and slate. It would grow anything.

Building Material.—Immense supplies of timber on the ranges. Iron is found in the district, and slate at Delegate; stone is dealt with in the Report. The Eden–Bombala Railway would considerably cheapen cost of building and construction.

Facilities for Food Supply.—The district is very productive. Dairying and fruit-growing flourish. The district could supply the Capital, and what the high lands could not produce could easily be brought from the coast. Any crop that can be produced in a cold climate will grow. Wheat and oats are grown—wheat only in small areas, as there is no market for surplus, though we can grow 20 to 30 bushels per acre. Sheep farming pays better than agriculture at present.

Miscellaneous Conditions—Defence.—The proposed scheme of railways, taken in conjunction with the seaport of Eden, would form an admirable feature for military and defence purposes. It would be necessary to erect a breakwater at the port of Eden to make it fit for a Federal Port, and the town would probably have to be fortified.

Trade.—The Bombala district is not under the commercial influence of Victoria. All the supplies of the district are obtained from Sydney.

Ornamental Trees and Lakes.—The area proposed would lend itself readily to the making of artificial lakes and ornamental tree-planting. All English trees would thrive. American trees do even better. The lakes could be filled by gravitation.

Henry Tolle nache Edwards, grazier.

Climate.—Was resident of the district for fifty years. The climate was a very healthy one—not more liable to sudden changes than any other part of the Colony. Concurred with Mr. Campbell's evidence as to the heat. They got about 10 degrees of frost.

Accessibility.—The extension of the railway, Cooma to the Victorian border, and thence to connect with present Bairnsdale terminus, was a national undertaking, and was absolutely necessary, whether the Federal Site was chosen in the district or not; it would relieve the congestion of traffic on the present trunk line *viâ* Albury. The proposed line, Bombala to Eden, would provide alternative sea-carriage. Most of the trade of the district goes to Sydney, and, in the event of Federation and the construction of the Cooma-Bairnsdale Railway, the business of the district would still remain with Sydney.

Nature of Soil.—Particularly suited to arboriculture. Had large experience in tree-planting, and had largely cultivated ornamental trees. All the English trees thrive well. The district is one of the richest in New South Wales.

Drainage.—The site chosen for the Capital is sufficiently undulating to be suitable for excellent sanitary conditions and drainage.

Facilities for Food Supply.—The Monaro district could provide meat and food for a city of 40,000 people. Cereals could be grown, also potatoes in large quantities, whilst all the rivers are stocked with fish.

Defence.—The opening of a railway from Cooma to Bombala, and thence to the Border, and through Gippsland, is necessary for defence purposes.

Building

Thomas Moore, carpenter.

Building Material.—Had been sixteen years working at his trade in the district. Had very good building timber, suitable for large buildings. They had messmate, white or mountain ash, cut-tail, blue-gum, and box. Some of this timber is obtained on the mountains. Splendid clay, suitable for bricks, existed, and very good bricks were made locally. There was freestone and good flagstone, also granite.

Robert Hugh Cook, bank manager.

Conditions Favourable to Commercial and Industrial Development.—Had been resident in Bombala three and a-half years. The proportion of banking business done with Victoria was about 2½ per cent. Outside banking, almost all the business of Bombala and district was done with Sydney. After Federation the business would still remain with Sydney.

Estimated Value of Land.—As an average, the value of the site selected is from 30s. per acre to £6 or £7 per acre, as improved.

Robert Watson Dawson, stock inspector.

Food Supply.—Gave returns of stock in the Bombala and Eden districts. The carrying capacity of the district was one sheep to the acre, year in and year out. It was excellent fattening country, and fat stock from it were sent annually to Sydney, Melbourne, and Tasmanian markets. There was a large dairying industry. Maize grows to perfection in the Eden district, and oats up to 75 bushels per acre in the Bombala district. Wheat and other cereals succeed very well, also all root crops.

Robert Eddie, medical practitioner.

Climate.—Had been seventeen years in the district, which was free from epidemics, though measles and influenza had been experienced. There was no endemic diseases. Had only seen three cases of typhoid in the district, and one diphtheria; consumption and asthma were almost unknown. There had been a few cases of hydatids. The district was a very healthy one, owing to the purity of water and altitude—about 2,400 feet. Eden is one of the healthiest places in Australia; it has a very even climate, with no frost. Typhoid is unknown there. Had always recommended it as a health resort. Had seen no ill results from changes of climate in Bombala. It might range from 90 degrees to 55 degrees in the summer months. No more liability to asthma and bronchitis than in Sydney or elsewhere.

Drainage.—There is a good system of sanitation in the town of Bombala at present. The site of the proposed capital is favourably situated for drainage.

George Kelland, stone cutter and bricklayer.

Building Material.—Had been in Bombala about forty-three years. Was continually using the local stone, and had built the principal buildings in Bombala. Quarried his own stone. It was a sort of grey sandstone. It cuts clear and hard, and hardens on exposure to the weather. It exists in large quantities. There is also plenty of granite and flagstones. Splendid clay for bricks exists, also fire clay. Good lime can be obtained locally, also sand in any quantity for mortar can be obtained from the river beds. Timber in any quantity can be got from the mountains.

Morris Samuel Emanuel, general storekeeper.

Conditions favourable to Commercial and Industrial Development.—Fourteen years resident. Deals in hardware, groceries, drapery, produce, and every general requisite. Mostly everything obtained from Sydney. If the railway from Cooma, *viâ* Bairnsdale, &c., were constructed the trade would still be with Sydney. With Federation, and a uniform tariff, the district would still do business with Sydney.

Henry Lancaster, carpenter and builder.

Timber.—Had exercised his trade in Bombala for twenty-three years. Native timber used for superstructures of the local buildings, also for joists, studs, and roofing. Timber could be procured almost any size wanted. Mountain-ash, messmate, grey and flooded gums, and ironbark were obtainable, either on the site selected or on the adjacent coast district.

Building Stone.—Sandstone, freestone, and granite were obtainable in the district; likewise plenty of clay for bricks.

Edward Neale Plowright, storekeeper.

Conditions favourable to Commercial and Industrial Development.—Nine years resident of Bombala. Stocked hardware, grocery, and drapery. All his supplies obtained from Sydney. Did no business with Victoria. Federation would not disturb existing arrangements in regard to business.

James McCoy, farmer and grazier.

Food Supply.—Resident of the district for fifty years. Had cultivated wheat, and obtained an average of 20 bushels to the acre; but knew of a farm near the proposed site which yielded 45 bushels to the acre, and had thrashed for neighbours as high as 43 or 45 bushels to the acre. Taking good and bad seasons together for ten years, you could average 10 bushels to the acre. Oats were better suited to the district than wheat. Other cereals could be cultivated; especially maize. Potatoes thrive. With closer settlement, the district would easily support a population of 40,000 people. Dairying is carried on. The district comprises about 200,000 acres of good agricultural land.

George Dale, bootmaker.

Building Material.—Resided at Delegate, and was secretary of the Delegate Federal League. There were expensive deposits of slate at Wollondilly suitable for roofing.

James McNaught, farmer, Chairman, Candelo Progress Committee. (The evidence of this witness has reference wholly to the Candelo District.)

Climate.—Thirty-four years of age, and resident of Candelo District, where he had been all his life. The climate of his part of the district was a genial one. Only two months winter.

Rainfall.—More than 30 inches per annum.

Water Supply.—Plentiful.

Timber.—Spotted gum, box, and blue-gum.

Food Supply.—Principally a dairying district. Maize is grown abundantly. Wheat averages 25 bushels to the acre. Other cereals also do well. Vegetables and fruit may be grown, whilst oysters and fish are in abundance.

Charles Edwin Bloomfield, Resident Engineer, Department of Public Works.

Water Supply.—Inspected proposed Federal Territory for water supply purposes. Lord's Hill, at the 5-mile post on the Bombala-Delegate Road, would make a good site for a storage reservoir to supply any part of the proposed Federal City site by gravitation. The Delegate River is the best of the sources The water was pure and good, with a discharge of 100 cubic feet a second. If the supply was only one-sixth of this it would suffice for a city of 250,000 people at 36 gallons per head per day. A storage reservoir would not be required for some considerable time; but, if required, a good site was obtainable at an elevation of 60 feet above Lord's Hill, where an inexpensive weir could be erected 30 feet high and 600 feet long with good foundations. This would be about 280 feet above Bombala. The Bombala River could also be utilised to bring water to Lord's Hill, and thus supplement the Delegate River supply if necessary. This site is about 250 feet above Bombala, and about 17 miles from the town. Other rivers, viz., Saucy Creek, Little Plain River, Jackson's Bog, and Nicholson's Bog, and Coolumbooka River could also be utilised for gravitation for the greater part of the proposed territory. Estimated cost of Lord's Hill scheme £40,000. He had seen nothing that could be utilised for power for generating electricity, &c. The Lord's Hill supply could be used for hydraulic lifts, &c.

BRAIDWOOD SITE.—Summary of Evidence taken at a Public Inquiry, held at Braidwood on 14th and 15th June, 1900.

Initiation of League.—League initiated by public meeting convened at Council Chambers, when Committee appointed, which still exists. Whatever has been done was done in a formal and regular way.

Richard Mitchell Higgins, Mayor of Braidwood and President of the Local Federal League.

Climatic Conditions.—Produced return from Government Astronomer, giving particulars of Braidwood climate, viz., mean temperature, hottest and coldest months on record, hottest and coldest day on record, and rainfall per quarter. This return covers a period of twenty-one years.

The Government Astronomer also gave the altitude of Braidwood as 3,157 feet, but this is not verified.

Donald McDonald Campbell, journalist and Secretary of the Local Federal League.

Climatic Conditions.—Practising in Braidwood eight years. District remarkably free from epidemics; they only occur in very mild form. Climate in favour of stamping out any epidemic. Sunstroke very rare; knew only of two cases. Typhoid for a number of years unknown; cases had occurred, traceable to preventible causes. Diphtheria and ophthalmia practically unknown. Measles not prevalent; a few cases had been brought from Sydney. Consumption rare; owing to altitude of Braidwood, patients do well. Greatest range of temperature in his knowledge, 35 degrees. Residents not liable to sudden chills. The sea breeze generally reached Braidwood about 4 p.m. in summer, and lowers temperature about 20 degrees. Considered climate very good, and during prevalence of sea breeze, town healthier. District favourable to longevity. Local water principally obtained from wells and tanks. Traced no ailments or illness to its use.

Harold Lytton Cummings, medical practitioner.

George Read, medical practitioner.

Climatic Conditions.—Resident of Braidwood. Practising in Colony twenty years—in New England, Tamworth, Gunnedah, Scone, Sydney, Kiama, and Braidwood, so had a varied experience of climate. Wholly concurred with Dr. Cummings' evidence. Hereditary consumption only consumption known in district, and patients have a greater longevity, owing to altitude, than in any other district he knew. Death rate of district was 1¼ per cent. of population, mostly comprising aged people from 60 to 98 years of age, and young children. Very few adult deaths between 20 and 50. Over sixty persons in district over 80 years of age. Births in 1899, 168; and for 1900, up to date, 58—a fair annual average. Population of police district, about 6,000. In 1899, 81 deaths; and 1900, up to present, 42 deaths. The healthiest district he had ever lived in.

William Frederick Bundock.

Altitude.—Resident of district since 1880. Formerly Road Superintendent. Altitude obtained from Under Secretary, Public Works, 2,136 feet at Solus-street. The mean altitude of the whole proposed Federal Area was, approximately, the same as the town—in round figures, 2,200 feet. Had accompanied Mr. Blomfield, who took levels of part of the Area, so was able to speak *re* altitude.

Accessibility.—The Report contained all information obtainable under this head, and he swore the contents are true to the best of his belief.

Water Supply and Catchment.—Accompanied Mr. Blomfield in his inspection. Heard his Report read, and agreed with it. They had gone 20 miles up the Shoalhaven River to a point about 50 feet above the town. Mr. Blomfield had two aneroids with him, and check measurements were taken. They had the railway levels as a datum. A higher supply might be got further up river, but the river is flat, and some distance would have to be travelled. There was plenty of water. The Mongarlowe Site is about 30 feet above Braidwood Court-house. A ridge, 200 feet high, intervenes. That would have to be a pumping scheme. Mr. Wade's scheme is not high enough for gravitation. His Report was for the supply of the town of Braidwood—not the Federal Capital Site. Went about 13 miles up the Mongarlowe. Did not think it would be possible, by going higher up, to get a gravitation scheme.

Isaac Axel Hassall, grazier.

Climatic Conditions.—Over forty years resident of Braidwood. Never felt uncomfortably hot, or had a day's illness in Braidwood. Considered it a very healthy climate. The changes in summer were not prejudicial to health. The sea-breeze generally came about 4 p.m., and lowered the temperature, but never found it cause chills. Had been through the whole of New South Wales. Braidwood the healthiest, and conducive to longevity. He was nearly 80 years of age. Did not know a better climate or a better Site for the Federal Capital.

Facilities for Food Supply.—Could grow good beef, which he attributed to the good grasses. Braidwood cattle always topped the market. The natural grasses throughout the country noted for their fattening qualities. Could supply fifty times as much meat as was consumed locally. A granite country. With closer settlement, could be made much more productive, and support a large population. Had got 40 bushels of wheat to the acre at Ballalaba. District celebrated for potatoes. Tropical fruits could be grown at Araluen.

Robert John Cogbill Waldrell, grazier.

Nature of Soil.—Resident and native of Braidwood. Was thoroughly familiar with proposed Federal Territory. Soil nearly all granite formation, with either clay subsoil or decomposed granite; in the hills, decomposed granite without the clay. Soil very porous. About 4 miles east of the town the soil is more of a sandstone. Slate formation commences 5 miles east of town. Did not know of any volcanic soil in the area. Out of the 64,000 acres about 20,000 acres arable land.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Large amount of timber on the Dividing Range, just outside proposed Area; also at Reidsdale, and back of Major's Creek. They had mountain ash, messmate, stringybark, and sassafras. Very little box, and no pine or cedar.

Ownership and Value.—Some of proposed building sites more valuable than other parts. As improved, he valued it at £5 per acre inside the Municipal area, but excluding the town of Braidwood. Some of it is worth £6 per acre. The land is slightly improved; about £1 per acre. For the whole area of 64,000 acres, very difficult to estimate and value; thought a fair average, £3 per acre There is some rough country in it. Any increment of value by reason of location of Federal Capital Site in the area should go to the Commonwealth.

Facilities for Food Supply.—Worked cattle entirely, but thought it good sheep country with moderate rainfall. The quality of the beef grown in district remarkably good. Thought district could supply sufficient meat for a population of 40,000, but doubted if it could supply its own breadstuffs. Dairying confined principally to the farmers, but large quantities of milk and butter could be produced. District very suitable for establishing chilling and freezing works. Not sufficient sheep in district to encourage establishment of woollen industry. Monkittee an excellent portion of district for wheat raising. Average 16 bushels to the acre.

John William Dunn, grazier

Nature of Soil.—Resides close to Braidwood. Engaged grazing fifty years. Had cultivated and knew nature of soil of the proposed Federal Area. Granite formation, with clay subsoil. Top-dressing shallow as a rule—9 inches deep; some places deeper, but exceptional. Below clay, rotten granite. In 4 or 5 feet sinking you would strike decomposed granite. Fertile soil for grass. Grain crops would wear it out in three or four years, but would recover if properly treated. In places good for root crops. The flats are good, but the hills only fit for grass. Better country for cattle than sheep. There may be trap soil at Reidsdale, but very little of it. Soil suitable for elms, pines, oaks, and generally for ornamental planting.

Facilities for Food Supply.—Fine grazing country, fattens cattle as well as any place in Colony. Cereals will grow. Potatoes and turnips do well. English fruits will grow, but the soil has to be trenched.

Julius Vidler, storekeeper.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Sandstone of good quality at Corang. Enormous deposits of limestone at Long Swamp and Larbert. Enormous quantities of timber within 20 to 25 miles of Braidwood, and within 8 or 9 miles towards the coast. Messmate, mountain-ash, mountain-gum, white-gum, stringybark, blackwood, and sassafras obtainable within 10 or 12 miles. Further away spotted-gum, &c.

Ownership and Value.—Familiar with the district. Was one of the Government Assessors for Land and Income Tax. Knew the proposed Federal Area. Not much rough land in it. All useful country, and very fair as a whole. Valued the whole area as improved, excluding town of Braidwood, at £3 per acre. Some of it is worth £6. Doubted if any of it is only worth 30s. per acre. Would value the proposed Capital Site, excluding the town improvements, at £5 per acre.

James Henry Byrne, grazier.

Nature of Soil.—Thirteen years in district. Grazier all his life; also cultivates land. Acquainted with Federal Area. Soil granitic, with here and there a subsoil of clay.

Facilities for Food Supply.—Had obtained 20 bushels to the acre outside the area, and 35 bushels of oats. You could get 50 bushels of barley in some places. Potatoes, for yield and flavour, could not be beaten. Very good grazing country; 5 acres to the beast for ordinary cattle, and 10 acres to the beast for fattening. More a cattle than sheep country, but sheep do well in ordinary seasons.

George Arthur Basingthwaite, farmer and grazier.

Nature of Soil.—Resident of Larbert, 10 miles north of Braidwood. Familiar with the 64,000 acres Site. About one-third of it is arable or agricultural land. Agreed with previous witnesses as to soil.

Facilities for Food Supply.—Good country for cattle. Could supply meat, and, probably, butter and milk, for a population of 40,000, but hardly breadstuffs. Oats, wheat, barley, and English fruits will grow.

George McRae, saw miller.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Resident of Braidwood. Mill about 12 miles out. Very good timber available for building purposes; mountain-ash, messmate, mountain-gum, sassafras, and plum-tree; blue-gum at Araluen; blackbutt about 20 miles away, towards Bungendore.

William Augustus Kershaw, builder and contractor.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Practising his calling fifty-one years in district. Splendid granite in any quantity; first-class quality, good colour, capable of good polish; equal to Moruya granite. Abundance of freestone within 30 miles of Braidwood, at Corang. It has been used for tombstones, and stood the test for thirty years; it is free from flaws and joints, and will cut in any direction. Limestone of an excellent character within 14 miles of Braidwood. Had seen slate in the district. Had good clay for bricks, and had seen a little fire-clay. Timber grown in district had stood test in some buildings for forty years. They had stringybark, mountain-ash, messmate, mountain-gum, and sassafras; also blackwood and plum-tree.

Other Physical Features.—Foundations very good if dug deep enough. Had seen signs of subsidence, owing to shallow foundations.

William Cunningham, agriculturist.

Facilities for Food Supply.—Resides Braidwood. Cultivates wheat, oats, and barley—principally wheat—on alluvial land. Experimented for the Government on various wheats, and sent specimens of his main crop to Professor Cobb, who reported favourably on it. It averaged 27 bushels per acre. The Federal Area would not all average that; but, in favourable seasons, 30,000 acres of it would average 20 bushels per acre. It is all good country. He spelled his land for four years. It is country which exhausts itself under cropping. Had grown oats up to 40 to 50 bushels per acre, potatoes 18 tons per acre, and hay 30 cwt. per acre. With closer settlement and mixed farming the Area would support a much larger population.

William Frederick Bundock, recalled.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Heard Mr. McRae's evidence. Would add that spotted-gum is obtainable within 20 miles; blackbutt and ironbark within 26 miles, in lengths up to 40 feet; grey gum and box obtainable at Araluen; and blue gum, stringybark, and white box towards Nerriga. White ant not troublesome in locality.

William John Chapman, commission agent.

Ownership and Value.—Value proposed Federal Territory, as improved, from 50s. to £3 per acre. Not highly improved. Excluding the Capital Site, the remainder is worth 50s. per acre, and the Capital Site, excluding Braidwood, £3 per acre as improved.

Facilities for Food Supply.—Braidwood a great stock centre, but not a depôt. Buyers come there for stores. District good for grazing and fattening.

Henry Francis Maddrell, grazier.

Nature of Soil.—Resident of Braidwood. Born in district. Knows the Federal Area. Granite soil with alluvial flats. Some very good grazing land, and some very good agricultural land.

Facilities for Food Supply.—A good cattle country. Enough stock to keep a chilling factory going; great numbers of cattle sent to Sydney. Will fatten sheep very well in fair seasons. Dairying carried on by a number of small farmers. Had let his land to farmers. In fair seasons they got 18 to 25 bushels of wheat per acre. Lucerne is cultivated. Soil not easily exhausted.

James O'Brien, grazier and farmer.

Facilities for Food Supply.—Resident of Braidwood forty-six years. Cultivated land on Jembaicumbene Creek—wheat, oats, potatoes, barley. Soil fertile. Got 20 to 30 bushels wheat per acre; had grown as high as 40 bushels per acre, and 60 bushels oats. Grew lucerne, but not in the Federal Area. As a whole, good country for sheep and cattle, and good dairying country, which could stand a drought. Country suitable for closer settlement, and would then support a large population.

Henry Lutwitz Mader, stock inspector.

Facilities for Food Supply.—Resident of Braidwood. District embraced Police District of Braidwood, from 6 miles north of Nerriga and 40 miles south of Braidwood. Extends 22 miles west and about 14 miles east, including Araluen. Produced Return of Stock in district, as follows:—

	1899.	1900.	
Horses	4,225	3,716	
Cattle	33,237	27,012	
Sheep	85,210	77,353	Very

Very good fattening district. Carry one sheep to the acre in most places. Produced a large number of fat stock in the year. About 5,000 or 6,000 fat cattle, and about 25,000 sheep exported annually. District too small for large-stock chilling or freezing works. Good dairying country, if provision made for winter feed.

John Musgrave, journalist.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Resident of Braidwood forty years. Knows the proposed Federal Area. Timber of very good quality can be obtained in any quantity. Plum-tree very good timber for flooring and furniture.

Mineral Products.—Ironstone outcrop at Buddawang; said to be an indication of coal. Cobalt, going 2½ per cent., and copper also found there. Tin got on the Shoalhaven.

Conditions favourable to Commercial and Industrial Development.—Would bear closer settlement and carry a large population. Brewing could be established, and malting barley produced. District favourable for woollen manufactories.

James McDonald, storekeeper.

Mineral Products.—Put in a return showing mineral product of Braidwood Electorate for 1898, obtained from Mr. Coghlan's report for that year. Confirmed Mr. Musgrave's statement re iron. Stream tin in the Shoalhaven. Assayed black sand, which went 29 oz. 12 dwt. 8 gr. of gold to the ton. Copper and lead obtainable. Produced sections, showing coal, sandstone, and shale bands in parish of Endrick, county of St. Vincent.

George Webb, farmer and grazier.

Mineral Products.—Residing about 15 miles from Braidwood. Produced sample of coal and shale found close together about 25 miles from Braidwood. They were found in the face of the mountain—the shale about 15 feet above the coal and under Carboniferous sandstone. The coal seam was about 2 ft. 6 in. through. Had it assayed; equal to Newcastle coal. The shale specimen went 52 per cent. Thirty miles from Braidwood there is a 7 ft. 6 in. seam of coal under the same sandstone.

CARCOAR–GARLAND SITE.—Summary of Evidence taken at a Public Inquiry held at Orange on 27th March, 1900.

Thomas Lindon Biddulph, Licensed Surveyor.

Had twenty-four years' experience of the district. Had been constantly resident and familiar with it. The Carcoar-Garland Scheme for the Federal Capital was his own proposal, and he produced a map showing it. The Site was that inspected by the Commissioner. He also produced a Report referring to the Site, and following the heads of the Commissioner's circular. Exhibit A.

Climatic Conditions.—The information under this head contained in the Report was obtained from the Postmaster, Carcoar, and the Government Astronomer. The figures refer to Carcoar, but would apply generally to the Site proposed for Capital on plan. The altitude is about 50 feet below that of Carcoar. He also put in a certificate by the Carcoar Postmaster, showing the highest temperatures registered in Carcoar for three days in November and December, 1899, and in January and February, 1900. Exhibit B. Exhibit C.

Accessibility.—The centre of the proposed Capital Site is 442½ miles from Melbourne by the trunk line and the Harden-Blayney connection. Sydney is distant 189 miles, and Brisbane 700 miles, by the Werris Creek and Wellington proposed loop-line. Adelaide is distant 923 miles *vid* the proposed Cobar-Broken Hill extension, and 925 miles *vid* Melbourne. Hobart, *vid* Melbourne, is 820 miles; and Adelaide 710 miles, *vid* the Murray Valley, should Hay and Morgan be connected. Perth would be distant 2,200 miles, *vid* Port Augusta (by Transcontinental Railway) and Broken Hill.

Nature of Soil.—Very rich and fertile in places, and, for a considerable extent over the whole area, may be classed as fair to good. Information under this head is furnished in the Report.

Water Supply.—For this purpose, a point on plan between Lyndhurst and Mandurama on the railway line has been taken. There is a choice of supply, and a number of catchment areas are shown on plan. Any one of the Brown's Creek, Belubula River, or Coombing Creek sources of supply would be sufficient for a city of 40,000 inhabitants. These would be the principal sources of supply; but there are two other creeks. Each of these sources would give a fall of 300 feet to the proposed City Site. The catchment areas get the 39 inches of rain of the higher portions of the district.

Ownership and Value.—There are about 1,500 acres of town and suburban lands, and about 50,000 acres of country lands. The town of Carcoar is excluded, as it includes £32,000 of improved value. The Church and School lands in the area have been regarded as Crown lands, though a large portion of them has been converted into holdings under the Crown Lands Acts. None of the Church and School lands are included in the proposed City Site. The estimates of value are given in the report. The rough estimate for resumption of the whole area, improved, is £200,000. Leaving out the Church and School Estate, it would be £185,000.

Miscellaneous Conditions.—No part of the area cuts into the proposed Forest Reefs Site. The centre of the City Site is between Lyndhurst and Mandurama, and central to Bathurst, Orange, and Cowra, and there are no towns of importance to be overshadowed or deteriorated by its selection.

COOTAMUNDRA SITE.—Summary of Evidence taken at a Public Inquiry held at Cootamundra on 8th and 9th June, 1900.

Frederick Finkstone, journalist, Hon. Secretary of Cootamundra Federal Capital League.

Initiation of League.—Committee formed at public meeting. Was a member, and afterwards Secretary. Committee responsible for everything done and information collected.

Nature of Soil.—Resident of Cootamundra twenty-three years. General character of proposed Federal Territory described by Dr. Curran as porphyry. The soil is chocolate loam, with a belt of white granite country.

Facilities for Food Supply.—Produced statement showing area under cultivation of wheat and hay in counties of Harden, Clarendon, and Bland during period 1894 to 1899. Other products of district are sheep, cattle, pigs, horses, oats, maize, barley, fruits of all kinds, vegetables, and dairy produce.

Mineral Products.—Cootamundra the centre of numerous gold-fields, and the district also produces chrome, asbestos, slate, steatite, manganese, and iron oxide.

Climatic

George Stephen Hay, Post and Telegraph Master, Cootamundra; District Registrar of Births, Deaths, and Marriages.

Climatic Conditions.—Produced return from Government Astronomer of temperature and rainfall for thirteen years.

Altitude of Cootamundra, 1,079 feet above sea-level.

Produced return of births, deaths, and marriages in Cootamundra district within a radius of 14 miles for ten years ending December, 1899.

William Hall Matthews, storekeeper.

Accessibility.—Resident in Cootamundra twenty-six years. Familiar with lines of communication with other Colonies. Melbourne 323 miles by rail, and Sydney 253. Brisbane 976 miles distant, but reducible 100 miles if proposed Werris Creek to Dubbo Line constructed. Adelaide 682 miles by present railway routes. Junee about equi-distant from Melbourne and Sydney. Junee to Hay Branch Line is 35 miles from Cootamundra, and the connection with the Great Western Line 21 miles distant. Cooma Line about 130 miles distant. Railways go west from Cootamundra to Temora, and south-easterly to Gundagai. If line to Temora extended westerly to Hillston and Wilcannia, would considerably reduce distance to Adelaide.

Ownership and Value.—Highest value town property Cootamundra, unimproved, £20 per foot; lowest value for business purposes, £3 per foot. Beyond business area, values vary from £40 to £500 per acre. The average value of the agricultural country lands in the parishes of Cootamundry, Jindalie, Cowcumber, Callinga, Muttama, and Wallenboon is from £3 10s. to £6 10s. per acre as improved. In parishes of Muttama and Cootamundra there is a certain amount of rough land worth 10s. or 20s. per acre. From 4,000 to 5,000 acres of land, about 15 miles from Cootamundra, realised £3 per acre within the last year.

John Thomas Stratton, Mayor of Cootamundra.

Water Supply and Catchment.—Present town supplied by gravitation and pumping. Supply ample, so far as the reticulation goes. Consumption of water about 12,000,000 gallons per annum. Supply not sufficient for a population of 40,000 people.

Ownership and Value.—Rateable property in the Borough of Cootamundra valued at £254,000; area of Borough, 3,040 acres; street mileage, 20½; population inside Municipal area, 2,650; dwellings, 530. This information taken from the Council books. Present waterworks, completed, will cost £30,000, and gasworks, £11,000.

Facilities for Food Supply.—District second to none in New South Wales. Very large product of wheat; average, 10 to 12 bushels per acre in a fair season. Could easily supply 40,000 people with breadstuffs. Flour exported to Sydney, Japan, the Islands, &c. Any grain will grow in the district.

William Falconer, builder and contractor.

The possession of, or proximity to, Stone, Timber, and other Building Material.—In building trade nineteen years; in district twenty-seven years. Good building-stone rubble at Bethungra; splendid granite at Wallandbeen; no sandstone; no marble; good slate at Gundagai; limestone at Galong and Illabo. Abundant clay for bricks, also splendid clay for fire-bricks obtainable at Temora. Material for concrete available. Hardwood not much used on account of white ant. Ironbark, stringybark, red-gum, wattle, and kurrajong obtainable locally. The railway, Temora to Wyalong, would open up large quantities of Murrumbidgee pine.

Other Physical Features.—Country about Cootamundra not too good for foundations. About Wallandbeen as good as could be got anywhere.

Samuel Highfield Dickson, monumental mason and general agent.

Altitude.—Knew Site chosen at Wallandbeen. A gently undulating country, averaging about 600 feet higher than Cootamundra. Wallandbeen Station, the lowest portion of the Site, is 50 or 60 feet below average height of Site.

Water Supply and Catchment.—Adjinbilly Creek, which flows into the Murrumbidgee about 36 miles from Cootamundra, the best supply for a large population. The Murrumbidgee would have to be crossed by a syphon.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Inexhaustible supply of first-class granite at Wallandbeen; nearly equal in quality to Moruya granite. Flagging stones at the Black Ranges, about 10 miles from Galong Platform. Limestone or marble deposits at Tarrabanda, near Gundagai. No sandstone or freestone in district. Fine quartz gravel for roadmaking, and good clay deposits for brickmaking. Material for firebricks at Temora. Produced samples of ironbark, red-gum, stringybark, white box, and Lachlan or local pine grown in district. White ants will not tackle red-gum or ironbark. Not much trouble with white ant in district.

Drainage.—Wallandbeen Site easily drained—partly into Murrumbidgee, partly into Lachlan River. Sanitary drainage to be disposed of by sewerage farms.

Other Physical Features.—Site chosen very suitable for a large city. Foundations very good.

William Miller, stock and station agent.

Accessibility.—Resident of district twenty-five years. Cootamundra situated centrally between Adelaide and Brisbane off railway communication, and nearly semi-distant between Melbourne and Sydney. Commands important Railway junctions of Cootamundra-Temora and Cootamundra-Gundagai lines, 20 miles from Murrumburrah-Blayney Junction, and will command the traffic from the Lachlan-Kooroowatha line.

Water Supply and Catchment.—Well acquainted with the district sources of supply. Did not favour pumping. 40,000 people could not be supplied economically by pumping. Gravitation scheme could be established on the Tumut River, about 50 miles above Tumut, at a cost of about £250,000. Knew the Adjinbilly Junction, about 12 miles above Gundagai. Sufficient height could be got there. The water would have to be brought less than 60 miles. This scheme would not cost more than £200,000. The third scheme was the Government one at Barren Jack, or Goodradigbee. He preferred the Adjinbilly scheme.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Were Gundagai line extended, extensive supplies of mountain ash, gum, and messmate on the tableland above Tumut would be tapped.

Ownership and Value.—The Wallandbeen proposal is principally private lands, comprising parts of the Wallandbeen, Nubba, and Berthong Estates, which could be resumed at a maximum cost of £4 per acre.

Facilities for Food Supply.—The resources of the Riverina District sufficient to support 40,000 people if Capital established at Wallandbeen.

Conditions favourable to Commercial and Industrial Development.—Large quantities of stock pass through Cootamundra *en route* to the mountains. With sufficient population meat chilling works would be successful.

Climatic

Walter Hull, Government Medical Officer, Cootamundra.

Climatic Conditions.—Resident over five years. Cootamundra a healthy place. Fall in temperature on very hot days not great or trying; chills do not ensue. The winters are very mild, and the cold not severe. Occasionally very hot winds occur, and a few nights are oppressive. A week of such weather very unusual. Heat much greater than usual during last five years, on account of drought. Knew only one case of sunstroke. The Wallandbeen Site very healthy, and much cooler than Cootamundra. Cootamundra free from endemic disease; no diphtheria; occasionally a case of typhoid; consumption very unusual; ophthalmia not common. Duration of life quite up to the average. Death rate below the average.

Other Physical Features.—Cootamundra, on a flat, might easily be drained better than it is. Wallendbeen Site more easily drained.

FOREST REEFS AND CALVERT SITE.—Summary of Evidence taken at a Public Inquiry held at Millthorpe on 5th and 6th July, 1900.

John Henry Dobbin (Secretary of the Forest Reefs and Calvert Federal Site League).

Initiation of League.—The League was initiated by public meeting. The Committee appointed is still in existence.

Climatic Conditions.—The returns furnished by the League, obtained from the Government Astronomer, are the same as those of Orange, no Government Observer being stationed at Millthorpe.

Accessibility.—Information under this head was prepared by the sub-Committee, and is true, to the best of his knowledge and belief.

Ownership.—The proposed Territory contains all the Church and School lands in the district. Some of it contains briar and is let under improvement leases.

Alexander Young Fullerton, medical practitioner.

Climatic Conditions.—Had been practising in Millthorpe six months. No Government Medical officer in the place. Had sufficient hearsay experience of general healthiness of the climate, which his own experience supported. Thought it nearly as perfect a climate as existed in Australia. Knew of no consumption of local origin. There had been two suspicious cases of diphtheria, but no certainty. Had not seen any asthma, influenza, or bronchitis. Thought district not liable to pulmonary attacks owing to sudden changes. A few cases of typhoid had occurred; one came from Blayney. No cases of sunstroke within his knowledge. Thought Millthorpe a splendid sanatorium, and had never seen a better climate.

William Webb, retired Public School teacher.

Climatic Conditions.—Resided in Millthorpe thirty and a half years. Kept the rainfall record for the Government Astronomer since 1889. Did not record temperature. The annual rainfall from 1890 to 1899 averaged 33·92 inches. A more healthy climate than Millthorpe was not obtainable. It was phenomenal to get a shade temperature over 90 degrees. Millthorpe possesses all the advantages of Orange climate, with an increased altitude of 287 feet. The climate is very bracing. Changes are not sudden. The temperature has never reached zero, and its highest was about 100 degrees at the time of the heat wave.

John Norman, farmer and grazier.

Nature of Soil.—Resided at the Forest. Had been thirty years in the district, and knew the country well. Prepared part of the report furnished the Commissioner. The soil was principally red, of basaltic formation with alluvial flats. Subsoil principally clay, with underlying basalt. Surface soil averaged 2 to 5 feet in depth. Away from the alluvial the bed-rock is diorite.

Water Supply.—Ample water supply at the Forest. Directly you strike the basalt you get water; that is the great drawback to mining there. Know the source of supply for the proposed capital—Flyer's Creek, Brown's Creek, and Slattery Creek. The first two are relied on, which means a reservoir and weir; the latter to be erected within 2 miles of Millthorpe, from which a gravitation scheme could be got.

The possession of, or proximity to, Stone, Timber and other Building Materials.—No granite suitable for building. Any amount of limestone. Marble obtainable near the Forest, and freestone at Byng, 15 miles distant. The basalt is good building stone, cuts straight and works well. Slate is got 4 miles away towards the Canobolas. Gravel is plentiful, but not much sand.

The only timber adjacent is stringybark. Very good bricks are made locally. No fire clay.

Foundations are good on the site chosen for the Capital.

Facilities for Food Supply.—The district is very fertile, and produces strong crops of cereals and potatoes. In good seasons, 20 bushels of wheat to the acre; average of ten years, about 15 bushels. Oats average 30 to 40 bushels to the acre. Root crops thrive, also English fruits. Average size of the holdings, about 300 acres. The country is well farmed. A large amount of stock is raised. The country is capable of supporting a population of 40,000 people. Agriculture prevails, but a great many small holdings carry sheep.

Samuel Whitmee, farmer and grazier.

Nature of Soil.—Resident in the district twenty-one years. Corroborated Mr. Norman's evidence re depth and fertility of soil; also agreed with his evidence as to capabilities of food supply. They could also draw for supplies on neighbouring districts of Bathurst, Carcoar, &c. Agreed with Mr. Norman as to sheep, but district principally used for fattening owing to severity of winter. The rich soil made farming the most profitable. No failure of crops in the district to his knowledge.

Ownership and Value.—Valued the private land in the proposed Territory at £6 per acre as improved. Produced map showing geological features of proposed Federal Area.

Matthew Saunders, storekeeper and produce dealer.

Facilities for Food Supply.—In business in Millthorpe thirteen years. The district was very strong in breadstuffs, but not so much in meat. Had good grazing land for fattening, but country chiefly agricultural. The country is closely settled. Average acreage is about 200 or 300. Within a radius of 50 miles the country is capable of supporting a population of 40,000.

James William Hayes, storekeeper and produce merchant. William Clark, saddler.

Facilities for Food Supply.—Agreed with Mr. Saunders' evidence, but added that produce is sent from Millthorpe to almost every part of the Colony.

Drainage.—Resident of district for fifty years. Knew site chosen for Federal Capital. It is undulating country, well-suited for drainage. Properly drained, it would become naturally dry. Sewage farms could be established at convenient places. The fall would be, principally, into Brown's Creek.

John Bates, railway station-master Millthorpe.

Miscellaneous Conditions.—Had been in Millthorpe three and a half years. Prepared the returns under this head, which are true, to the best of his knowledge and belief. Large quantities of the local produce went to the local mill, especially wheat. Large quantities of potatoes, chaff, and flour go to Orange by road and rail. Since he had been at Millthorpe the general traffic on the railway had more than doubled itself.

Had

Bartholomew John Harris, blacksmith.

Had been twenty-two years at Forest Reefs. Had experience in mining. One of the finest copper-mines in the Colony was at Cadia, but it has not been worked to any extent for twenty years. The Forest Reefs is auriferous country, but the great drawback is the water. It is a very wet country. There were large beds of ironstone, and silver has been a prominent feature in combination with copper and gold. Had been a Volunteer, and could speak on the subject of Defence. The site chosen for the Capital was peculiarly fitted for defence, owing to the physical character of the surrounding country.

The Commonwealth of Australia.

REPORT showing suitability of the Forest Reefs and surrounding country as a Site for the Federal Capital.

The Registrar, Land Appeal Court, Sydney,— Millthorpe, 13 June, 1900.

Dear Sir,

On behalf of the combined Federal Capital Leagues of Millthorpe, Forest Reefs, Carcoar, and Blayney, we have the honor to suggest, as a Site for the Federal Capital of Australia, an area of about 82,000 acres, the position of which is indicated by the accompanying plan, full area shown by red band, Church and School Estate by green shading, and private lands by blanks within red band. The Site embraces, roughly, 128 square miles, and is situated within the parishes of Belubula, Beaufort, Calvert, Errol, and part of Lindsay, in the county of Bathurst. Centre of City Site shown by red cross.

In compliance with your requirements, indicated by a circular of 23rd October last, we now furnish information on the subjects specified therein, viz. :—

1. *Climatic Conditions.*

(*a*) Range and Mean Temperature during each quarter of the year, beginning with January.

Quarter.	Mean temperature.	Hottest month on record.	Coldest month on record.
January 1st to March 31st	66·3	75·2	58·3
April 1st to June 30th	48·6	64·6	37·5
July 1st to September 30th	44·2	50·4	36·9
October 1st to December 31st	60·4	69·8	49·8

These figures show the mean for twenty-seven years, and have been obtained from the Government Astronomer, and are those of the district of Orange, none having been kept of Millthorpe nor of the Forest Reefs; but the proposed City Site would be practically the same temperature as Orange.

(*b*) Altitude above sea level, and mean altitude of the Area as a whole.

Mean altitude 2,200 feet, approximately. Highest point 3,500; and, by slightly extending the Area, the Canoblas could be included, and an altitude of more than 4,000 feet obtained.

(*c*) Rainfall.

January 1st to March 31st	8·99 inches,	ten years average.
April 1st to June 30th	8·42	" "
July 1st to September 30th	8·58	" "
October 1st to December 31st	7·48	" "
	33·47 inches per annum.	

These figures show the average for ten years, and have been supplied by the Government Astronomer.

2. *Accessibility.*

(*a*) By Railway (existing or to be constructed).

The proposed Federal Area would embrace a tract of country lying between Carcoar, Blayney, and the Forest Reefs, and would be connected with Sydney by the Main Western Line—distance 181 miles; also with Melbourne (through the connection between the Western and Southern Lines of New South Wales which already exists, the junction with the Western Line being by the Blayney to Harden Branch)—distance 456½ miles; also with Adelaide, *viâ* Melbourne, distance 939 miles to Carcoar at southern end.

The connection of Brisbane by rail is at present *viâ* Sydney only—distance in all, 904 miles; but the proposed connection of the Western and Northern Lines of New South Wales—now under consideration of the Government—from Werris Creek to a point on the Western Line (probably at Wellington, 75 miles north of Blayney), will cause the distance by rail from Blayney to Brisbane to be reduced to about 700 miles, approximately. The distance from Sydney to Brisbane, by rail, is 723 miles. Another proposed line of railway is that to connect Adelaide (*viâ* Broken Hill) with the Western Line of New South Wales—probably by means of the Cobar Line, which junctions with the Western Line at Nyngan, about 925 miles, and *viâ* Morgan and Murray Valley, about 724 miles, to Carcoar.

It will thus be seen that the proposed Federal Area has a central position on the existing and proposed railway lines between the various State Capitals.

The connection with Hobart is, of course, *viâ* Sydney or Melbourne.

(*b*) By Road.

The Main Western Road from Sydney to Bourke and Queensland passes close to the proposed Area, and other main roads junction with it within the proposed area.

(*c*) By Water.

Access to other State Capitals *viâ* Sydney, by water.

3. *Physical Conditions.*

(*a*) Nature of Soil.

The soil within the proposed area is principally rich chocolate volcanic, with black soil in valleys, with a small area of inferior soil on the highest points.

(*b*) Water Supply and Catchment.

A good water supply is obtainable from Flyer's Creek, and Brown's Creek, which run through the proposed Area, and the enormous catchment provided by the Canobolas Mountains could be made available.

(*c*)

(*c*) The possession of, or proximity to, Stone, Timber, and other Building Material.

The stone within the proposed Area is principally basalt, which is easily obtained in suitable blocks in any size, and in any quantity.

Granite also exists in easily accessible positions.

There are flagstone quarries on the eastern slopes of the Canobolas Mountains.

Limestone is also available in immense quantities.

An unlimited supply of superior marble can also be obtained within an easy distance of the proposed Area.

Good hardwood timber is also procurable within a reasonable distance of the proposed Site.

A superior quality of clay for bricks is abundant at shallow depths within the area, and is already extensively used in the manufacture of bricks.

(*d*) Drainage.

The drainage matter is an easy one, both as regards surface drainage and sewers, for there are three main streams falling away southerly from the City Site, the main central one being Brown's Creek.

(*e*) Other Physical Features.

The average elevation within the proposed area would be 2,900 feet—that would be the northern portion; the southern portion, say, 2,500 feet; while the whole would average about 2,700 feet above sea-level.

The altitude of the proposed City Site is about 3,000 feet.

Permanent streams are within the proposed area.

The country is, in part, undulating and of a hilly character, with considerable areas of tableland.

4. *Ownership and Value.*

(*a*) Area of Alienated or Private Lands.

There are 31,360 acres of privately-owned lands within the proposed area.

(*b*) Area of Crown Lands (including Church and School Lands, Reserves, &c.).

The office estimate of lands within the Church and Schools Estate in the proposed Area is set down at 50,640 acres. There is no Crown land (other than the Church and School Estate) within the Area.

(*c*) Estimated Value of Private Lands (Unimproved).

The value of unimproved private lands will average £2 per acre.

The small areas of "suburban land" near Blayney and Carcoar, together with those Boroughs, are excluded from the proposed Area.

(*d*) Estimated Value of Private Lands (with existing Improvements).

The improved value of privately-owned lands will average £3 10s. per acre.

5. *Miscellaneous Conditions, &c.*

(*a*) Character of Neighbouring Country, having regard to—

(1) Facilities for Food Supply.

Sheep, cattle, poultry, &c., are raised and fattened for market in large numbers in the proposed Area and neighbouring country, which also comprises rich agricultural land, with abundant rainfall, ensuring heavy crops of every description. Failure of crops from drought is unknown.

Surplus produce sent out of the district during two years, from Carcoar, Millthorpe, Blayney, and Spring Hill Stations, according to official records, as follows:—Chaff, 20,898 tons; produce, 22,034 tons; total, 42,932 tons. The produce includes:—Potatoes, turnips, pumpkins, wheat, oats, flour, and fruit. The chaff includes:—Chaff, straw, and hay.

The total tonnage, as specified, having been despatched from the four stations named, falls far short of the actual surplus sent out of the district, as a great quantity goes to Orange and intermediate stations.

A very large increase of production is possible, as there are large areas of land still uncleared within the Area which are suitable for cultivation.

(2) Mineral Products, especially Coal.

Extensive gold and copper mines exist within, and adjacent to, the proposed Area, and have been worked with splendid results.

The mineral products within the Area are gold (principally) and copper. Various gold and copper mines are now at work within, and adjacent to, the proposed Area.

Coal is obtained at Lithgow in unlimited quantity and quality for all purposes, and is supplied at a low price; the distance by rail being, say, 82 miles.

(3) Capacity to support a considerable Population.

The Area proposed, and the surrounding district, are adapted for the growth of most of the necessaries of life, and are conveniently situated for obtaining other supplies elsewhere.

The climate conditions are entirely favourable to health and comfort.

(4) Conditions favourable to Commercial and Industrial Development.

The pre-eminence of the proposed Site is indisputable, from the fact that its position, with regard to the railway system, controls the markets of the south, south-western, and western districts, and already immense quantities of produce grown in the vicinity are supplied to these markets as well as to the metropolis.

We shall be prepared to submit to the Commissioner, when he visits Blayney, the names of various persons as witnesses to give evidence with respect to the several matters herein referred to, and to have such persons in attendance at the inquiry.

We have, &c.,

J. W. HAYES.
S. C. FRANCIS.
JNO. NOONAN.
J. H. DOBBIN.
(On behalf of combined Federal Leagues.)

GOULBURN

GOULBURN SITE.—Summary of Evidence taken at a Public Inquiry held at Goulburn, 7th and 8th May, 1900.

Ernest William Johnson, Hon. Secretary Goulburn Federal Capital Committee.

Plan of Site.—Produced map showing proposed Federal Territory of 64,000 acres, including the City of Goulburn.

Climatic Conditions.—The temperature tables in the report furnished by the Committee were obtained from the Government Astronomer.

George Henry Sheaffe, District Surveyor, Goulburn. Exhibit D.

Situation of Site.—The 100 mile radius from Sydney would be measured from the nearest boundary of the City of Sydney. Had discussed the matter with the Chief Surveyor, and it was agreed that the measurement should be so made. According to the charting, not more than 5 acres would be included in the proscribed area. Handed in a report prepared by him under the several headings of the Commissioner's circular.

Augustus Kerr, commission agent. Exhibit E. Exhibit F.

Range and Mean of Temperature during each Quarter of the Year, beginning with January.—Produced return under this head, comprising information obtained from the Government Astronomer.

Altitude, &c.—Produced document showing the mean of various altitudes about Goulburn, prepared by Mr. Sheaffe and himself.

Exhibit G.

Rainfall.—Produced Table of Rainfall at Goulburn for each quarter for twenty-nine years, obtained from the Government Astronomer.

Exhibit H.

Accessibility.—Produced document compiled by himself, showing distances of the proposed Federal Capital by land and sea from the various Capitals of the Colonies—those by sea computed from Sydney. The distance, Goulburn to Melbourne, *viâ* proposed Cooma-Bairnsdale line, is given.

Alfred de Lisle Hammond (Master of Arts), grazier. Exhibit I. (According to telegram from Government Astronomer, afterwards received, the greatest range in May, 1901, was 33 degrees on 14th.)

Range and Mean of Temperature during each Quarter of the Year, beginning with January.—Resident in district thirteen years. Produced summary of his own records of temperature for last ten years, being copy of those supplied the Government Astronomer. The mean observations of temperature were furnished him by the Government Astronomer. As to range of temperature on one day, 25th May, 1891, which was physically a severe day, the maximum was 94 degrees, and the minimum, 30 degrees; and, again, in the same month, the maximum was 94 degrees, and the minimum, 32 degrees. During the last ten years temperature getting more equable, and the range gradually diminishing. In 1892, the greatest range was 42 degrees on two days; in 1893, greatest range, 63 degrees; in 1894, 54 degrees; in 1895, 47 degrees; in 1896, 50 degrees; in 1897, 46 degrees; in 1898, 44 degrees; in 1899, 44 degrees. The mean daily ranges for the whole year were as follow :—

1891	...	29·89 degrees.	1894	...	24½ degrees.	1897	...	21 degrees.
1892	...	25 „	1895	...	20½ „	1898	...	20 „
1893	...	25 „	1896	...	25 „	1899	...	19½ „

Highest shade temperature during above period, 108 degrees, on 7th February, 1894; and lowest in same time, 20 degrees, on 24th July, 1892, and on 10th and 30th July, 1895. Considered the weather is changing all over Australia; not so hot in summer, not so cold in winter.

Altitude.—Had made notes as to altitude on return. His own place was about 20 feet above Yarra Platform, which is 2,231 feet above sea level.

Rainfall.—Kept the rainfall records. That produced from the Government Astronomer is practically the same as his, except that his record was only for ten years.

Augustine Matthew Bettis, solicitor.

Climatic Conditions.—Resident of Goulburn thirty-seven years. District eminently qualified, climatically, as the Site for the Federal Capital. No more healthy climate in Australia. Only 56 miles from the sea; hence gets sea breeze in summer, making the nights cool. Heat considerable at midday in midsummer owing to clearness of atmosphere, but generally followed by cool nights.

Accessibility.—Goulburn possesses great facilities of access by rail. Situated on Main Southern line, between the two principal capitals of Australia, less than fourteen hours journey from Melbourne, and less than four hours from Sydney. Goulburn to Brisbane, by rail, 857 miles; and to Adelaide, 924 miles. To Hobart, *viâ* Melbourne, 852 miles; thus nearly equi-distant from the three outside Capitals—Hobart, Melbourne, and Brisbane.

Water Supply and Catchment.—Principally a question of storage. Present water supply of Goulburn a pumping scheme. An abundant supply obtainable at moderate cost. A weir could be constructed at several places on the Wollondilly River, and a sufficient supply impounded for a large population, which could be supplemented, if necessary, by resorting to the Mullwarrie Ponds. A dam could also be constructed at a small cost on Sooley Creek, a few miles from Goulburn, which, according to Mr. Clark, C.E., would impound 69 million gallons of water, which, if the Wollondilly supply ran short, could be run off by gravitation. It would not command the highest part of Goulburn; it would have to be pumped. The catchment area of Wollondilly, Mulwarrie Rivers, and Sooley Ponds is about 515 square miles, compared with 354 square miles catchment area of Sydney Water Supply; said to be ample for a million people. The rainfall on the Sydney catchment is 61 inches, while that of the Goulburn is about 28 inches, though over an extent of country in the catchment area the rainfall is much greater. By comparatively small outlay a weir could be erected across the Wollondilly below its junction with the Mulwarrie, which would throw water back above the city.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Goulburn suitably situated in this respect. Marble and slate in abundance. Lime a special article of export. Good stone for building purposes; evidenced by the two Cathedral churches in Goulburn. Clay for brickmaking in unlimited quantities. Valuable deposits of fireclay. Proximity to Sydney renders cost of carriage of building material comparatively light.

(Witness corrected his evidence later, and valued land inside municipality, with improvements, at £656,737.)

Ownership and Value.—Private lands, 61,750 acres; Crown lands, 1,000 acres; reserves, 1,250 acres; total, 64,000 acres. Estimated value unimproved private lands outside municipality, £2 10s. per acre; with improvements, £3 10s. per acre. Unimproved value of lands inside municipality, £378,000—excluding Crown lands, public parks, reserves, or lands vested in Borough Council. Value of same lands as improved, £560,000. These valuations are based on the municipal assessment, and outside that on his knowledge of sales.

Facilities for Food Supply.—Large quantities of produce grown in surrounding districts, especially, Taralga, Crookwell, and Gullen. Soil and climate admirably adapted for fruits. Cereals extensively grown. Dairying is extensively carried on, and increasing every year.

Minerals.—

Minerals.—Coal of good quality at Bundanoon in large deposits.

Capacity to support a considerable Population.—Within a radius of 50 miles, capable of supplying a large city with food of every kind. Sydney, as a source of supply in case of necessity, was within easy distance.

Conditions favourable to Commercial and Industrial Development.—Goulburn a large and important centre. Large business transacted at Post Office. Quoted statistics as to number of postal notes, money orders, postage stamps, &c., issued.

Charles Edwin Bloomfield, Resident Engineer. Exhibit L.

Water Supply and Catchment.—Was delegated to examine the water supply and catchment of the proposed Site for the Federal Capital at Goulburn. Examined it during three days early in April, and was accompanied by the person appointed by the Committee to point out their proposed sources of supply. (Admitted at this stage that Goulburn would be a fair datum for the Site to be supplied with water.). Read his report. (Exhibit L.) Possible to combine three sources of supply, viz., Sooley Ponds, Wollondilly, and Mullwarrie Ponds. If combined, pumping would be necessary; not sufficient elevation for gravitation. The Wollondilly, at Woore's old mill, alone, would permit of gravitation. It is about 50 feet above the present reservoir site, and about 190 feet higher than the main street of Goulburn. By going further up the river you could get a higher fall. Sixteen or 17 miles of piping would be required. The foundations are good, but the river does not open out much; but a weir 20 to 40 feet high and ¼ mile in length could be built; but the storage with one dam would not be sufficient. Estimated cost of supply £60,000 or £70,000, not including reticulation, allowing 30 gallons per head. That is the only gravitation scheme available. Heffernan's Creek is, perhaps, a little higher, but the storage accommodation is inferior. It would be possible to augment the Wollondilly gravitation scheme from Heffernan's Creek. The Baw Baw pumping scheme could also be increased by it. Baw Baw has a much bigger catchment, and would cost less than his scheme, taking the capital cost into consideration, but with a population of 40,000 would not cost much less. He did not see any place for developing higher power for electric traction, &c. Mullwarrie Ponds are only suitable for a supplementary supply. It is not a good catchment. It is big; but flat.

John Knowlman, Mayor of Goulburn.

Water Supply and Catchment.—Last summer, dryest on record in Goulburn for many years. Ran out of water in January, 1899. Town supplied from two waterholes on Wollondilly and Sooley Creek for ninety-two days—about 200,000 gallons a day. Most water obtained from the Sooley Creek waterhole, which was fed by springs, which ran more as the weather got drier. The Government sent an officer who reported that a dam erected below junction of Sooley Creek and Wollondilly River, at cost of £2,000, would impound 48½ million gallons, which would supply Goulburn 140 days, or 240 days with present supply. Present weir will supply 10,000 people, and the Sooley Creek weir, 12,000. The Baw Baw weir would supply 40,000, and the Upper Wollondilly, 70,000; total, 132,000 from the four schemes. Did not think Mr. Bloomfield's scheme involved excessive expenditure; but thought if he went higher up Wollondilly, he would have got a higher fall. The river rises near Crookwell, which is 1,000 feet above Goulburn. Thought Mr. Bloomfield's estimated cost of weir (£70,000) high, comparing it with estimated cost of weir by Mr. Wade.

Albert John Sach, Resident Master, Technical College, Goulburn.

Nature of Soil.—Master of College, fourteen years. Frequently examined district soils, both chemically and mechanically. Silurian shale weathered down to clay soils exists; also extensive sandy areas (decomposed quartzites) and those derived from limestone. West and north of Goulburn are red and chocolate soils of volcanic formation; this might be one-fourth of the area. There is very rich soil, capable of successful cultivation, connected with the two rivers, Mullwarrie and Wollondilly, and extending ¼ mile from their beds. Granite no nearer than Marulan; no slate; there are very hard shales.

Drainage could be readily established owing to natural formation of country.

Robert McKillop, Government Medical Officer.

Climatic Conditions.—Practising in Goulburn eighteen years. Climate very healthy; only four medical men in the place. Population of Goulburn and district, 12,000. Average length of life not known as there was no local health officer and no statistics kept. District not subject to epidemics. Had influenza and typhoid; but they were not epidemic. Tuberculosis had occurred; but the cases came from Sydney. No diphtheria. Consumptives were sent to Goulburn for the dry and healthy air. Heat apoplexy was almost unknown.

Harold Stephen Freeman, Assistant Registrar of Births, Deaths, and Marriages. Exhibit S.

Produced statement, copied from official records, showing death rate for a period of five years, based on a population of 10,000 for the city of Goulburn. The return included deaths in the hospital, which were largely from the surrounding district.

Edmund Cooper Manfred, architect. Exhibit M.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Practising in Goulburn twenty years. Nearest freestone at Marulan, 20 miles distant; also stone at Bundanoon, 30 or 40 miles distant. Plenty of marble of good quality about the district; some within 20 miles. Slate for flagging in the Cookbundoon Ranges, also at Kerrawarry. Sand and lime plentiful. All the materials for Portland cement. Produced copy of paper he had written on the limestones of the district. Bricks are manufactured locally, also fire bricks. No timber suitable for building. Hardwood obtainable about Wingello. Foundations relatively good; the subsoil, largely ironstone, gravel, or clay. The western portion of the area chosen for the Capital Site is very suited for building.

Drainage.—Goulburn capable of good drainage. No special difficulty in sewerage. Drain pipes are made locally.

Other Physical Features.—The existence of Goulburn would not be a disadvantage; it is the making of a very fine city. No objection to its conversion into the Federal Capital. It would be a great advantage in laying out a Federal City adjacent to it. The natural features of the Site chosen are good, and would be satisfactory for the laying-out of parks, domains, plantations, &c.

James Turner, Stonemason.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Resident over thirty years. Engaged in stone cutting twenty-five years or more. First-class freestone obtainable at Marulan and Bundanoon; granite within 3 or 4 miles; marble at Kingsvale, Marulan, Longreach, and Wandellima; limestone in large quantities close to the town; slate at Kerrawarry and Cookbundoon. Bricks, in all colours, made locally.

William Wilkie, contractor.

Forty years in district. Freestone, of first-class quality, obtainable within 3 or 4 miles of Goulburn. Soft, when taken out, but hardens on exposure. Bluestone in inexhaustible supply within 3 miles. Blue granite in the town, also granite at Pomeroy and Woolloogorang. Marble of different colours at various places. Plenty of slate for roofing and building about 25 miles distant. Limestone nearly everywhere. No better bricks in the Colony. Mountains of fire-clay. Abundance of gravel and sand in the river bed. Subsoil clay, then shale. The clay is impregnated with ironstone, and makes good foundations.

Climatic

Frederick Durham Badgery, grazier.

Climatic Conditions.—Resident of Lake Bathurst. On and off, in district forty years, but regularly for last sixteen years. Goulburn second to no climate in New South Wales, in regard to healthinessd Nights very cool; hot nights rarely occur.

Accessibilty.—With the 100 miles limit, did not know any place so suitable for the Federal Capita. as Goulburn.

Nature of Soil.—Large proportion of very good soil, with good clay underlying, which, if dug or trenched, would be very productive.

Ownership and Value.—Unimproved value of proposed area outside Municipality, £2 10s. per acre; with improvements, £3 to £3 5s. per acre.

William Sands, stock and station agent.

Ownership and Value.—Came to Goulburn, 1853. Was local valuer for the Land and Income Tax Department. Outside the Municipality, he assessed the unimproved value of the land at £3 per acre; with improvements, about £3 10s. per acre.

Conditions favourable to Commercial and Industrial Development.—Goulburn admirably adapted for establishment of killing and meat chilling works, owing to its railway facilities, climate, and being a large stock centre.

William Henry Wheatley, auctioneer.

Ownership and Value.—Native of district. Valued the land outside Municipal boundaries as unimproved at £2 10s. per acre, and improved, £3 to £4 per acre.

Facilities for Food Supply.—Capable of supporting a large population. Goulburn's position as second inland city of the Colony due to great pastoral and agricultural resources of surrounding district.

Alfred Ernest Stuart, journalist.

Wheat and potatoes two main agricultural products; but oats, maize, barley, rye, sorghum, pumpkins, &c., grow almost anywhere. Dairying an important industry in Argyle. Last year 37,000 head of dairy cattle in district, and 5,000 to 6,000 pigs. Large export trade in fruit.

Russell Edward Cosely, flour-mill manager. Exhibit N.

Conditions favourable to Commercial and Industrial Development.—Thirteen years in Goulburn. Produced return for ten years to 30th June, 1899, of revenue of Goulburn Railway Station, giving number of tickets issued, revenue from tickets and coaching traffic, inward and outward tonnage of goods, coal and other minerals, wool, hay, straw, &c., and live stock. The Return is compiled from the Annual Report of the Railway Commissioners.

William John Bartlett, brewer.

Climatic Conditions.—Twenty-six years in Goulburn. Found the climate excellent, health-giving, and invigorating. Evenings, in the hottest season, cool and refreshing, the sea breeze invariably setting in at the close of a hot day.

Nature of Soil.—Surface soil of fair quality. Subsoil of stiff clay, impregnated with ironstone thick enough to withstand immense pressure and ensure solid foundations.

Water Supply and Catchment.—The Wollondilly and Mullwarrie offer facilities for weirs at many places at small outlay, impounding practically unlimited supplies of water. The Murrumbidgee could be tapped at Bredbo or Micalago. The natural watershed of the Wollondilly and Mullwarrie is about 500 square miles.

Drainage.—Surface well adapted for perfect system of drainage, at comparatively low cost.

Other Physical Features.—Contour of surface formed by a series of lightly-timbered, undulating, and gently sloping hills, admirably adapted for building purposes. Climate and soil favour cultivation of English ornamental plants and shrubs, with a more rapid and vigorous growth. Close proximity of Lakes George and Bathurst and the Mountains.

Facilities for Food Supply.—All kinds of fruits common to the temperate zone. Cereals, root crops, and fodder plants.

John Cole, farmer and grazier.

Facilities for Food Supply.—Forty-six years resident in district. Engaged in farming and grazing all his life. Products of district: wheat, corn, oats, potatoes, barley, rye, lucerne, apples, cherries, apricots, plums, quinces, and almost every kind of vegetable. His land, some 200 or 300 acres, a fair sample of the land suitable for cultivation in the proposed Federal Area. His average crops were:—Hay, 2 tons to the acre; wheat, 35 bushels to the acre; barley, about 50 bushels to the acre; potatoes, 6 tons to the acre (saleable). Dairying one of the main industries of the district. Number of large factories in district, and considerable output of butter. Stock fattened in district bring highest prices in Sydney market.

Alexander John Wanes Manson, fruit-grower.

Facilities for Food Supply.—Engaged fruit growing in district about seventeen years. Very suitable for cool-climate fruits. Apples, pears, cherries grow remarkably well. The quality of fruit is very good. Good grapes can be grown. Several of the prizes for the best orchards in the Colony came to the district.

George Hury Shoaffe (re-called)

Ample facilities for getting food into proposed territory from surrounding districts.

Drainage.—The conformation of the land on which Goulburn is built is very favourable for the construction of street sewerage.

Joseph Longmore Henderson, inspector of stock. Exhibit E.

Facilities for Food Supply.—Produced return of stock sold at Goulburn Saleyards during fifteen years. It represents about one-quarter of the number of stock yarded. The number of stock depastured in the Sheep District of Goulburn for the year ending 31st December, 1899, is: Sheep, 404,000; cattle, 36,874; horses, 7,654; pigs, 5,000. Goulburn would be one of the best sites for slaughtering and chilling.

Abram Orpen Moriarty, late Chairman, Goulburn Land Board.

Climatic Conditions.—Chose Goulburn fifteen years ago as the most suitable residence for himself and family. Climate not excelled by any part of Australia, if any part of the world. Range of temperature moderate. District healthy, fruitful, and, as a Site for the Federal City, unrivalled.

ORANGE SITE.—Summary of Evidence taken at a Public Inquiry held at Orange on 22nd, 23rd, 24th, 26th, 27th, 28th, and 29th March, 1900.

George De Vial Fitcher, resident of district for twenty-five years.

Climatic Conditions.—Put in return from Government Astronomer (marked "Exhibit A"). Orange was not, as a rule, subject to sudden and violent changes. Such changes were very rare in summer. The temperature might fall 20 degress or more. The evenings in summer were generally cool, whilst the heat was never humid or oppressive. The winters were very cold, but the cold was remarkably dry and not dangerous to health. Orange was largely used as a sanatorium, chiefly for pulmonary complaints.

Altitude.—The average altitude of the proposed territory is 3,200 feet above sea level. The Canobolas Mountain is about 4,500 feet, and the Railway Station at Orange 2,843 feet, above sea level. A great deal of the proposed Territory is much higher than the Railway Station, and some of it is lower.

Rainfall.—The figures (Exhibit A) were obtained from the Government Astronomer, and comprise twenty-seven years' records, showing a fraction over 39 inches per annum.

Fred. Richardson, Railway Station-master, Orange.

Accessibility.—Had been twenty-three years in Orange District, and nineteen years Station master there. Orange Railway Station is 192 miles from Sydney and 481 miles from Melbourne *viâ* Harden-Blayney connection. From Adelaide, *viâ* Melbourne and Harden-Blayney, it is 900 miles. A line from Broken Hill to Menindie and Cobar to Wilcannia would considerably lessen the distance to Adelaide. From Brisbane, *viâ* Sydney, Orange is distant 915 miles by existing lines; but this distance will be reduced to 625 miles if the proposed Werris Creek and Wellington Junction is carried out. Access to Orange by road is also obtainable by the Great Western Road, *viâ* Bathurst; also *viâ* Young, Cowra, Carcoar, and Blayney. There is also the North-western Road through Wellington and Bourke to Queensland.

Exhibit C.

Miscellaneous Conditions.—Produced return of products of the district exported by rail for a period of ten years.

Orange was largely used as a health resort. His position as Station-master gave him ample opportunity of knowing that sometimes in summer it was difficult to obtain accommodation for all the visitors. People came there from all parts, and benefited greatly by the change. Fruit of all kinds, and of a most superior character, was produced in the district. He was a practical fruitgrower himself.

John Hale, architect and surveyor.

Physical Conditions.—Had thirty years practical experience in Orange and district. He was at present Town Surveyor.

Stone.—Basalt of good quality was very plentiful. Sandstone could be found in several quarries in the district, and there were several deposits of limestone. Marble suitable for mantelpieces was obtainable, also slate, whilst granite suitable for building purposes could be obtained near the town. Every variety of clay could be got, and bricks could be made anywhere in the district. Very little gravel, but good sand for building was available.

Timber.—Cypress pine from Parkes, ironbark from Dubbo, mountain ash, stringybark, and box from the Canobolas. Hardwood was obtainable from the coast, but Oregon timber was mostly used locally.

George Hawke, resident of Orange forty-three years.

Nature of Soil.—Had been a storekeeper and farmer, and was familiar with the various soils in the proposed Territory. The soil was principally red volcanic, varying in quality, and suitable for the growth of cereals and potatoes, and generally good for farming. It had been largely cultivated since 1862. The land could produce 25 bushels of wheat to the acre, and a large area of it was suitable for fruit-growing. It was more suitable for wheat than oats, and very well suited for barley. Potatoes throve very well. They had never had a total failure of crops in the district.

Capacity to support a considerable Population.—The district itself would grow sufficient cereals to support an additional population of 40,000 people. Had not seen a portion of the Colony which would better carry a large population. The soil stood a long time without manuring. Dairying was not successful, as the winters were severe; but sufficient dairy produce was procurable to supply the district.

Francis James Mulholland, Town Clerk of Orange. Exhibit E.

Ownership and Value.—Orange was a Borough of 640 acres. The total unimproved value of the land, including reserves, was £157,381, and the improved value was £461,225. This valuation is exclusive of the Borough of East Orange. He produced return showing number of live stock sold through the Municipal Sale-yards at Orange during the last five years.

James Bonnor, storekeeper.

Conditions Favourable to Commercial and Industrial Development.—Had been a storekeeper in Orange for twenty-five years, and had opportunity of judging of capabilities and potentialities of the district. Orange was a great centre of supply for farm produce for adjoining districts not so well favoured. The climate of the district was suitable for the establishment of various industries, and was especially favourable to factories. Goods could be stored that, in other climates, would perish. Orange was an emporium for stock coming from other districts, and was a central place of sale. It would be a very suitable place for killing and freezing of stock, and the district could produce sufficient of its own stock for the purpose.

James Torpy, resident of district for over thirty years.

Conditions favourable to Commercial and Industrial Development.—Had been Member of Parliament for the district, and had ample opportunities of knowing the district's capabilities. Large quantities of farm produce were exported from the district. There had been no failure of crops for forty years. All British fruits grow in profusion. The town of Orange was a large business centre, and the most progressive town in the West. A large amount of business was done with mining townships in the vicinity, and a great number of people periodically visit the town. There were great facilities in the district for the establishment of various industries.

Drainage.—Orange is admirably situated for easy natural drainage. The present drainage is into Summer Hill Creek, and thence into the Macquarie River. The existing methods are satisfactory, except, perhaps, the open drain in the town, which the Municipality intend to cover in. By a series of concrete water-tables, this town could be made one of the cleanest and sweetest in the Colony.

Other Physical Features.—There are vast deposits of limestone close to the Railway Station, and in the district some of the finest marble in the world. There were plenty of flagstones of sedimentary rock, whilst the locally made bricks are equal to anything in Australia.

James Stuart Leeds, auctioneer.

Ownership and Value.—Had been an auctioneer in the district for twenty years, and had a large experience of land values within the proposed Federal Area. Excluding the Municipal area of Orange, he would value the land at £2 per acre all round, unimproved. The same land, as at present improved, he valued at £5 per acre. Had sold a good deal of land in the Area. It mostly consisted of small farms, averaging 200 to 250 acres.

Facilities for Food Supply.—Orange is a great emporium for stock, and the chief centre for sale in the Western Division. The natural grasses of the district are fattening. The district is a good pastoral and agricultural one.

Miscellaneous

Henry Augustus Crouch, District Surveyor.

Miscellaneous Conditions.—Had been District Surveyor at Orange for eighteen years, and had been familiar with the district for twenty-eight years. Produced a plan prepared by him of the district and proposed Federal Territory. The plan included an area of 64,700 acres. If it should be extended, he would agree to the north-western extensions shown on tracing supplied by the Orange Federal League. He thought the town of Orange should be included; if not, the Federal Territory should not extend north of Orange. If the capital were built 7 or 8 miles from Orange, it would depreciate the value of property in Orange, but the district would not suffer. If the town were resumed, there would be no escape from the value of improvements, but the cost of resumption could be avoided by building the new City alongside the present town; but he thought it would be better to resume the town, and pay the cost. He did not know of any better Site in the district than that proposed.

Water Supply.—The Site commanded the best water supply within a radius of 20 miles. He thought the Forest Site would be objectionable for a city on account of having no railway communication. It could get a good water supply, but it would be more expensive. Mandurama would be a good Site for a city; the railway passes there. It lacks elevation, and is not so central as that proposed. The Orange Site has a purer water supply than the Mandurama Site. The latter would get all the Blayney drainage. He estimated the various catchment areas as follows:—Gosling Creek, 4,300 acres, and if Brandy Creek were added, 6,100 acres; Devil's Hole Weir would have a catchment of 2,240 acres. That is Mr. Clark's scheme. The creek at Devil's Hole has never been known to cease running. The weir would be 350 feet above Orange, and the water is singularly pure. According to Mr. Clark's scheme, the dam would be 325 feet long, and 62 feet high, with an available storage capacity of 100,000,000 gallons. The formation is basaltic. A very good scheme could be adopted for water supply for the Forest district proposal if the Federal City were located there; but he did not think he could choose a Site there equal to the Orange proposal. The map prepared by him showed all the sources of water supply, the present reservoir for the town, and the approximate watersheds of the various creeks.

Drainage.—If the Capital be at Orange it would have a fair site for drainage into the Macquarie River, and the flat land to the north-east of the town could be used as a sewerage farm. It is porous, absorbent soil.

Other Physical Features.—If the Site of the Federal City was to be an expansion of the present town of Orange, it would be best to the south. The cost of resumption would be small by going that way. The proximity of the existing town would be an advantage at the outset in accommodating the builders of the new city. There would be no objection to Orange forming part of the Federal City, as regards its laying out, though it is not a modern city; still, it has good wide streets, 1½ chains wide, and good building sites exist to the north of the town. There is, however, country between the town and the grants to the south, which would practically be a clean sheet. It would include the Common, about 1,000 acres, and the site for the Lunatic Asylum, about 400 acres (1,400 acres of Crown land), and the two adjoining sections are very lightly improved.

Ownership and Value.—The proposed territory embraces 10,850 acres of Crown lands. As District Commissioner of Taxation, he was able to state that the unimproved value of the land in the area, for taxation purposes, was £127,303, excluding Crown lands. That valuation is for 1895. It might be 10 per cent. higher now. The improved value of the same lands was estimated at £365,000. With Municipal valuation, the total amount would be £1,020,000. This does not include roads. The alienated lands in the Gosling Creek watershed amount to 4,212 acres, valued at £19,000, as improved. The additional Brandy Creek watershed contains 1,154 acres of alienated land, which, with improvements, is worth about £5,000. There are 210 acres alienated above Devil's Hole weir, worth about £600. A weir put in at north-east corner of portion 84, parish of Towal, on Meadow Creek, would have a watershed of about 3,200 acres, worth £8,000, as improved. The Site for the Capital, shown on map by red hatched lines, includes about 1,650 acres of alienated land, worth, as improved, about £27,000, and about 1,200 acres of Crown land. These values are on a freehold basis, but a larger area of the land is conditionally purchased.

Charles Edwin Binnfield, Civil Engineer, Water Conservation Branch, Department of Public Works.

Water Supply.—Had ten years' experience in New South Wales and eighteen months in Victoria in connection with water supply. Examined the various catchment areas in connection with the proposed Federal Capital Site, near Orange, all being within the proposed Federal Territory. The district water resources were sufficient for a population of 40,000 people in the near future for domestic purposes, but not for electrical power. Examined the localities in company with the Mayor of Orange, beginning with Spring Creek, which he considered of no value as a water supply, the catchment being nearly all alienated cultivated land with deep soil, with only one possible reservoir site, which was hardly high enough to give sufficient pressure. Spring Creek could be eliminated from consideration without loss. Gosling Creek, which supplies the present reservoir, was next examined. It has an effective catchment area of 7 square miles, nearly all alienated and under cultivation. The present reservoir has an effective capacity of about 90 million gallons, allowing for soakage and evaporation, but could be enlarged and a supplementary reservoir placed in the creek above it. Brandy Creek could be utilised, adding a further catchment of 2 square miles, and there would then be a supply for 20,000 people at 30 gallons a day. Molong or Meadow Creek, the site of Mr. Clark's proposed weir, was next examined. It is too high up, the catchment is small, and would throw the water only a short distance back. Lower down the creek a larger catchment and a better storage reservoir could be got. A reservoir at Devil's Hole would have a drainage area of 1,600 acres according to Mr. Clark. This Site has decided advantages, as it drains the highest parts of the Canobolas, has a steep rocky catchment of volcanic basaltic formation, and the catchment area is largely Crown land. He did not take the elevation of the Devil's Hole site, nor its height above the present reservoir. A dam about a quarter of a mile long would be required above where the Molong Railway crosses the creek. It would have to be higher than the present dam at Gosling Creek to store a greater volume of water; but if it was the same height as the present reservoir, it would store about 140 million gallons. The effective catchment area above the site would be about 8 square miles, including 1,400 acres of Crown lands, and the site would be about 100 feet above the Railway Station, at a point about a mile above the railway line. The fall in the Creek is about 100 feet to the mile for the first few miles above the railway, and the water particularly clear and pure. A service reservoir in connection with this site could easily be obtained. For the reasons stated, I consider the Meadow Creek the best source of supply. Taking a rainfall of 20 inches per annum, with a loss of one-fifth, a supply of 460,000,000 gallons could be obtained. The water would have to come about 5 miles to the town of Orange, and would be sufficient for all domestic purposes for a population of 40,000 people. On a second visit to the site, he took barometrical readings, which confirmed his opinion that the site was over 100 feet above the town of Orange. *Minera*

Frederick William Moppett, underground mining superintendent and licensed surveyor.

Mineral Products.—Had been in charge of underground operations in the Wentworth Proprietary and Aladdin's Lamp Mines at Lucknow, 6 miles from Orange, for some years. Extensive gold-mining operations had been carried out there for some years. There had also been gold-mining in the Ophir and the Forest districts. Silver and copper are found at Lewis' Ponds, 16 miles, and Byng, 11 miles, from Orange. A copper-mine on a large scale is being worked at Blayney. There are sufficient mining capabilities in the district to employ a large population.

Building Material.—At Caloola, extensive marble deposits; at Beneree, black marble, on the common basalt, in unlimited quantities; on the eastern slopes of the Canobolas, flagging stones; and, at Rosedale, limestone in unlimited quantities.

Charles James Smith, Mayor of Orange.

Water Supply.—Produced plan of present reservoir, and analysis of water in Meadow Creek. The available supply in the reservoir is 125,000,000 gallons, according to plan, but 18 inches have since been added to the height of the wall, giving an additional 20,000,000 gallons. The total depth is 25 feet, but the capacity given is taken from a depth of 16 feet. The analysis shows no deleterious matter in the water.

William Ernest Beaffler, Council Clerk, East Orange.

Estimated Value of Private Lands unimproved.—The estimated value in the Borough for the present year is £78,783, or with all improvements, £178,909.

Rainfall.—Produced rainfall records. During fifteen years, from January, 1885, the lowest annual rainfall was 20·63 inches in 1888, and the highest 53·72 inches in 1887.

Edye Hayles Stobo, late agent, and Secretary to the Orange Federal Capital Committee.

Climatic Conditions.—Had fifteen years experience of the district. Considered the climate very good, but rather severe for two or three months in the year.

Accessibility.—The Site chosen, so far as climate, water supply, drainage, &c., is concerned, is as good as could be found in the Western District; but as regards railway communication, he thought a better Site could be obtained on the Southern lines.

Charles Edward Finch, Chairman of Local Land Board.

Climatic Conditions.—Had been practising in Orange ten years. The climate is healthy, atmosphere comparatively dry, bracing, invigorating, and salubrious. The temperature fairly even, the exception being when a heat wave is over the Colony generally; but even then the heat is not continuous—at most not more than three or four days—and the nights invariably cool. Changes are not rapid. You might get a fall of 20 degrees to 30 degrees, but they caused no ill effects. The winters for the last four or five years were very mild; the cold is dry and bracing. Orange is recognised by the profession as one of the best places to send pulmonary patients to. Typhoid occurs, most of the cases coming from East Orange, where they obtain water from wells.

William Keltie, medical practitioner.

Drainage.—Did not consider Orange properly drained, but that was a common fault with country towns. The drainage of the proposed Site would be good.

Henry William Larance, butcher and cattle dealer.

Facilities for Food Supply.—Had twenty-seven years business experience in the Orange district, and had been engaged in the chilled meat industry. It could be revived in Orange, which should be a suitable depôt for receipt of live stock and despatch of killed and dressed meat. 250,000 sheep in carcase could be sent to Sydney if proper freezing works were established here. Within a radius of 50 miles of Orange, sufficient meat could be obtained to support a population of 40,000.

John Charles M'Lachlan, solicitor.

Facilities for Food Supplies.—Had thirty-five years' experience of Orange, and was resident of the town for the greater part of that time. Was one of the original proprietors of the old Orange Freezing Works, now defunct. From his experience of that enterprise, the chilled meat industry, if again started in Orange, would be a great success, and enough stock could be raised, within a radius of 50 miles of the town, to supply a population of 40,000 people.

Proposed Name of Territory.—Mr. Crouch suggested as an appropriate name "The Canobolas Territory." Mr. Stobo suggested that it be called "Chamberlain."

QUEANBEYAN SITE.—Summary of Evidence taken at a Public Inquiry held at Queanbeyan on 11th June, 1900.

William Pike, Chairman of Queanbeyan Federal City Committee.

Initiation of Committee.—Formerly Mayor of Queanbeyan. At a public meeting a Committee was appointed to collect information in furtherance of Queanbeyan's claim to be the Federal Capital. He was appointed Chairman, and the Report furnished was carried out by resolution of the Committee.

Sydney Longden Richardson, Government Medical Officer at Queanbeyan.

Climatic Conditions.—Twenty-two years in district. Regarded it as very healthy. Temperature changeable, but unless a thunderstorm occurred the fall was not material. Never had it 100 degrees shade, followed by frost. Cases of heat apoplexy occurred chiefly on the plains. Typhoid more prevalent this year than for seven or eight years, owing to the five years' drought. Measles and influenza had occurred, but they are independent of climate. Diphtheria had also occurred, owing to insanitary causes. The climate was conducive to longevity. Residents of the district upwards of 80 and 90 years of age could be met. Most death certificates given by him were either for very young or very old people.

Water Supply.—At present from underground tanks. Sometimes in the summer the river water is used.

Drainage.—The surface drainage of the town is not good. Cesspits are used for nightsoil, and the surface drainage goes into the river.

Patrick Blackall, medical practitioner.

Climatic Conditions.—Practising at Queanbeyan ten years. Produced Return showing number of births and deaths in Registry District of Queanbeyan. District a pleasant, healthy climate, free from endemic disease. Most deaths caused by diseases prevalent everywhere. Perhaps pneumonia more prevalent than elsewhere in Australia, on account of the cold climate; but the mortality from other diseases being comparatively low may make pneumonia seem more prevalent. Had practised in other country districts, and thought Queanbeyan the healthiest district he had ever been in. Did not think people had to protect themselves more from chills than elsewhere. There might be one or two nights in the summer when sleep is difficult on account of the heat.

Drainage.—The present sanitation of Queanbeyan was unsatisfactory. There should be no trouble with the drainage. The soil is of a character suitable for filtration if it was decided to treat sewage that way.

Theophilus Cox, journalist and Hon. Secretary of the Committee.

Climatic Conditions.—Put in returns obtained from the Government Astronomer, giving particulars of temperature, also rainfall, for a period of twenty-nine years. That showed the average annual rainfall to be 23·55 inches.

The altitude of Queanbeyan, also given by the Government Astronomer, is 1,899 feet.

Accessibility.—

Accessibility.—The figures in the Report were prepared by him from various publications to which he had access, and were accurate, to the best of his knowledge and belief. Besides the railway, access was obtainable to Queanbeyan by steamer to Nelligen, and by road thence *vid* Braidwood. Large quantities of goods came by this route. Nelligen was 60 miles distant by road; and Sydney, by road and water, 240 to 250 miles.

Sampson Southwell, farmer.

Nature of Soil.—Over fifty years in district. Had no geological knowledge of soil, apart from knowledge as a farmer. Was familiar with the proposed Territory. It is mostly light red soil, chiefly granite, nearly a foot deep. Underlying soil, rotten granite and clay. No volcanic formation. Some of the soil is deep red—a ferruginous soil. Should say the soil of district is a strong soil, which, with proper cultivation, would last a number of years.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Limestone, ironstone, and freestone.

Facilities for Food Supply.—He cultivated about 70 acres, but outside the proposed Area. His crops are wheat, oats, maize, and potatoes. Regarded the proposed Territory as chiefly pastoral, but if cut up into small areas of 150 to 200 acres would be suitable for agriculture and mixed farming, and would support a much larger population. It would grow sufficient wheat and other crops for a population of 40,000. Barley for malting could be grown. It is a good dairying country.

John Gibb, journalist.

Altitude.—Resident of Queanbeyan for forty years. One of the observers for the Government Meteorologist in Sydney. Knew the altitude of the proposed Territory from the Railway Time-table and known elevations in the Area, such as Mount Ainslie, The Black Hill, Taylor's Hill, and the Mugga Mugga Range. The altitude in Report is a mean taken from these. Knew the proposed Area intimately. That selected as the Capital Site would be lower, if it is near or around Canberra Church. It would not be less than 2,000 feet.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Large deposits of sandstone contiguous to the Territory. Inexhaustible supply of freestone at the Black Hill. The spire of Canberra Church was built from these quarries. Limestone deposits, a large proportion of which is admirably adapted for building purposes. Slate in the neighbourhood of Stringy-bark Hill. Marble outcrops on the Queanbeyan River. Numerous pipeclays, suitable for delf. Material for concrete in the river.

Facilities for Food Supply.—Had grown nearly every species of English fruit in his own garden, and his table grapes had been awarded first prize for several years at Agricultural Show, Sydney. Had also taken prizes for honey.

Mineral Products.—The Cotter contains gold, silver, and copper. Iron outcrops are also observable in the proposed Area. District capable of great commercial and industrial development. Produced article written by him for the *Queanbeyan Observer*, the statements in which were true, to the best of his knowledge and belief.

Frederick Campbell, grazier (Yarrowlumla).

Nature of Soil.—Native of district. Engaged in pastoral and agricultural pursuits. Knew the proposed Territory. The soil varied from the richest in the country to poor, consisting of alluvial slate formation, ferruginous, and decomposed granite, besides evidence of basaltic formation. There is a great deal of limestone. The district was originally called Limestone Plains. The soil, as an average, is fairly deep.

Water Supply and Catchment.—The Cotter River supplies water of the purest quality; it could hardly be contaminated, being in a rough country where farming could not be carried out. River not affected by drought. There is a collecting lagoon at its head largely fed by springs. The head of the Murrumbidgee would also supply pure water, and would give a good gravitation supply. The Queanbeyan River would be a third source of supply.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Blue granite, sandstone, limestone, porphyry, and slate. Unlimited clay for bricks, and excellent sand. Mountain ash within easy access, red box, messmate, and stringybark.

Drainage.—The proposed Capital Site would be easily drained. There is a fall in all directions.

Other Physical Features.—For foundations of heavy buildings, Site is suitable. Stone or clay is met a few feet from surface. Canberra Church, a heavy building with spire, shows no cracking. The foundations are in clay, 4 feet deep. Great advantages offered to sightseers. Site about 80 miles from Kosciusko, and in close proximity to Lake George. Great variety of climate in 30 or 40 miles of country. Within two hours of Tharwa Bridge a height of 5,000 feet can be reached.

Ownership and Value.—The proposed Territory, as a whole, with improvements, could be secured for less than £3 per acre.

Facilities for Food Supply.—Had known yield of 60 bushels of wheat to the acre in picked places. If Capital located on proposed Site, could be supplied with food of all kinds from a district of 30 or 40 miles radius for a population of 40,000. You could grow anything that can be grown in the south of England. The present yield of cereals could be increased 100 per cent., and the Site itself could be cultivated fifty times as much as it is at present. The grasses are remarkably fattening for sheep and cattle, and grazing at present pays best. The country carries one sheep to the acre; in very good seasons it would carry ten. Quinces, apricots, apples, peaches, loquats, gooseberries, and table grapes are grown, and wine has been made in the district. Malting barley has been grown. Dairying would succeed with increase of population.

Conditions favourable to Commercial and Industrial Development.—District very favourable for all manufacturing industries. Woollen manufactories, tanneries, fellmongeries, and iron manufactories should do well. With existing railway routes, the Site, commercially, was in favour of Sydney.

William Farrer, Government Wheat Experimentalist.

Climatic Conditions.—Left England at end of 1868 on account of consumption, and arrived in district 1869. Considered climate one of the healthiest in the world, being sufficiently warm without being distressingly hot, and the cold is not too raw, as it is sheltered from the cutting winds. Had gained in health and increased in weight since arrival in district.

Andrew Jackson Cunningham, grazier.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Granite the principal building stone. Unlimited supply of limestone at junction of Cotter and Murrumbidgee Rivers.

Ownership and Value.—As a whole, and as improved, considered proposed Territory worth £3 per acre.

Facilities for Food Supply.—Lifelong resident of district. Knew proposed Territory. Thought it equal to any similar sized area he knew of in the Colony, and better supplied with water. Capable of carrying

carrying one sheep to the acre all the year round. A large quantity of wheat could be grown. Fifty times the present cultivation could take place in the district. A city of 40,000 people established on the proposed Site could draw its supplies from the surrounding district with closer settlement. A first-class dairying district.

John Fitzgerald, farmer.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Any amount of stone; excellent granite and limestone.

Facilities for Food Supply.—Farming for about ten years at Tuggerenong and Naas. Had cultivated wheat, potatoes, &c., a great deal, and had been engaged in dairying, grazing, and pig-raising. The district averaged one sheep to the acre. There would be sufficient stock to supply a population of 40,000 with meat.

William Davies Wright, stock and station agent.

Water Supply and Catchment.—Resident and native of district, which, in vicinity of proposed Site, is particularly well watered. Accompanied Mr. Blomfield in inspecting the Cotter. The water is always clear and cold, and it runs through higher elevations than the Murrumbidgee.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Large blocks of limestone at the Cotter River. Limestone, marble, and ironstone at Cuppacumbalong; also large deposit of superior limestone within a mile of Queanbeyan.

Ownership and Value.—Thought the value of proposed Territory would be fully £3 per acre; some of it worth more. Four thousand or 5,000 acres at Duntroon, excluding the homestead, worth £5 per acre.

Facilities for Food Supply.—A breeding district for cattle and sheep. It would be favourable place to establish freezing and chilling works for export. Crossbreds of large frame would grow here. Within a radius of 30 or 40 miles of proposed Site, you could support a population of 40,000 on meat and breadstuffs. Had seen 48 bushels of wheat to the acre realised on several occasions. Hops grow luxuriantly at Cuppacumbalong, and raspberries grow there in tons.

Charles O'Haslan, Road Superintendent, Queanbeyan.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Had been Road Superintendent five years. Available stone in district for building limited to freestone or sandstone suitable for rubble work. Abundance of granite, which, with machinery, could be used for building. Very little basalt. Porphyry makes good road material, but had not seen it used for building. Had seen diorite at Captain's Flat. It is a disappointing stone for macadam. Limestone is good for road making; also hematite. Plenty of river shingle and clean sharp river sand. Had not seen marble in the district. Good clay for brickmaking was available. The principal timbers were red and yellow box, stringybark, messmate, and mountain-ash.

Other Physical Features.—A couple of never-failing creeks (Jerrabombera and Woolshed Creeks) traverse the Site, which could be utilised for ornamental purposes, artificial lakes, &c.

TUMUT SITE.—Summary of Evidence taken at a Public Inquiry held at Tumut on 11th and 12th May, 1900.

John Weedin, storekeeper.

Climatic Conditions.—Resident of district, forty years. No record of range of temperature kept, as no official observer at Tumut. Highest temperature in his recollection 110 degrees; and the lowest on same day, 90 degrees. Average highest summer reading for ten years, 90 degrees, and lowest for same period 60 degrees. The highest autumn temperature averaged 70 degrees, and the lowest 40 degrees. Prevailing wind in summer easterly, in winter westerly and south-west. Had never known the winter temperature to be below 40 degrees at midday. The climate was very healthy, and the district free from epidemics.

Altitude.—Tumut is 930 feet above sea level.

Rainfall.—He kept the local records for the Government Astronomer. The average annual rainfall for a period of eleven years, commencing with 1889, is 33 inches. The average rainfall for each quarter of the year during the same period is:—1st quarter, 7·40 inches; 2nd quarter, 9·86 inches; 3rd quarter, 8·54 inches; 4th quarter, 7·17 inches. It will be seen that the rainfall is very evenly distributed over the whole year. The rainfall for the first quarter of the current year is 9·73 inches.

R. V. Kearsey, Journalist.

Accessibility.—Tumut is 310 miles from Sydney—by rail to Gundagai, and thence by road. It is 350 miles from Melbourne, 1,000 miles from Brisbane, and 810 miles from Adelaide. Gundagai, the present terminus of the railway, is 21 miles distant from Tumut. An extension of the railway has been recommended by the Public Works Committee.

Nature of Soil.—Rich chocolate basaltic soil, with alluvial flats, very suitable for the growth of cereals and fruits. Undulating country. Within a 20-mile radius of Tumut there are 70,000 acres of rich chocolate soil, and 30,000 acres of rich alluvial flats.

Water Supply and Catchment.—An unfailing supply from the Tumut River. Catchment area almost unlimited, and ample facilities for storage.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Blue granite in unlimited quantities; marble, slate, limestone, in plenty. Clay suitable for brickmaking is found on the proposed Site, and sand and gravel are procurable in large quantities. Timber, including ironbark, pine, box, mountain ash, messmate, and wrabbi, is within easy reach.

Drainage.—The physical conformation of the country made drainage an easy matter. Sewerage could be utilised on the farms, or destroyed by incineration.

Other Physical Features.—The proposed Site is in the midst of beautiful surroundings, the elevated portions affording good grazing. About 20 miles from the Site are the Buddong Falls, of 250 feet, on the Tumut River, which could be readily utilised as a motive power for electric lighting, &c.

Facilities for Food Supply.—Sufficient food stuffs could be grown in the district to support a population of 200,000. The average wheat crop is 25 bushels to the acre. Maize grows abundantly. There has never been a failure of crops. In the drought season, hundreds of thousands of sheep are sent from other less favoured districts.

Mineral Products (Gold).—The Adelong gold-field is one of the richest in the Colony. Chrome, iron, copper, silver, lead, tin, and asbestos are found in good quantities

Conditions favourable to Commercial and Industrial Development.—The pastoral, agricultural, and mineral resources of the district were capable of supporting a large population, and the conditions were favourable to the establishment of almost any kind of industry, such as woollen mills, boot factories, tanneries, freezing works, &c. *Facilities*

William Bridle, land owner.

Facilities for Food Supply.—Over forty-seven years resident of district. Tumut district premier maize-growing centre in Colony. He had raised from 80 to 100 bushels to the acre. Lowest average crop for the Tumut Valley was 50 bushels to the acre. Wheat averaged 25 to 30 bushels per acre. Some crops had gone over 40 bushels to the acre. Oats averaged 40 bushels. Root crops flourished. Tobacco was grown extensively a few years back. The district would easily supply a population of 40,000 with grain and breadstuffs.

Frederick Kindred, stonemason.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Twenty-three years in his trade at Tumut. Grey granite was the best building stone in the district. It was obtainable in large blocks, and worked very hard. Limestone, marble, and serpentine were obtainable in large quantities; also good flagging slate. Clay suitable for bricks, tiles, and pipes could be got.

H. W. Mason, medical practitioner.

Climatic Conditions.—Practising in Tumut sixteen years. District as healthy as any in the world; not subject to epidemics. Consumption was rare. He had treated cases, but they came from elsewhere. The climate is bracing and invigorating, with cool nights in the warmest weather. The district favoured longevity. Had only treated one case of sunstroke in sixteen years.

Facilities for Food Supply.—The soil is exceptionally rich, especially the valleys and flats. Had some experience in farming, and knew that maize varied from 50 to 100 bushels per acre. Had personally grown tobacco, obtaining 2,300 tons from 100 acres. District very favourable for dairying. The weather was never too hot. Had obtained 6 lb. of butter per head per week from seventy cows during last summer.

Capacity to support a Considerable Population.—The district could be self-supporting, if population increased by 50,000. Without calling on outside districts, they could supply foodstuffs to a population increased by that number. Mining was progressing, and would help to support a large population.

Alfred Henry Chesterman, District Staff Surveyor.

Altitude.—Produced map of the proposed Territory. Considered the Site most suitable. The altitude of Tumut is 925 feet, and that of proposed Site from 1,000 to 2,000 feet; the average, roughly, about 1,300 feet.

Nature of Soil.—Generally granitic, with outcrops of basalt and volcanic rocks, and varied from alluvial flats to forest country, suitable for cultivation, and high ridges. Belts of limestone were in close proximity to the Site. The granite was a bluish grey. Slate formation existed in the north-east corner of the Territory, with slate outcrops on the eastern slopes.

Water Supply and Catchment.—There are three watersheds—Tumut River, Adelong Creek, and Sandy Creek.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Freestone quarries near Gundagai. Marble was obtainable in the higher portions of the Site. Granite is plentiful.

Ownership and Value.—The proposed Territory comprised 64,000 acres, of which 41,800 acres are alienated and 22,200 acres are Crown lands. He valued the alienated lands, as unimproved, at £151,000, made up as follows:—

	£
41,000 acres country lands	104,000
300 „ town „	37,000
500 „ suburban „	10,000
As improved, £322,000, viz.—	
Country lands	172,000
Town „	125,000
Suburban „	25,000

Crown lands, including reserves, commons, &c., comprised 21,500 acres country lands, 300 acres in the town of Tumut, and 400 acres suburban lands, mostly within the Tumut Common.

W. H. Hilton, Council Clerk.

Ownership and Value.—Excluding Government land, streets, and Church property, the value of land in the municipal area of Tumut is £112,000, as improved. The population of the Municipality is 1,439, and that of the Police District 4,170. The average annual death-rate of the Police District is 1·2 per cent.

Frank Taylor, solicitor.

Climatic Conditions.—Had come to Tumut on account of his health. Had derived great benefit from the climate, which was inimical to pulmonary complaints.

Charles Edwin Bloodfield, Resident Engineer, Department of Public Works.

Water Supply and Catchment.—Had inspected the proposed Territory, with the view of reporting upon the facilities for Water Supply. Had taken the hill at Gadara as the proposed site for a storage reservoir. Had visited the Buddong Falls, from which water could be conveyed to the proposed Site by piping—about 20 miles. The Buddong Creek is a tributary of the Tumut River. A large part of its watershed is an extensive timber reserve of unalienated land. At the time of his visit a large supply of clear water was flowing in the creek. It was clearer water than that in the river. The falls are about 1,800 feet above the datum hill, and about 2,900 feet above sea level. There would be no difficulty in storage. Did not measure the discharge, but there was sufficient water flowing to supply 500,000 people. Without storage there was enough water to supply 40,000 people. The water could be carried to the Gilmore and down the valley. It could also be taken close to the proposed Federal Site without a dam being necessary. There was sufficient fall to generate electric power if necessary, and by going higher up the river a supplementary supply of large volume could be obtained by gravitation.

Alexander Davis, farmer.

Facilities for Food Supply.—Produced samples of wheat and oats he had grown; the former averaged 42, and the latter 50, bushels to the acre. Excellent flour is made from the local wheat. Malting barley could be grown, also potatoes and maize. Grapes, apples, pears, and other fruits grow luxuriantly. Mixed farming was very successful in the district. Two first prizes offered by the Government for mixed farming were won by Tumut.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Timber suitable for all kinds of work are obtainable within easy distance of Tumut, comprising ironbark, pine, gum, box, mountain ash, messmate, and urabbi.

Clement Vernon, builder.

Climatic Conditions.—Endorsed previous witnesses' testimony *re* climate. No better could be found anywhere.

Robert Donaldson, Member of Parliament for the district.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Had experience as a bridge contractor. Within a radius of 15 miles from Tumut, mountain ash and messmate existed in inexhaustible quantities, measuring from 3 to 5 feet in diameter at the butt, and very little less at a height of 50 feet.

Capacity to Support a Considerable Population.—The district supplied the town with stock, and could, if necessary, raise enough to supply the requirements of 40,000 people.

WAGGA WAGGA SITE.—Summary of Evidence taken at a Public Inquiry held at Wagga Wagga on 17th and 18th April, 1900.

Constantine Francis Bolton, forty-one years resident of Wagga Wagga, and formerly District Surveyor.

Initiation of League.—Was Chairman of the Committee appointed by public meeting called by advertisement, and presided over by the Mayor. The Committee is still in existence, and had prepared a Report, and had adopted plans prepared by him.

Nature of Soil.—Granitic, with alluvial flats of rich quality along the river which get deeper as you go up river. Undulating chocolate soil away from the river. The Model Farm is typical of the soil of the district, which is as uniform as any district in the Colony. Soil not easily exhausted by cultivation.

Water Supply and Catchment.—Present town waterworks capable of extension. They have been duplicated, and are now more than sufficient for the supply of the town, which has a population of about 6,000. The storage reservoir is 250 feet above the town. There is plenty of force. The water is pumped up from the river. Was in favour of a pumping scheme, as a gravitation scheme might easily be cut off, as evidenced by Ladysmith and Bloemfontein. Endorsed the Committee's Report *re* water supply and catchment. The Murrumbidgee was wholly in New South Wales, and no noxious trades were plied on its banks. Its discharge at lowest was sufficient to supply London. When the river is low, springs flow into it, and flow most in dryest seasons. The evaporation at the present reservoir is about 7½ feet per year, which shows that impounding a large body of water is impracticable.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Limestone about 40 miles north-west of Wagga Wagga, on the watershed of Hoolaglan's Creek. Marble on the left bank of the river at Jellingro, about 40 miles from Wagga Wagga. No sandstone. Clay, suitable for bricks and tiles, of exceptional quality, and sand and gravel in the river suitable for concrete. Not well supplied with timber, except cypress pines and river gum, both of which are very durable. Building timber generally brought by rail.

Drainage.—The alluvial flats are sometimes enriched by inundation. Floods occur periodically—usually in September—caused by the melting snow and local rains. The 1891 flood was about 2 feet deep in the main street, and averaged about a mile each side of the river. From Morris-street South, town not subject to flood, and proposed Federal City Site quite out of flood reach. Approximately, it is about 170 feet above the level of the highest flood. The drainage of the proposed Capital Site trends west to the Plowerdale Lagoon and eventually into the river, if not intercepted by sewage farms. Sewage could be utilised on the rich alluvial flats.

Other Physical Features.—Foundations about Wagga Wagga are good. None of the present public buildings in Wagga Wagga show signs of subsidence. Large alluvial flats extend along the river from Wagga Wagga to the junction of the Yass River—about 100 miles by the river. The features of the country are eminently suited for ornamental grounds and water. Lake Albert capable, without much expense, of being converted into a real lake of about 200 acres, averaging 15 feet deep.

Ownership and Value.—Nearly all proposed Territory alienated. No Church and School lands. Agreed with Report as to estimated value of unimproved land along the river frontage. His assumption was that Wagga Wagga did not exist. If the town is taken into account as remaining as it is, and the Commonwealth wants to secure enough land to serve their purpose of a town, the land without the improvements would be worth about £8 per acre.

Facilities for Food Supply.—Soil adapted for growth of cereals and root crops. Grapes and stone fruit are grown.

Water Supply and Catchment.—Tarcutta Creek, about 20 miles from Wagga Wagga, would afford splendid facilities for impounding water. It is a very large catchment with little settlement, affording good supply of water with little chance of contamination. The water could be piped to Wagga Wagga. The present supply to the town was sufficient when the river was at its lowest.

Henry Oliver Heath, solicitor

Facilities for Food Supply.—Thirty-six years of age. Native of, and practically resident of, Wagga Wagga all his life. Partially responsible for the figures under this head in Report. Wheat returns obtained from the Government Statistician. Since 1870 area under wheat cultivation gradually increasing. A great deal is exported. The quality is good and brings top prices in Sydney market. 1899 was a bad year. Could not say what were wheat returns for that year, but think about 8 bushels to the acre. Farming in the district is chiefly wheat and oats, with a little grazing. Some of the land has been continuously cropped since 1876 without showing exhaustion, but it has been the custom of late years to fallow the land—give it a spell for a year. Agreed with Mr. Pulver's Report, *re* canning and drying fruit. Had seen both canned and dried fruit from the Experimental Farm. It was the best he had seen. Wine had been produced at Lake Albert since 1870. There is a large area of land in the district capable of wine growing.

Conditions favourable to Commercial and Industrial Development.—Did not recollect when all the business of Wagga Wagga was done with Melbourne. It may have been a fact. He knew that steamers used to come up the river, presumably from Melbourne. Thought the greater part of the local trade was now done with Sydney. Knew of no other industries that could be added to the League's Report. Successful freezing works had been carried on at Narrandera. Wagga Wagga ought to be very suitable for similar works, in view of the large pastoral area surrounding it. Woollen-mills could also be established. They had no iron.

Robert Embleu, Council Clerk, borough of Wagga Wagga.

Climatic Conditions.—Native of district, and Council Clerk for two and a-half years. Member of sub-Committee appointed to obtain information as to climatic conditions. The figures in the Report were obtained from the Government Astronomer. No information is given as to range of temperature. (Information *re* temperature withdrawn at this stage with the view of substituting information at a later stage containing range of temperature.) The information as to altitude was obtained from the Government Astronomer.

Water Supply and Catchment.—About 4,000 people out of a population of 4,800 take and pay for water from the present town supply. About 80 gallons per head per day is pumped, and about 45 gallons per head per day is the average consumption all the year round. Present reservoir capable of extension, but it would be costly, as it would have to be blasted out of rock. Present plant could be extended to supply ten times the population. At present it could not supply 40,000 people. The capacity of the river, from what he had heard, was about 10 million gallons per hour at its lowest.

Drainage.—They had no drainage system at present.

Other Physical Features.—The present parks would be hardly worth considering for a large city. Did not think any of the municipal works, except the waterworks, could be utilised for the Federal City. Did not think the Site of the Federal City would be on the present town Site.

Ownership and Value.—The capital value of whole area of improved lands inside the Municipal area is £500,000. That is a moderate valuation. Improved lands are rated on the annual value; unimproved are fixed on 5 per cent. of the capital value. His valuation had nothing to do with lands outside Municipal limits, and included no Government land or land exempt from taxation. There were a few travelling stock reserves and Police paddock and barracks in the Area. If these were resumed, it would add £25,000 to his estimate.

Thomas Hallorse, grazier and dealer.

Accessibility.—Resident in district nineteen years. Was one of the members of sub-Committee under this head. The information furnished in the Report is true, to the best of his belief. Obtained some of the information from the Railway Time Table, some from his own knowledge. Thought Wagga Wagga fairly equi-distant from the Capitals of the other colonies. The distance in favour of Melbourne was about 60 miles. That advantage would not disappear on Federation. He could not point to a place in New South Wales equi-distant from the Capitals of the other colonies. Fifty or 100 miles either way did not matter much to South Australia or Queensland. Had considered possibility of distances between the Capitals of South Australia and Queensland being shortened by Hay to Morgan Railway and Dubbo to Werris Creek. There was a chance of the river being again used for carrying produce. It would be much longer, but would be of use where time was not of great moment.

Nature of Soil.—Good workable soil—principally chocolate loam—and, with proper cultivation, suitable for growth of cereals. He manured his land from year to year. Wagga Wagga district the best pastoral and agricultural district he knew in New South Wales.

Other Physical Features.—Wagga Wagga did not feel the drought as much last year as other districts lower down; they were able to keep their stock going.

Facilities for Food Supply.—He grew wheat and hay every year; also oats. The soil in the district would grow all kinds of cereals; also mangolds, turnips, parsnips, beet, oranges, lemons, stone fruit, apples, cherries, and raspberries. District well situated for meatworks, both for killing and freezing.

Joseph Hayes, wool-classer

Ownership and Value.—Resident of town over ten years. The area of 23,440 acres on plan he valued at £8 per acre. As you go back from the river, the value decreases to £2 per acre. Was not an expert on value of land, but thought the Experimental Farm land worth £3 per acre.

Facilities for Food Supply.—District highly favoured for wool and mutton. Sheep principally produced a high-class merino. District capable of carrying a sheep and a-quarter to the acre in ordinary seasons, and could support a much larger population.

Conditions favourable to Commercial and Industrial Development.—Some of the wool clips of the Wagga Wagga district command highest price. Special facilities for growing good wool, viz., soil and climate. Did not know any part of Colony that could produce a better class of commercial wool. At least two-thirds of the wool goes to Sydney. Wagga Wagga well situated for killing and freezing works, and any form of manufacturing or commercial industry.

David Copland, merchant.

Capacity to support a considerable Population.—Had been in business in Wagga Wagga a great many years. The district had immense resources. A large portion of the present sheep pastures are adapted to agriculture, and the district generally capable of much closer settlement.

Conditions favourable to Commercial and Industrial Development.—Seven-eighths of his business was done with Sydney. He was a general storekeeper. He imported wire and kerosene from Melbourne as the freight was lighter. The majority of the wool goes to Sydney. Not much goods came across the Border under drawback. There would be an advantage to Sydney, under present conditions, if Wagga Wagga were made the Federal Capital. The trade is guided by the freight. If the freight was a mileage rate, the nearer you go to Albury the less you would have to do with Sydney. Assuming mileage rates and a uniform tariff, Melbourne would have the advantage.

Adolph Edward Pulver, fruit-grower.

Facilities for Food Supply.—Native of district and owner of a vineyard at North Wagga Wagga. The letter with Report was written by his father. He saw it, and was consulted about it; believed the contents to be true.

Thomas Stewart Gardiner, Manager, Bank of New South Wales, Wagga Wagga.

Climatic Conditions.—Wagga Wagga climate very good—best he had been in in New South Wales, and he had been all over it. Did not think the thermometer ever reached 120 degrees; had had it 117½ degrees.

Conditions favourable to Commercial and Industrial Development.—Manager of bank in Wagga Wagga eighteen years. Very familiar with the business of the town. The proportion of the wool trade done with Sydney, about 75 per cent., as against Melbourne—that is, within a radius of 40 miles. Other trade does not necessarily follow the wool. About 60 per cent. of station supplies come from Sydney. Did not think Melbourne commercial influence paramount in Wagga Wagga. In his experience, Sydney had the principal trade of the town, the proportion would hardly be 75 per cent. No doubt something was due to differential railway rates. A good deal of stuff came from Melbourne to Albury, thence by teams. Wagga Wagga, centrally situated as regards the Capitals, Sydney and Melbourne, though the distance was in favour of Melbourne. District in good position, financially, though the last five years were very trying to the pastoralists and farmers.

George Sheppard, architect and surveyor.

Nature of Soil.—Practised in Wagga Wagga twenty-six years, and put up many buildings. Knew the proposed Federal Capital Site marked on plan. The soil is nearly all granite and changed slate. Some on the east is rough; the rest undulating. Good foundations for large buildings exist, except on the flats, which are subject to flood and would not be built upon. No danger of subsidence. Site very suitable for public buildings of a large city; but he had seen better. He preferred the north side of the river, 2 or 3 miles to the north of the river, that would be detached from the present town of Wagga Wagga. Part of proposed Site, south of Willan's Hill, is too rough; but 3,000 or 4,000 acres in the Site are suitable for building. The river flats are particularly suited for the growth of trees and could be used for parks.

Water Supply and Catchment.—Plenty of sites up river, where water for 40,000 people could be obtained. No gravitation scheme within 50 miles. Fall of river from Gundagai, about 18 inches to the mile. Gundagai, about 160 miles by river from Wagga Wagga. Tarcutta Creek a good catchment; but the water would have to be pumped.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Good granite; no freestone; good gravel for concrete; good sand. Timber, mostly river gum; some pine. Would mostly be imported.

Conditions

Conditions favourable to Commercial and Industrial Development.—Nine years in Wagga Wagga. General storekeeper; principally retail business. His business largely done with Sydney. Wagga Wagga most centrally situated Site for the Federal Capital.

William Shaw, merchant.

Facilities for Food Supply.—Constant resident six years; intermittently connected with district sixteen years. Wrote article in the Report on suitability of district for production of wine. With closer settlement, good prospects for wine-growing in district. Climate eminently suitable for wine-making. Never had phylloxera in district.

Robert Horatio Caldwell, vigneron and merchant.

Climatic Conditions.—Forty-five years resident. Concurred with Committee's Report. Site selected best in neighbourhood of Wagga Wagga. Heat considerable during portion of the year. During hottest days the heat sometimes continued into the night. Considered 100 degrees a high temperature; over 100 degrees does not make much difference. 105 degrees in the shade at Wagga Wagga less oppressive than 95 degrees elsewhere, owing to dry westerly wind. Kept no records, and could not speak of range of temperature, but considered district healthiest in New South Wales.

James Gormly, Member for the district.

Accessibility.—Considered Wagga Wagga the most centrally situated place between Sydney and Melbourne for the Federal Capital.

Water Supply and Catchment.—Had studied water conservation all his life, and traversed the watersheds of all the rivers of New South Wales rising in the Australian Alps, and studied where dams or weirs could be erected and water stored. Sufficient water for a city as large as Sydney or Melbourne could be stored in Tarcutta Creek by constructing a weir where the hills approach. Thought Tarcutta Creek, as a source of supply, equal to the Sydney-Menangle scheme. The water was very pure.

Facilities for Food Supply.—Favourably situated for supporting a large population, and district very suitable for fattening stock. On 31st December, 1898, there were in the Wagga Wagga Sheep District—1,162,000 sheep, 20,500 cattle, and 12,500 horses. District also very suitable for growth of wheat and other cereals, also root crops and fruit of all kinds.

Conditions favourable to Commercial and Industrial Development.—Seventy-five per cent. of trade of Wagga Wagga done with Sydney. If differential rates abolished under Federation, a Federal City at Wagga Wagga would still do the bulk of its business with Sydney.

George Robert Chappell, engineer to the Borough Waterworks.

Water Supply and Catchment.—Ten years engineer to the Wagga Wagga Waterworks, which supplied all the town except North Wagga Wagga. Supplied a population of 4,000, also part of Junee. Average about 70 gallons per day. Present plant could not supply a population of 40,000. Had not considered gravitation, but thought pumping better. Gravitation a stagnant scheme; pumping is live water, if taken from a flowing river. So far as he knew, the river was not polluted. Their water was analysed some years ago, and reported perfectly satisfactory. Knew nothing of the Tarcutta country, but judged that the Tarcutta Creek for some months of the year is stationary. The normal flow of the Murrumbidgee, at Wagga Wagga, about 9,000,000 gallons per hour.

William Orr, District Surveyor.

Location of Site.—Had submitted four Sites for the Federal Capital—viz., Wagga Wagga, Albury, Corowa, and Tumbarumba. His Wagga Wagga proposal differed from that suggested by the Committee, which extended 2 miles further south. He proposed 6,000 acres for the Federal Capital—3,000 acres on each side of the river. His scheme coincided partly with the Committee's, but his was more compact. He would adopt that part of the Committee's Site on the southern side of the river, which comprised about four sections. He marked on plan an area on northern side of river which he would choose for the Federal Capital. It is near the river, and as available for Water Supply as that on the southern side, and preferable as a site to the expansion of the present town southwards, as it brings the Site nearer the central point of the two Capitals—Sydney and Melbourne. The land on northern side of river is an excellent site for building, and could be resumed for £3 or £4 per acre present value, and would be cheaper than the southern Site. He put in his reasons why Wagga Wagga should be the Federal Capital.

George Coleman, solicitor, formerly Mayor of Wagga Wagga.

Location of Site.—Resident of Wagga Wagga eighteen years. Knew Site recommended by the Committee. As Mayor last year was chairman of the movement. Thought the proposed Capital Site on southern side of the river better than on the north. That on the north would include good undulating land, but would be detached and isolated from the town and separated by low flooded lands.

Water Supply and Catchment.—Would favour a pumping scheme for the proposed Capital, even in view of cost. The Tarcutta Creek is one of the largest creeks in Australia; has a large catchment, and passes through a district with a large rainfall. Its water is much better than the Murrumbidgee, and the supply is always good.

Conditions favourable to Commercial and Industrial Development.—Had opportunities of instituting comparison between the business done with Sydney and Melbourne; should say fully 90 per cent. done with the former.

WELLINGTON SITE.—Summary of Evidence taken at a Public Inquiry held at Wellington on 3rd and 4th August, 1900.

John Collins, Secretary, Wellington Federal League.

Initiation of League.—The League was constituted at a public meeting convened by the Mayor, at which a Committee was formed. The information obtained has the approval of the Committee.

Climatic Conditions.—Thirty-three years resident of district. Wellington one of the most healthy districts to live in. Had only had a doctor in his house once in twenty-five years, and reared a family of eight. Thought the Site chosen for the Capital the best in the district.

Roger Taylor Forrest Gadsen, farmer and grazier.

Water Supply and Catchment.—Knew the Macquarie River well; did not think there was a sufficient fall in the river for a gravitation scheme to supply a height of 450 feet. Water could be conserved on the Bell River, about 30 miles above Wellington; but not to take it that height. About ten times as much water could be impounded in the present dam as was there at present.

Facilities for Food Supply.—The district was capable of supporting a large population. It is good fattening country, and would be a convenient place to establish freezing works.

Arthur Montague Eyeate, medical practitioner.

Climatic Conditions.—Native of the district and practising in it two years. Wellington extremely healthy. The altitude was good and the climate bracing, except for a few nights in the year. The summer is hot; but did not prevent anyone pursuing his ordinary avocation, and the changes are not sudden and violent. The extremes of the climate are not inimical to health. The winter climate the finest in Australia.

No

No epidemic diseases. Infectious fevers, especially typhoid, extremely rare. Diphtheria and asthma are very rare and there is no ophthalmia. It is a good sanatarium for chest and renal complaints. The medical profession have sent people here from Sydney and England. The mortality rate is below the average.

Water Supply.—A water supply for a population of 40,000 could easily be obtained from the Macquarie River, with a proper system of filtration.

Drainage.—The Site is suitable for a large city, with good facilities for drainage.

Climatic Conditions.—Had been in Wellington twenty years. One of the healthiest climates in the world. For four months in the year it is very hot; but never heard of a case of sunstroke.

Charles Hampden Buxton, Manager of Commercial Bank, Wellington. Exhibit A.

Accessibility.—Produced certain returns relating largely to proposed railway, Werris Creek to Wellington. The district claims as the Capital Site depended mainly on the construction of that line. Without it, Wellington could not be considered accessible, so far as Brisbane is concerned; that objection obtains against all the Western Sites. Joined to Broken Hill and Werris Creek, this district would be singularly central. These railways are certainties; but are a long way off being constructed. If constructed, Wellington would be very accessible to Adelaide, Brisbane, and Melbourne.

Samuel Hugh Dawson, licensed surveyor.

Climatic Conditions.—Resident eighteen years in district. Produced certain returns (Exhibit B) showing altitude, temperature, and rainfall. The two latter were prepared from the Post Office records. Determined the altitude himself, from his professional knowledge of the country. Took the Railway Station as a datum point. His experience of the climate was that the extremes were too great. The last four years were the worst in his recollection.

Nature of Soil.—Was familiar with the proposed Territory. It is the most suitable about the district. It is hilly country except in a few places, which might be described as undulating. Mostly limestone country; some of it basaltic. Quality of soil very good and very fertile. A considerable portion is under cultivation, but only a small area for a long period, but it is capable of cultivation for a long period without stimulants.

Water Supply and Catchment.—Knew the Macquarie River. Did not think a gravitation supply could be obtained from it. A gravitation scheme to supply Wellington could be got by going about 10 miles up the Bell River, but not to supply a height of 350 feet. A supply for that height could be obtained by going further up. A large reservoir and 20 miles of piping would be required. There would be no difficulty in choosing a good site, with good foundations for a weir. The fall is not more in the Macquarie than in the Bell River. For a smaller town than 40,000 you could obtain Sites along Curra Creek for water supply. Water could be stored without difficulty within a reasonable distance of Wellington for a large population.

Facilities for Food Supply.—Soil and climate suitable for growing cereals and fruit. Average wheat crop, 20 bushels to the acre.

Alexander Chrystal, Post and Telegraph Master, Wellington.

Climatic Conditions.—Resident of Wellington sixteen years. Was local observer for the Government Astronomer, and was jointly responsible with Mr. Dawson for the returns (Exhibit B). The rainfall is for eighteen years. Did not think the temperature of Wellington out of the way. Put in return—(Exhibit C).—showing range and mean of temperature for each quarter of the year.

Abel Wilkins, agent.

Water Supply and Catchment.—Knew the Macquarie River for some distance up. Thought it more suitable for storing water than the Bell River; it contained a much greater quantity of water than the Bell River, and had more tributaries. Had taken levels for sluicing drains. To get a gravitation supply for a height of 450 feet, you would have to go 20 miles up the river, where there are plenty of places for constructing a dam or weir. The hills come close together, and a rock bottom could be got, generally diorite, from 20 to 100 feet. A weir 50 feet high would back water up about 2 miles. There are many places where a 50-acre reservoir could be got by making a weir, notably at Duck Falls, about 3½ miles from Mr. Campbell's. The catchment areas in the district are suited for conserving water. Could not say he knew where 1,000 acres could be conserved, independent of the rivers. Burrendong is the best place; it had an enormous catchment.

(Note.—This evidence was subsequently corrected by the witness in a letter to the Commissioner, wherein he states that the fall in the river is only 7 to 9 feet to the mile, but that the fall is greater higher up.)

The possession of, or proximity to, Stone, Timber, or other Building Material.—Sandstone at Mitchell's Creek, 12 miles from Wellington; bluestone within 3 miles of Wellington.

Capacity to Support a Considerable Population.—Had considerable experience of mining in the district. The Mitchell's Creek Proprietary Mine and other reefs were in the district, and alluvial workings at Jawbone. Coal and copper were to be found, and ironstone at Micketymulga. A large population could be employed mining if the industry were developed.

Robert Manaeken Smith, manager of "Tourt" Estate.

Nature of Soil.—He farmed on a large scale; cultivated about 6,000 acres, principally wheat. His soil is a rich chocolate, with some limestone on it. The farm is not in the proposed territory, but is just on the boundary.

Facilities for Food Supply.—All cereals will grow, and it is good fruit country, but not wet enough for root crops. Sufficient food could be locally grown to support a large population. It is a great stock carrying district. Lucerne will grow, and grapes are grown for table use. Maize grows along the rivers.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Marble, limestone, sandstone, and granite within 8 or 10 miles of Wellington. Fire-clay not 10 miles away. Pine and ironbark timber. Bricks are made at Wellington and Geurie.

Water Supply and Catchment.—Irrespective of the rivers, a fair catchment area could be obtained in Middle Gully Creek. There is also Mitchell's Creek, which is always running, and there is a good catchment at the Springs. Good dams could be made at Watson's and Curra Creeks.

Frederick Henry Kennard, Mayor of Wellington, builder and contractor.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Very good granite, suitable for building, 8 miles from Wellington. Freestone of good quality, and in any quantity, at Geurie, 9 miles distant. Limestone exists in unlimited supply, and is a good building stone. Bluestone is obtainable. Sandstone is obtainable within a mile of Wellington. Any kind of brick can be made from the clays in the district. The Wellington bricks are not porous. Pine, ironbark, and hardwood timber are available.

Robert Craig, monumental mason

The possession of, or proximity to, Stone, Timber, and other Building Material.—Had thirty years' experience in working limestone and marble in the district. The marble is very workable, and takes a good polish. Freestone, of a very strong durable character and reddish colour, is obtainable. It is the best stone in the country after Pyrmont stone. The local limestone makes very good lime. Bluestone is plentiful, also a fair supply of granite and good slate for building. The local clay makes excellent bricks.

Water

Walter Fridesara Pridham, stock and station agent, and land valuer.

Water Supply and Catchment.—Water would have to be brought by gravitation from somewhere about Burrendong. Enough could be got to supply a large city, but it would have to be taken from a sufficient height. About 12 miles up the Macquarie would yield a supply sufficient for 40,000 people. There is not a good catchment, but there are good sites for a weir.

Ownership and Value.—The proposed Federal Area is of a very mixed character. A large part of the poor land is Crown land. The freehold, including improvements and excluding the municipal area, is worth £3 per acre.

Facilities for Food Supply.—Within a radius of 20 or 30 miles around Wellington, the land compares favourably with any part of the country for sheep and cattle. Fattening country. Average holding about 320 acres. The country, except immediately around Wellington, is capable of closer settlement, and capable of supporting a very much larger population. Wellington would be a very suitable site for killing and freezing works.

William Gardiner, Council Clerk.

Ownership and Value.—The estimated capital value of all lands within the municipal area, exclusive of improvements, is £167,535 10s.

Murdoch McLeod, miller.

Facilities for Food Supply.—Resident of Wellington, and mill-owner. Wheat grown in district is splendid milling wheat and the best in the Colony. It got first prize at the recent Sydney Exhibition, and went 68½ lb. to the bushel. The heavy grain is attributable to the nature of the soil. The district is capable of supporting a very large population with cereal food and cattle and sheep, and could be more closely settled.

John Irving, auctioneer and commission agent.

Had considerable experience in dairy farming, from youth upwards, in various dairying districts in the Colony. Dairying had not been carried on in the Wellington district in a systematic manner, but the land is suitable for it, and, if taken up properly, would succeed. It is a good grassed country, highly productive of cereals and other cattle foods. The natural grasses are good.

William Riddle, Railway Stationmaster at Wellington.

Produced a return, showing goods received and despatched from the Wellington Railway Station for a period of three years.

Edward Bristowe, Manager of Mitchell's Creek Freehold Gold-mining Company, Bodangora.

Mineral Products.—Had been connected with the district about six years. The Mitchell's Creek Mine, Bodangora, belonged to one man, but employed between 200 and 300 persons. Within a radius of 20 miles of Bodangora, the country is auriferous, and contains copper, gold, iron, and silver. In ten years £234,142 worth of gold had been taken out of the mine, and its permanency was assured for twenty years. The district is not capable of supporting a large population on present discoveries, but it may yet turn out a large gold or copper field. Expressed surprise that there were not more mines discovered.

Robert Porter, Journalist. Exhibit D.

Resided at Wellington. There were coal prospects in the district. Twelve miles from Wellington, at Mitchell's Creek, the sandstone formation commences, and 22 miles north from Wellington a coal seam, about 7 feet thick, was found at a depth of about 30 feet. It is not a first-class coal, and not suitable for railway purposes. Put in copy of a Report, dated 1st July, 1852, *re* discovery of coal. This is on the Wellington and Werris Creek proposed railway, about 28 miles northerly from Wellington.

James Sibbald, caretaker, Wellington Caves.

In Wellington since 1856, and was gold mining on and off since 1855. There was a copper-mine about 3 miles south of Wellington, from which 25 tons of fine ore were taken. There is also an outcrop of copper 1½ mile from the town. The country within 15 or 20 miles of Wellington is capable of supporting a large mining population. The country is conglomerate or Devonian. Mining has been going on about Wellington for forty-four years. Thought any amount of coal would be found about Wellington. The Caves were a source of attraction to visitors, but were capable of much extension if properly explored.

YASS SITE.—Summary of Evidence taken at a Public Inquiry held at Yass on 19th April, 1900.

Samuel Edward Bradford, Mayor of Yass, President of Yass Federal League.

Initiation of League.—Resident of town nine years. Committee convened by advertisement, and appointed by public meeting. Was concerned in drawing up Report, and, to an extent, responsible for the whole of it.

Climatic Conditions.—Information under this head in Report obtained from Government Astronomer. The proposed Federal City Site is about 150 feet higher than Yass; that would be about 1,800 feet above sea level.

Water Supply and Catchment.—Had drawn Mr. Blomfield's attention to a gravitation scheme from he Murrumbidgee River.

Ownership and Value.—Yass is a Municipal district. Had a very good knowledge of values in the town. The statements in the Report are true, to the best of his knowledge and belief.

Joseph English, Government Medical Officer, Yass District.

Climatic Conditions.—Nine years in district. Had assisted to draw up part of Report submitted by League. Was on Committee. Climate of Yass considered very healthy. Very bracing for nine months of the year. Not too dry or too moist. The hot months are December, January, and February. Lung affections are benefited by the climate. Reported temperature daily to the Government Astronomer. Had seen a drop of 30 degrees, but the average was 15 degrees or 20 degrees. Had only seen thermometer once up to 105 degrees; the drop that day would be 30 degrees or 35 degrees. Mean maximum for January was 89 degrees; for February (the hottest mean maximum for fifteen years), 87 degrees; December, about 84 degrees. The highest temperature at night, about 75 degrees perhaps once or twice in the summer. Always a cool change at night. Sea breezes come to Yass about 6 in the evening, but not to any extent. District not liable to epidemics; particularly free from typhoid. Asthma and influenza much the same as other places. Could speak favourably of the health of the whole place, but could say nothing of the mortality. The altitude is sufficient for a healthy and enjoyable climate.

Drainage.—Wherever the Site of the Federal City is located in the Area, drainage will be easy. The present storm-water drainage goes into the Yass River. Excreta and other matter are buried.

George Thompson, builder, contractor, and stonemason.

The possession of, or proximity to, Stone, Timber, or other Building Material.—Thirty-four years in Yass. Had prepared Report on building stones (Exhibit, p. 64) found in Yass and vicinity. Its contents are true and correct, to the best of his belief. A building known as the Corner, at Yass, was erected from local freestone, and has been up forty years. This stone cuts well, is soft in the quarry, and hardens on exposure. It has not been quarried any depth. Another stone, called greenstone, is obtainable 1½ miles west of Yass. It is very hard and durable. Limestone is found all over the place. It is a dark lime, not

used

used for burning. (Specimens of marble were produced by the witness and exhibited to the Commissioner.) No pure white marble. No real granite in the neighbourhood; that produced is bastard granite. The sample of slate produced was obtained 22 miles away. It had not been quarried any depth or tested.

Frederick Norton Oxley, Road Superintendent.

Nature of Soil.—At Yass five years. Fifteen years in Government service. Had considerable knowledge of Yass district. The material in and about Yass suitable for street and road making is easily obtainable in large quantities. Limestone makes good roads. Good gravel for light roads is plentiful, and is mostly used on the roads. The sample of stone produced is granite, though the Committee say not. Yass Plains, a slaty formation—a decomposed rock—he should think black shale and granite. The Site marked for the Federal City is undulating country, with good building sites.

Water Supply and Catchment.—Not an expert on water supply. Accompanied Mr. Blomfield in his examination. His own opinion was that the water supply should be from the Murrumbidgee. The Yass River not suitable; the water becomes very hard at times, and the supply is insufficient.

The possession of, or proximity to, Stone, Timber, and other Building Material.—No good building timber in district.

Drainage.—Knew a good deal of the contour of the proposed Federal Area. It would be easy to get good drainage and sewage farms.

Other Physical Features.—By constructing a small dam, artificial lakes could be easily made.

John Russell Ross, grazier.

Facilities for Food Supply.—In district since 1888. Formerly a banker. Yass Stock District would supply animal food for a population of 40,000. As a stock district there is no healthier in the Colony. There are probably only two other towns between Sydney and Albury which pass more stock than Yass. The five years just passed were as bad as the Colony has passed through; but taking three years ending 1899, there was an increase of 20,000 sheep in the district. The loss of stock through drought was comparatively small. With closer settlement a much better supply of farm produce would be forthcoming. A large area is suitable for agriculture, but to support a large population the district would have to depend on outside sources for wheat. Artificial grasses can be grown successfully on the alluvial. Lucerne can be grown with success. The rich agricultural land is along the river, but as a farming district it is only on a small scale.

Conditions favourable to Commercial and Industrial Development.—The great volume of trade is done with Sydney. The town and district are undoubtedly under the commercial influence of Sydney.

Argyle McCulloch, farmer and grazier.

Water Supply and Catchment.—Native of the district, and lifelong resident. Knew the district well, and thought Site chosen for Territory the best one. Would cost more to bring water from the Murrumbidgee than the Yass River. Water of the Yass River gets hard as you go down—probably due to mineral deposits it passes through. It is not reckoned good drinking water. Enormous pumping machinery would be required to pump the water from the weir at Barren Jack. He did not know the fall of the Murrumbidgee per mile above Yass.

The possession of, or proximity to, Stone, Timber, and other Building Material.—Agreed with the evidence already given under this head.

Facilities for Food Supply.—District principally pastoral, though there was a large amount of agricultural land. Wheat grown, but not in large areas. He himself had grown 100 bushels of maize to the acre in exceptional seasons. Oats and barley are grown in small patches. Apples will grow anywhere, and the climate suits peaches. Lucerne is grown. District very suitable for stock. Droughts occur, but stock are not lost. Stock come here in drought time from elsewhere. Yass Plains carry about one sheep to the acre; with closer settlement, probably more. On 31st December, 1899, there were 12,131 cattle, 527,938 sheep, and 3,992 horses in the district. It would be a good place to establish chilling and freezing works. Business is all done with Sydney.

Tyndale Stubbs, stock and station agent.

Facilities for Food Supply.—Doing business in Yass for ten years. Centrally situated for stock business. More sheep sold there than in any part of Colony except Gunnedah. Not a better district in New South Wales as a centre for sheep selling. Gave statistics of sales by his firm. They averaged over 400,000 a year. Last year's sales were 50,000 over preceding year—all stores, destined for Sydney or Goulburn. Climate very suitable for merino sheep. Not a dairying district.

Capacity to Support a Considerable Population.—Closer settlement would enable Yass Stock District to support twenty times its present population.

Thomas Henry Furnival Griffin, bank manager, Hon. Secretary, Yass Federal League.

Five and a half years managing Commercial Bank, Yass. Was concerned in drawing up the League's Report. Obtained the figures re Climatic Conditions from the Government Astronomer, and the altitude from the Railway Time Table. The average altitude was assumed.

Accessibility.—Yass twice the distance from Melbourne it was from Sydney. Could not say it was centrally situated as regards Sydney and Melbourne, but centrality was not a matter of pure mileage. Adelaide and Brisbane and other cities had to be considered. There are countervailing advantages in favour of Yass. If it were 100 miles further south, it would be in a much hotter climate.

I certify that the foregoing Summaries of Evidence, viz., for Albury, Bathurst, Bombala-Eden, Braidwood, Carcoar-Garland, Cootamundra, Forest Reefs, Goulburn, Orange, Queanbeyan, Tumut, Wagga Wagga, Wellington, and Yass, contained in pages 66 to 94, have been compiled from the depositions taken before me at the Public Inquiries held in respect of each of such Sites.

Commissioner.

APPENDIX.

LIST OF PLANS.

A. Plan showing 100 mile radial limit from City of Sydney.

Plans of proposed Federal Territories and Capital Sites—

B. Albury.
C. Bathurst.
D. Bombala-Eden.
E. Braidwood.
F. Carcoar-Garland.
G. Forest Reefs and Calvert
H. Goulburn.
K. Orange.
L. Queanbeyan.
M. Tumut.
N. Wagga Wagga.
O. Wellington.
P. Yass.

Plans of proposed Extended Sites—

Q. Canobolas.
R. Yass.
S. Southern Monaro.
T. Proposed Railway Extension, Bairnsdale (Vic.) to the Victorian Border.

[19 Plans.]

Sydney: William Applegate Gullick, Government Printer.—1900.