DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR

BULLETIN 505

MINING LAWS OF AUSTRALIA AND NEW ZEALAND

BY

ARTHUR C. VEATCH

WITH A PREFACE BY

WALTER L. FISHER

SECRETARY OF THE INTERIOR

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PREFACE.

In 1907 and 1908 a special field study was made of the operation of the coal-land laws of Australia and New Zealand by Arthur C. Veatch, a geologist of the United States Geological Survey, acting under direct instructions of President Roosevelt. At that time it was expected that the question of the disposition of the public coal lands would come before the Sixtieth Congress, and Mr. Veatch therefore transmitted his reports as rapidly as he was able to collect the data in each of the Commonwealths. The reports, however, were not published until April, 1910, when the joint committee of Congress to investigate the Department of the Interior and the Bureau of Forestry ordered their publication as a part of the proceedings of that committee. The demand due to the increasing interest in the subject of leasing the public coal lands has exhausted the available supply of this congressional document, and the reports are therefore now reprinted as a bulletin of the Geological Survey, the bureau from which Mr. Veatch was detailed to the office of the President for this special commission.

While not to be considered as an exhaustive treatise, this series of reports constitutes the best available collection of authoritative data bearing on the practical working of mineral-land laws essentially different from those of the United States code. These reports not only give in considerable detail the special provisions, terms, and conditions of the different laws, as well as statistical information regarding the extent of mining operations, but also contain much testimony by practical mining men who are operating under these laws. On this account, this publication is believed to furnish a valuable basis for comparison between the leasehold and freehold systems in their effect upon mining development.

WALTER L. FISHER,
Secretary of the Interior.

ORDERS AND ACCOMPANYING PAPERS

ORDERS AND ACCOMPANYING PAPERS.

DEPARTMENT OF THE INTERIOR,
Washington, September 18, 1907.

Mr. ARTHUR C. VEATCH,
Geological Survey.

SIR: You are hereby detailed to the office of the President, for temporary duty, for such time as your services may be required, pursuant to the act of Congress of February 26, 1907. (34 Stat., p. 947.)

Very respectfully, G. W. WOODRUFF,
Acting Secretary.

(Through the Director of the Geological Survey.)

OYSTER BAY, N. Y., *September 19, 1907.*

SIR: You are hereby designated a special commissioner to visit Australia and New Zealand to make a study of the coal-land laws of those countries, and particularly the operation of the law for leasing coal contained in the public domain, and directed to proceed to Australia and New Zealand for this purpose.

Very truly yours,

THEODORE ROOSEVELT.

Mr. A. C. VEATCH,
Geological Survey, Washington, D. C.

STEAMER OROYA,
Indian Ocean, October 26, 1907.
(To be posted at Colombo, Ceylon, October 28, 1907.)

MY DEAR MR. SMITH: I send you herewith a discussion on the mining laws of Western Australia, which I commenced several days ago as a means of assembling the various things I have gathered in reference to this subject in part from the critical study of such publications as I have now at hand, obtained largely in London, and in part from my conversation with the Hon. Cornthwaite Hector Rason, now agent general, and formerly minister for works, then minister for railways, then colonial treasurer, then premier and minister for justice of Western Australia. My initial idea was merely that this getting things down on paper was one way of tightening my grip on the matter in hand and enabling me to utilize my limited time in Western Australia to the best advantage. These tentative notes, with the suggestions contained therein, if they prove on further investigation to be well founded, were to be used in the preparation of a preliminary report to

the President on the situation in Western Australia. As the material began to assume shape, it seemed to me if published at this time in some one of the mining journals these data might serve a most useful purpose in the education of the public. I therefore partially reworked the notes with this in view and send them to you now to be used in such way and with such revision and omissions as you deem best. When I reach Western Australia I will submit this article to the proper authorities for their criticism and send you an amended copy from Perth, which should reach you in about three weeks after receipt of this letter. * * *

Very sincerely yours, A. C. VEATCH.

PERTH, WESTERN AUSTRALIA,
November 19, 1907.

MY DEAR MR. SMITH: I have had the article on the mining laws of Western Australia copied (the English expression is "typed"—a copyist or typewriter is a "typist") since I reached here and turned it over to the permanent under secretary for mines for criticism. He did not return it to me until last Friday, just as I was leaving for the Kalgoorlie gold field. I send it to you now with numerous footnotes and a few changes in text. The footnotes relate largely to the proposed amendment act, which is now being prepared.

* * * * * * *

I have a large amount of data bearing on a number of points of interest to the United States and am praying that the ocean trip from Freemantle to Adelaide (five days) will be of such a character that I can work to the best advantage. These data relate not only to the mining laws and conditions, but to—

1. Pastoral leases, including statistics and maps, and the related matter of stock driving across these leased areas, which has been made the subject of special legislation.
2. Government reservation of water in the semiarid regions and on strips along all prominent streams.
3. Surveying methods, including examinations and qualifications of licensed land surveyors, duties of surveyors, regulations, restrictions, etc.
4. Regarding forests certain explanatory details regarding what is meant here by "state forest or reserve," which is very necessary for a proper understanding of local conditions; also, data on forestry laws, regulations, and statistics on timber grants, concession leases, and the like.

Very sincerely yours, A. C. VEATCH.

ADELAIDE, SOUTH AUSTRALIA,
December 3, 1907.

The PRESIDENT,
The White House, Washington, D. C.

SIR: In accordance with instructions contained in your letter of September 19, 1907, I have proceeded to Australia and commenced the investigation of the laws relating to the government leasing of minerals, paying special attention to those relating to coal.

Before I left Washington it was suggested by the Director of the Geological Survey, Dr. George Otis Smith, and the then Acting Secretary of the Interior, Mr. George Woodruff, that immediate reports on the data gathered in each State were desirable. I therefore transmit herewith reports relating to the mining laws and conditions in Western Australia, where I have just spent a fortnight. In addition, considerable data have been collected concerning the closely allied subjects of grazing leases on the public lands, and the survey of the public lands, which it is thought will prove of interest and value in the consideration of these phases of the public lands question. In all these respects Western Australia is decidedly ahead of the United States. Indeed, it was only in connection with the Forest Service that the comparison of the laws and administration of the public lands resulted favorably to the United States, and here the favorable judgment was on administration rather than law, for the Western Australian law gives certain powers regarding forests on the public lands which are rather broader and, when properly administered, more to the public interest than those allowed by the United States statutes.

In the matter of the investigation of the practical operations of mineral-land laws which provide for government leasing and involve, as a natural corollary, the principle that the Government shall reserve the minerals in all lands alienated, it is to be regarded as particularly fortunate that circumstances forced the commencement of this study in Western Australia. Here the development of the law has been particularly simple, the attendant circumstances such that the laws have been most exhaustively and conclusively tried and the results therefore clear and positive.

When minerals were first discovered in Western Australia in 1842 there was no special law or regulation governing the disposal of mineral lands, and these lands were therefore sold under the same conditions and at the same upset price, £1 per acre, as ordinary agricultural lands. After some years the Government required that land known or supposed to contain minerals must be advertised as "mineral land" for at least three months before sale at public auction at the same upset price as lands not known to contain minerals. In 1865 the price of known mineral lands was fixed at £3 per acre, and the would-be developer could either purchase at this price or obtain a lease for ten years at 8 shillings per acre per year. In 1872–73 it was provided that mineral lands could only be sold after the erection of such a plant as the commissioner might deem necessary to work the land, and then at a price fixed by the Government, but not less than £3 per acre. The lease rent was reduced to 5 shillings per acre per year. With this progressive trend toward leasehold it was entirely natural when payable gold was first found in the colony in 1885 that the laws then promulgated relating to the mining for gold should provide only for two forms of tenure—leasehold and claim. In 1892 the selling of lands known to be valuable for minerals other than gold, which had been in abeyance for several years, was legally abandoned, and the principle of mineral leasehold made a binding state policy. In 1898, in order to absolutely prevent the alienation of any minerals, it was provided that thereafter all grants should contain a reservation of all minerals,

Western Australia has thus gradually and surely progressed from the alienation of known minerals in fee without any condition of development to the reservation of all minerals from sale, and their development only under claim and lease with the condition of bona fide development. The absolute abandonment of the principle of sale between 1886 and 1892 and the substitution of the system of leasehold and claim hold came at a particularly fortunate time to fully and exhaustively try the principles involved. During the five-year period, 1881–1885, the total mineral production was less than £45,000, or about £9,000 per year. In 1902 it exceeded £8,000,000. In 1903 it was almost £9,000,000, and it has exceeded £8,000,000 per year since that date. The law has, therefore, been subjected to boom conditions, to great mineral excitements and gold rushes; in short, to all the conditions necessary to give both it and the regulations a thorough practical test.

In arriving at a conclusion on related points whether this policy of leasing has retarded development, or, expressed more broadly, whether in the opinion of the mining men of Western Australia the development of a region is promoted more by a freehold or a leasehold tenure with the condition of bona fide development, and whether the operations of the present Western Australian mining law are as a whole satisfactory to mining men, four lines of evidence are available:

(1) The detailed evidence taken by the Western Australia commission on mining in 1897.

(2) The proposed amendment of the existing mining law prepared by the mines department this season, which embodies the government interpretation of the popular demands.

(3) The comments on this proposed amending act, prepared by the chamber of mines of Western Australia, together with additional comments and suggestions on the mining law in general.

(4) The statements of the president and secretary of the chamber of mines and other leading mining men in Kalgoorlie, obtained during my recent visit.

The commission on mining, appointed about the close of the great boom period, distributed a list of questions very widely around the gold fields, and held meetings at five of the most important mining centers. Among the questions asked, of peculiar significance to the present investigation, were the following:

Do you think gold mining leases should have a better title than at present? If so, why? State your proposed alterations.

What alteration in the gold field act, 1895, and regulations do you think necessary to create a greater interest in mining?

The net result of this investigation was an overwhelming verdict in favor of leasing with the condition of bona fide development. The only important point of criticism developed by the commission in this investigation related to the enforcement of the condition of bona fide development, and these criticisms have since been to a large degree remedied by amending acts. The principal change which the larger operators desire is an expression of the development covenant in money instead of men, and the amending act prepared by the mines department contains this alteration, but with several safeguards against the abuses that are possible in the United States. With this exception, the changes in the amending act are of minor importance, which is equivalent to a statement that with this exception the mining law has been found quite satisfactory.

The suggestions and criticisms of the Western Australia chamber of mines relate almost wholly to this point of the expression of the development conditions in money instead of men. Their other suggestions are of very minor importance.

At Kalgoorlie I found the mining men unanimous and emphatic in the indorsement of the statement that the leasing system is a better method of promoting mining development than freehold. The views of Mr. Richard Hamilton, president of the chamber of mines and manager of the Great Boulder Proprietary Company mine, one of the richest gold mines of the world, carry great weight as they represent the views of a man who is not only a mining engineer, but a lawyer, a man with wide experience and one who speaks only after careful consideration, and then with mature judgment. Man after man in the field said: "See Hamilton, he knows what we think, he knows the conditions, and what he tells you may be taken as the opinion of the mining men of this country." Mr. Hamilton has spent considerable time in America in studying our mining conditions, and is emphatic in the belief that mining development is promoted more by the Western Australian leasehold system than by the American freehold.

In view of these facts one may confidently assert that the mining law of Western Australia is, with minor exceptions, regarded as quite satisfactory by the mining interests of the country, and that in the opinion of the mining men development is promoted more by a leasehold than a freehold tenure.

The point in the American mining law best known to the mining men and the one which they condemn most heartily is the extralateral right. All express the decided conviction that the fact that we had made a mistake was no reason nor excuse for perpetuating that mistake. Several of the larger mining men independently suggested the idea that it would not be unfair to the present holders, and would be a great boon to the mining industry in the future, to pass a law declaring, first, that after the date of such law no patents would be issued carrying any extralateral rights and, second, that after a certain period, variously estimated at from ten to twenty-five years, all existing extralateral rights would lapse. If combined with a general policy of leasing and reservation of minerals in future grants it was pointed out that this period would allow present operators to in most cases complete the working of their mines, or in case the mines had a greater life than the stated period, bona fide development could be protected by the issuance of government leases for the areas needed to complete the operations.

In the matter of coal lands the Government has always shown an inclination to reserve known coal lands from sale, and when a commercial coal field was first brought to public notice in 1889 the Government at once removed it from sale. After a period of exploratory work, involving the sinking of test bores and shafts lasting until 1896, the Government leased the greater part of the area to various individuals and companies. These coal companies held on December 31, 1906, 22,895 acres in 74 leases. The rental fixed by law, 6 pence per acre per year, is one-quarter, and the royalty, 3 pence per ton on all coal raised for the first ten years and 6 pence per ton thereafter, is one-half that which companies are willing to pay under existing conditions. There is no reason for supposing that the development of

the Collie coal field would have been or would now be promoted in any way by a freehold tenure. Indeed there is the same general satisfaction with the underlying principle of leasehold that is found in the gold fields, and while the coal operations are not of sufficient importance—the production is but 50,000 to 150,000 tons per year—to give much weight to this conclusion, the underlying principle has been so fully and exhaustively tried in connection with the enormous gold-mining development of the State that the conclusion may be accepted as a fair one.

These several factors have made the Western Australian mining law appear of particular interest and importance and have induced me to make a special effort to furnish complete data, in the preparation of which I have been specially aided by the four-days' ocean trip necessary to reach Adelaide from Perth. The investigation in South Australia is yielding some points of special interest, but this is an agricultural and pastoral rather than a mining community, and so the data are not of so much importance.

The reports transmitted to you include the following:

(1) The development and practical workings of the mining law of Western Australia (herewith). Accompanied by a copy of the Report of the Royal Commission on Mining in Western Australia, 1898 (sent under separate cover).
(2) The present mining law of Western Australia (herewith). Accompanied by a copy of the mining laws now in force (under separate cover).
(3) The coal-land law of Western Australia (herewith).

Very respectfully yours,

A. C. VEATCH,
Special Commissioner.

ADELAIDE, SOUTH AUSTRALIA,
December 3, 1907.

Dr. GEORGE OTIS SMITH,
United States Geological Survey,
Washington, D. C.

DEAR DOCTOR SMITH: I have just completed and sent to the President reports on Western Australia, and send you for your information a duplicate set of this material. * * *

In the study of the Western Australian mining law I had hoped that I would find some local histories giving the historical data needed, but could not discover anything of the sort, and the material presented in my reports was dug out of the official archives, often from the original letters.

It has been a physical impossibility to get the material I have on pastoral leasing, survey of the public lands, and forests into reports, but I have all this data, and while reports prepared later (should they be wanted) will not be as satisfactory as those prepared now while everything is fresh, yet the loss will not be great.

The situation here, so far as it has developed, presents several very interesting phases. The early crown grants in South Australia contained no reservation of minerals, but in the regulations dated March 3, 1846, one-fifteenth of all ores containing metals was reserved to the government. In 1849 it was provided that grants should not in future be subject to such reservation, and that grants issued under the regulations of 1846 should be read as if such reservation had not been inserted. Some question having arisen in the matter, the legislature in 1877 set all doubts at rest by declaring

that all lands alienated before that date, or which should be alienated thereafter, should be considered to include and convey to the owner of the fee simple of such land the absolute property in all mines and minerals, including gold and silver, "nothing whatever above or below the surface of the ground being reserved by the Crown." In 1886 the government decided to reserve gold in all grants thereafter and in 1888 to reserve all minerals. In all lands alienated before 1886 the minerals, therefore, belonged to the surface owner, and it therefore happens that mining properties held under government leases are now being worked side by side with freehold properties, and so affording an excellent test of the practicability of government leasehold.

The South Australian government has shown itself particularly sensitive to the public demands. Some years ago there was a demand for perpetual leases in the alienation of land. Legislation was passed authorizing such leases, but after a time there was a demand that these perpetual leases should be converted into freehold. Acts were therefore passed authorizing such transfer, and perpetual leaseholders were allowed to convert to freehold. Provisions were made for the repurchase of large estates and their subdivision by the government for closer settlement. In this connection it was held that if the government did not retain some control over the land that these small holdings would be amalgamated and the government would have all to do over again. It was therefore decided that blocks in repurchased estates could only be acquired on perpetual lease, which, while giving the holder nearly all the advantages of the freehold and some in addition, gave the government power to prevent transfer and consequent amalgamation. After a few years there was a demand for freehold, and the legislature again permitted the holders of perpetual leases to convert to freehold. Land was formerly sold with conditions of improvement and development, but the government has now gone to the other extreme of selling without such conditions. These facts have been reviewed simply to show that if there had been any demand for the freehold of mineral lands the government would have, in all probability, granted it. On the other hand, I find on inquiry that there has never, in recent years at any rate, been the least suggestion of the government granting freehold to minerals. The mining register of the mines department, who is closely in touch with the mining situation, tells me that he has never heard such a suggestion. This must certainly be considered as a most emphatic indorsement of the success of leasehold.

Very truly yours,

A. C. VEATCH,
Special Commissioner.

MELBOURNE, *December 27, 1907.*

The PRESIDENT,
The White House, Washington, D. C.,
United States of America.

SIR: I transmit herewith reports on "The practical workings of the mining law of South Australia," and on "The coal-land law of South Australia." A copy of the acts and regulations now in force in this State is forwarded under separate cover.

In South Australia the alienation of the minerals has been carried further than in any other of the Australian States, further, in fact, from a theoretical standpoint, than in the United States, and the principle of mineral leasehold has therefore developed under different circumstances and been tested under different conditions than in Western Australia. The result here, as in Western Australia, is a strikingly unanimous verdict in favor of government leasehold for minerals (but not for lands except for pastoral purposes); indeed, the unanimity of this verdict is one of its most surprising features.

In Victoria and Tasmania, where I have met many prominent mining men (Melbourne may be regarded as the financial center of mining in Australasia), there is the same indorsement of leasehold by all the leading mining engineers, promoters, and capitalists. There are criticisms and differences of opinion on the desirability of certain features of the labor covenant, but on the fundamental question of whether mining development is promoted more by freehold or leasehold there is but one opinion. This assertion is based on the statements of the following gentlemen:

Mr. Agar Wynne, member of the House of Representatives, a prominent mining lawyer and capitalist of Melbourne and member of the Victoria chamber of mines; Mr. F. G. Hughes, vice-president of the chamber of mines, a gentleman intimately associated with many large mining concerns; Mr. A. H. Merrin, former president of the chamber of mines, consulting mining engineer, and now chief mining inspector of Victoria; Mr. Henry Gore, a prominent mining engineer and leading member of the Victorian chamber of mines; Mr. Lindsay Tullock, director of many Tasmanian mining companies, including the Mount Lyell Company (a famous copper, silver, gold property which has for a number of years been paying dividends ranging between a million and two million dollars a year, and which is worked on government lease), and the statements of the following leaders of the different political factions of Australia: Hon. Alfred Deakin, present prime minister of the Commonwealth; Hon. Joseph Cook, leader of the opposition (Conservatives and Antilabor) in the House of Representatives; Hon. John Christian Watson, labor leader in the House of Representatives and premier of the Commonwealth, April to August, 1904; Hon. William Hill Irvine, former premier of Victoria and leader of a section in the House of Representatives which, while antilabor, does not entirely agree with the opposition. Many of these gentlemen are intimately connected with mining, and all are closely in touch with the sentiments of the country in this matter, and they affirm that the mining interests of Australia unanimously indorse leasehold as better than freehold in the promoting of mining development. Clearly, the matter of government leasehold is not a party question; indeed, in Australia it is apparently not a "question" at all. Asked if they knew of any prominent mining men who seriously advocated freehold tenure, many of the gentlemen above mentioned replied they did not. A few referred to Mr. W. J. Loring, a California mining man who has been prominently connected with the mining industry in Australia for the past six years, and whom one of the gentlemen characterized as a "grabber." I saw Mr. Loring, and found him unqualified in his indorsement of freehold; the principal reason advanced was that he did not want to be continuously worried with conditions; he wanted to work his properties as he pleased. He

stated that the expenditure conditions on claims were always fulfilled in the United States, and when I expressed some doubt in the matter and cited a few cases, he said, "Oh, well, a little palm oil will go a long way in the United States." The inference from this and other remarks was that he had not found "palm oil" successful here, and that this was one of his causes of complaint.

While I was convinced before I left the United States that the American nation should adopt a system of leasehold in dealing with its unalienated minerals, it did not seem possible that a people so nearly akin to our own westerners would so unanimously and emphatically indorse government leasehold as the best method of promoting mining development.

The situation in South Australia in respect to the survey of the public lands, the organization and conduct of the land office, and the operations of the pastoral lease system contains, as in Western Australia, much of interest to America at the present time, and I have, as in Western Australia, collected a large amount of data on these subjects which it is believed will prove helpful.

Very respectfully, yours,

A. C. VEATCH,
Special Commissioner.

MELBOURNE, *December 31, 1907.*

The PRESIDENT,
The White House, Washington.

SIR: There are forwarded herewith reports on "The development and practical workings of the mining law of Tasmania," and on "The coal-land law of Tasmania," and under separate cover a copy of the present Tasmanian mining law and regulations.

The report on Victoria, which I hope to dispatch in a week or ten days will deal with the development of a national mining law under conditions strikingly like those under which the American mining law was developed, but with very different results. In Victoria, as in California, there was, at the time of the discovery of gold, no law governing mining on the public lands. In both instances the discovery of valuable gold fields resulted in an enormous immediate influx of population, but while the United States delayed dealing with the situation, in part through negligence and in part because of that enormous calamity, the civil war, for almost twenty years, and then did nothing but legalize certain customs, some of which have resulted in enormous unproductive expenditures in the shape of law suits, the Victorians took hold of the situation at once and had evolved at the time of the passage of the American act of July 4, 1866, a very comprehensive mining law.

I leave for Sydney, New South Wales, this afternoon, and will there get data from the large coal interests. New South Wales is the most important of the Australian States from the standpoint of its coal production.

Very respectfully, yours,

A. C. VEATCH,
Special Commissioner.

SYDNEY, *January 11, 1908.*

The PRESIDENT,
The White House, Washington, D. C.

SIR: I transmit herewith reports on "The development and practical workings of the mining law of Victoria," and on "The coal-land law of Victoria," and under separate cover a set (in two packages) of the mining acts, regulations, and by-laws now in force. The coal law report, as heretofore, is composed of but little more than abstracts of portions of the general report, but was prepared because of a possible demand for such a separation.

This is probably the last report that I will forward to you before returning to Washington, as the present announcement of steamer sailings does not seem to guarantee that any succeeding report will reach you before my own arrival on the 16th or 17th of March.

I send clippings from local newspapers expressing the views of an Australian pastoralist on the condition of the American sheep industry. Such investigations as I have been able to make in connection with my regular mission indicate that these statements are correct, and that the reason therefor is primarily the system of leasing grazing land in vogue here. Under the security of tenure and guarantee of exclusive right which a lease gives the pastoralists spend large sums in improving their runs. Water is obtained by the lessees by boring, or is specially conserved by more or less elaborate and expensive water schemes; the land is fenced and divided up into "paddocks," sometimes of enormous size. In short, the whole industry is placed on a practical business basis. In South Australia, New South Wales, and Queensland enormous areas are being developed in this manner. The early history of grazing in New South Wales and Victoria, like the early history of mining in these States, presents many points in common with that in the United States, but while the United States in the treatment of its grazing lands has, as in the case of its mineral lands, done nothing but perpetuate these early primitive conditions, the Australian States have progressively improved them.

The fact that time will not permit an exhaustive investigation into the history and practical working details of the grazing system is a source of no little regret to me, but I am collecting a large amount of fragmentary material on this and other matters relating to the land laws and their administration which, it is hoped, will prove of value.

Very respectfully,

A. C. VEATCH,
Special Commissioner.

[The Morning Telegraph.]

SYDNEY, NEW SOUTH WALES, *January 3, 1908.*

"The sheep industry of America is carried on in a most primitive way, and is many years behind the times."

This is the verdict of Mr. B. Chaffey, the well-known Australian pastoralist, who reached Sydney yesterday from a trip to the United States and Canada. Mr. Chaffey, a member of the family whose name is closely associated with the Mildura settlement in Victoria, is carrying on sheep breeding on a very extensive scale on the Lower Darling, and what he does not know about the business is not worth knowing. Last September he went to the United States and Canada for a holiday and incidentally to see how the pastoral industry is worked on the great ranches of the western prairies. What he saw convinces him that we have nothing to learn from America in this branch

of activity. He comes back more than ever impressed with the value of Australia as a land to live in.

"There is apparently," said he, in answer to the question of a representative of the Daily Telegraph, "no fixed land legislation in America to give respectable tenures or anything of that kind, and outside of a few small instances, the industry is carried on in a primitive way. There are under 30,000,000 sheep in the States, and they are of exceptionally inferior quality. What breeds? Chiefly merino, but as to a comparison, well, it is simply impossible to make one. The industry generally is in a much higher state of efficiency in Australia than in any portion of the United States that I know of."

[The Sydney Morning Herald.]

SYDNEY, NEW SOUTH WALES, *January 4, 1908.*

Mr. B. Chaffey, of Tolarna, Moorara, Garnpang, and Tapio stations, on the Lower Darling, has returned from the United States by the R. M. S. *Aorangi*, after a visit of a couple of months. He traveled much in the United States and took the opportunity of visiting Canada. Mr. Chaffey found that the sheep industry as pursued by the American pastoralists is ages behind the Australian system. He found the sheep industry in the States in a very primitive condition, and the methods long ago discarded in Australia still in vogue.

"It may seem strange," Mr. Chaffey told the Brisbane Courier, "but it is nevertheless true, that the American pastoralists have not yet got beyond the conditions which prevailed in the earliest days of the industry in Australia. The sheep men on the American ranches are still working away on the old lines, following the same old methods, and displaying neither sufficient resource nor initiative to strike a new system. Merinos are bred mostly, but in some places there are a few crossbreeds, too few, however, to count. As for the shearing, except in isolated cases, the machine is an unknown appliance. Owners practically depend altogether on casual labor, promiscuously picked up."

[Memorandum attached to letter of A. C. Veatch dated Sydney, January 11, 1908.]

The total area of New South Wales is but slightly less than the combined areas of Montana, Wyoming, and Idaho, but the relative number of sheep and the production of wool in 1905 were as follows:

	Sheep.	Wool.
		Pounds.
New South Wales	39,506,764	264,328,731
Idaho, Wyoming, and Montana	12,075,000	28,372,000

The differences in the total number of sheep and of the average wool production per sheep is a striking testimonial to the statements of Mr. Chaffey.

OFFICE OF UNITED STATES ATTORNEY,
DISTRICT OF WYOMING,
Cheyenne, Wyo., March 23, 1908.

The PRESIDENT,
The White House, Washington, D. C.

SIR: I transmit herewith a report on the mining laws of New South Wales. A report has also been completed on New Zealand, but it has been found impracticable to get it typewritten. The report on Queensland, the last of the state reports, is in course of preparation, but has advanced very little in the past week because of my detail

to this point in connection with a suit involving the fraudulent acquisition of coal lands.

The two most important reports on the Australian investigation have not been begun. In one it is intended to briefly and concisely summarize the results of the test of Government leasehold in Australasia. The burden of detail which it was thought advisable to introduce in the state reports, for the purpose of reference, will be omitted in this general summary, and only the important features emphasized. In the other report it is intended to apply these principles and practical results to American conditions. Some of the devices designed to improve our own situation I have discussed with members of the Department of Justice working in this western region, and have their hearty indorsement.

Very respectfully,

A. C. VEATCH,
Special Commissioner.

MINING LAWS OF AUSTRALIA AND NEW ZEALAND

By ARTHUR C. VEATCH

CHAPTER I.

THE PRESENT MINING LAW OF WESTERN AUSTRALIA.[a]

INTRODUCTION.

The present mining law of Western Australia, with the exception of a special clause in the mining or private property act of 1898, which still remains unrepealed, the sluicing and dredging for gold act of 1899, and certain mines regulation acts, is contained in the mining act of 1904 and the regulations thereunder.

The mining act of 1904 is, in effect, the codification and amplification of the preceding mining law and practice and was passed just after the boom days of the great Coolgardie and Kalgoorlie finds. An amending bill, to be known as the mines amendment act of 1907, is now being prepared by the minister of mines. The proposed amendment, however, if passed, will not in any way affect the fundamental provisions of the mining act of 1904, which indicates that after three years' trial the law here discussed has as a whole been found quite satisfactory. Indeed, the leasing principle, which is to Americans the most important feature of this law, receives the hearty indorsement of the mining men of Western Australia. During a recent visit to the great gold-mining camp of Kalgoorlie the writer received from the principal mining men, including the president and secretary of the chamber of mines of Western Australia, a most united and emphatic opinion that mining development is undoubtedly promoted more by a leasehold than by a freehold tenure.

The proposed amending bill is, for the most part, concerned with the incorporation in the body of the law of certain regulations which have been found effective and of making several changes in details which are described below.

A new section is added which has for its object the prevention of gold stealing by employees in the mines, and further provisions are made for preventing mining swindles.

Among the factors which make these laws important for comparison with the statutes of other countries are:

(1) In Western Australia the population is largely made up of those interested in mining.

(2) Western Australia is a country of great mineral wealth, having produced in each of the last eight years between 1,500,000 and 2,000,000 ounces of fine gold, or several times that produced by Alaska, and has for the same period had a greater total annual mineral production than any of the other Australian States or New Zealand, except New South Wales, which surpassed it in 1906 and 1907.

(3) It contains enormous areas yet undeveloped, the State having an area of almost a million square miles, or more than the combined areas of California, Oregon, Washington, Nevada, Idaho, Utah, Colorado, Wyoming, and Montana, and a total population of less than one-twentieth of that of all these States, or less than that of the single State of Utah.

[a] Report forwarded to Director of Geological Survey from Perth, Western Australia, November 19, 1907.

(4) It is a country in which mineral lands were sold outright and its mineral laws have therefore been evolved from a basis similar to that which now is, and for many years past has been, commonly accepted as the rule and practice in the United States.
(5) The desire of the government to promote and encourage the development of its mineral wealth in every way is emphatically shown by the policy of government aid. This policy in the past has involved enormous expenditure in connection with water supplies for the mining districts, the Coolgardie water system alone (built to pump 5,000,000 gallons a day 351 miles to an elevation 1,200 feet above the supply point) involving an expenditure on the part of the government of over $18,000,000.

The policy of the government in this regard is strikingly shown in the "mining development act of 1902," which provides for—

(*a*) Government loans at 5 per cent to aid in development work.
(*b*) Government loans to miners to aid in prospecting.
(*c*) The erection of public-crushing, ore-dressing, cyaniding, and smelting works, and the subsidizing of persons or companies that will erect such works for testing or treating ores for the public.
(*d*) The conduct of exploratory boring operations for water and minerals either entirely at the cost of the government or in connection with individuals.
(*e*) The direct expenditure or the loan of money for constructing drainage tunnels, sinking shafts to great depths, and transporting miners to undeveloped regions.

The provision for government loans to aid miners in prospecting is not regarded by the mines department as having yielded entirely satisfactory results. Loans are now made to working miners only on the security of machinery. The money invested in public batteries and exploratory boring is, however, believed to have been well spent.

The mining act of 1904 must, therefore, be regarded not as a theoretical attempt of political economists, but as the matured law of a State which has had large practical experience in mining matters, in which, in fact, mining is the principal industry, and in which vast areas await settlement and development; a State which has, moreover, in many ways conclusively demonstrated its desire to permit and encourage the development and settlement of its territory.

UNDERLYING PRINCIPLES.

The Western Australian mining law of 1904 rests on two rather closely related and interlocking principles:

(1) That land shall be utilized for that purpose for which it is most valuable; and
(2) That no man may hold any mineral rights without development, without, in fact, so far as can be reasonably demanded, the constant employment of labor and expenditure of capital.

While encouraging and protecting individual development, there is no indication of the idea that each person who wants it is entitled to a small portion of the public domain, just so much and no more, such as is included in the coal-land law of the United States, nor does it endeavor to curb monopoly, if indeed such was ever the intent of the United States coal-land law in any such clumsy fashion. There is no limit, other than that which may be fixed at the discretion of the administrating officers, to the amount of land any person or persons may hold, provided they develop it—the provision that no mineral rights can be held without constant development being considered a sufficient guarantee that capital will be expended and the country's prosperity thereby promoted; and as regards injurious monopoly or combination the executive officers' discretionary power to refuse to

issue a lease, the requirement of the executive officers' approval to all transfers, mortgages, and the like, and the fact that all leases will some day expire give sufficient guarantee or protection.

This law in respect to the ownership of minerals by the government reasserts the principle that "gold, silver, and other precious metals on or below the surface of all land in Western Australia" whether alienated or not, and if alienated, whensoever alienated, are the property of the government, and that all other minerals which were not alienated in fee simple before January 1, 1899, are the property of the government. These lands in effect belong absolutely to the local government, and no revenue derived from them is paid to England or to the Crown; and this assertion of the government rights to the precious metal is of interest to Americans because of the still legally undecided point whether the right to all gold and silver mines is not vested by common law in the Government in the United States.

In accordance with the doctrine that all land must be utilized for that for which it is most valuable, this law provides:

(1) That after January, 1899, all minerals shall be reserved to the government in lands alienated in any way.

(2) That where minerals are found in lands where the surface rights have been alienated the government may either (*a*) resume the land, paying the owner its value other than for the minerals contained or (*b*) permit mining, provided the surface owner is indemnified for any damage resulting from such operations.

(3) That as regards unreserved minerals in lands that were alienated before January 1, 1899, the government may permit mining therefor under certain conditions.

In order to secure the entire enforcement of the doctrine that no man may hold any mineral rights without development, this law provides, in effect, that none of the minerals to which the government has title shall be sold, but the government may authorize the working of the mineral deposits by those willing to develop them continuously.

The enforcement of this requirement for continuous development is incompatible with the state of freehold. This is but the logical carrying out of the fundamental principle of American mining law—the possessory right. In the early history of mining in the United States, in the absence of any general law, the local mining customs and regulations recognized the right of a man to a mining claim so long as he worked it. If he abandoned his claim, any other person could assert his rights thereto. This principle in a considerably distorted form has been incorporated in that makeshift composition, the mining law of the United States, in which the possessory right, instead of being based on continuous development, is allowed to rest on "annual assessment work" of the most meager description, necessitating in practice only a few days' work a year, though the expenditure is supposed to amount to $100 per annum, and requiring this only until a total expenditure of $500 has been made when freehold title is given on payment of a nominal price per acre.

The Western Australian mining law from some time previous to 1904 held in respect to minerals on public lands and reserved minerals on private land that only those who would continuously develop could hold a mining tenement of any description; the law of 1904 goes a step further by applying this doctrine to all the lands in the State. It now declares, as regards private lands, where the title to certain minerals under some previous grant or law is vested in the owner of the surface, that if the owner will not work the minerals the

government will permit anyone who desires to work them to do so, will assess and collect rent or royalty or both and pay the proceeds to the owner of the fee simple less 10 per cent for administrative expenses.

MINING TENEMENTS.

The various kinds of mining tenements which are now possible in Western Australia are:

1. Claims.
2. Prospecting areas.
3. Mining leases.
   (*a*) For gold.
   (*b*) For minerals other than gold or coal.
   (*c*) For coal.
   (*d*) For minerals on private lands.
4. Holdings in connection with mining.
   (*a*) Residence and building areas.
   (*b*) Machinery, tailings, and washing areas.
   (*c*) Market-garden areas.
5. Water rights.
6. Miner's homestead leases.
7. Reward claims and leases.

Claims.—The miner's claim, like the miner's claim under the United States law, may be taken up on any public land not otherwise appropriated or reserved. It is essentially the old possessory right mining claim which may be held only on the condition of continuous development; the government, however, in this case guarantees possession by registering the claim, and goes further in the protection of the miner by giving the executive officers power to relieve, for limited periods, the holder of a claim from the required development work, for any good and sufficient reason. The condition of continuous development, which is interpreted to mean the work of one man every working day in the year for each two men's ground contained in a lode claim until payable and for each one man's ground in all other cases, is a much more exacting requirement than the "$100 assessment work" required each year by the United States law. In practice this would mean, if applied to the United States, that the continuous work of 8 men (because 8 men's ground is contained therein) would be required to hold a 160-acre placer petroleum claim, or an expenditure, estimating labor at only $2 per day (in some of the States the value of a day's assessment work has been fixed by law at $4), of between $4,000 and $5,000 per year. A claim can, moreover, be held only by the holder of a miner's right, which may be obtained at a cost of 5s. and is good for one year, but is indefinitely renewable at that same cost per year.

As originally drafted this law contained a specific provision that only one claim could be held for each miner's right (any person or company can obtain any number of miner's rights), and so involved an automatic declaration at the end of each year of the condition of each claim. If the miner desired to hold a claim he would take out a new miner's right in respect thereto; if not, the claim lapsed and the records clearly showed that it had lapsed. This specific provision was, however, opposed in Parliament by the labor members and was omitted, but the act as passed contains several clauses which would permit the enforcement of this sort of a provision by regulations.

The mines department, however, has not availed itself of the powers conferred by these clauses. In order to clear the matter up provision for only one claim for one miner's right is to be incorporated in the amending act now being prepared.

Claims must be rectangular except where existing boundaries interfere. The areas considered one man's ground in the different kinds of ordinary alluvial claims are: For gold, silver, and platinum, 25 by 100 yards; for nonmetallic minerals, 125 by 100 yards; and for precious stones, 50 by 50 yards. One man's ground in the case of lode claims may be of the following dimensions: Gold, silver, and platinum, 20 by 130 yards; all other metallic minerals, 50 by 130 yards; nonmetallic minerals, 75 by 130 yards; precious stones, 50 by 130 yards. Provision is made for alluvial claims called "Extended alluvial claims," and for "river claims," 2 to 3 times the size of ordinary alluvial claims, where unusual conditions are encountered. Any number of men not exceeding 10 may take up the proportionate multiple of one man's ground. By a supplementary regulation issued July 25, 1905, ground which has been worked and abandoned, or is suitable only for dredging, may, with the consent of the warden, be taken up as dredging claims. A single dredging claim may not exceed 300 acres, but a union of claims under certain conditions is permitted. Claims must ordinarily be not less than 15 chains in width, but the only condition as to river claims is that they shall not exceed 6 miles in length. In a dredging claim one man must be employed for every 100 acres or machinery whose value is not less than £1,000 per 100 acres must be kept constantly in operation, and in no case shall the total value of the machinery be less than £3,000. This provision regarding dredging is to be incorporated in the proposed amending act under a special clause providing for dredging leases. The only changes made are that the area allowed is 320 instead of 300 acres and a rental of 2s. 6d. per acre per year is to be charged. The existing dredging enactment (the sluicing and dredging act, 1899) referred to below is to be repealed.

Neither claim nor any other form of mineral tenements gives any extralateral rights in Australia in the case of lode deposits, and the numerous expensive lawsuits which have hindered the development of the West have thus been avoided.

There is no provision compelling the holder of a claim to take out a lease in case he develops a paying mine, but in practice it is found that under such conditions most miners prefer to convert their claims into leases. For minerals other than coal the rent is greater per acre under a lease than the annual cost of a miner's right per acre of claim, even where only one claim is taken out, but the labor requirements on a lease are relatively much less than on a claim, and hence in case of misfortune it offers a more secure tenure. Moreover, the government may at any time by published notice exempt from further occupation by the holder of a miner's right any specified portion of the government lands, in which case the holder of the claim is entitled to damages only for the values of any substantial buildings he may have erected on the claim. Mr. H. S. King, the under secretary for mines, states: "Though this power is given, I know no case in which it has been exercised." It is opposed to the general tone of the legislation, and it is doubtful if it would ever be

enforced. On the whole, the preference for a lease rather than a claim seems to be more imaginary than real. The opportunities of getting exemption for cause are just as good in a claim as in a lease, the rent is much less, and there is no limit to the period of tenure so long as the conditions are complied with. While under this legislation it is possible to take out coal claims there is no advantage in doing so in projects involving extensive development and in practice coal operators will take out either prospecting areas or leases.

Such a system of mining claims largely prevents the staking out and holding of large areas, such as is now possible in the United States, by one or more local speculators who have no intention of developing, but who stake out and hold these claims only for the purpose of levying tribute on the bona fide developer. As these speculators can in the United States hold the claims for a year without any expenditure of capital, the practice must be regarded as permitting a serious retardation of development. It certainly is not in line with a government policy which has for its object the encouragement of actual development and settlement.

Prospecting areas.—The prospecting area seems to have been particularly designed to meet the needs of the prospector for coal and oil, for which the mining claim is in nowise suited. The holder of a miner's right may, with the approval of the warden, acquire exclusive right to prospect for coal or oil over an area not exceeding 3,000 acres for twelve months from date of registration of his area. This period may be extended six months, but no longer. The holder of a prospecting area may not remove any mineral from the area, except samples not exceeding 50 pounds, without the consent of the warden or mining registrar. On discovery of mineral in paying quantities he can obtain, according to circumstances, either an ordinary or a reward lease.

As applied to gold and minerals other than coal, the prospecting area offers a tenement intermediate between a claim and a lease. It permits an area varying from 18 to 48 acres, according to circumstances, and as a rule somewhat smaller than a lease but very much larger than a claim, to be held for no more labor requirements than a claim and at very much less cost than a lease, but the holder has no right to mine and sell minerals as on a claim or lease and his right expires absolutely in eighteen months. As a means of holding a piece of land until by careful exploration an operator can determine whether he desires a lease, this tenement, however, offers several decided advantages and has a very definite place in the scheme of mining development.

Mining leases.—No miner's right is required in taking out a lease, and this form of tenement may therefore be acquired without prospecting, but it is specially provided that no land held as a claim can be included in a lease without the claimant's consent. The maximum term for mining leases for all substances is twenty-one years, but provision is made for renewals for further periods of the same length, "subject to the provisions of the acts and regulations in force at the time of such renewal." The area allowed in any lease varies according to the substance and conditions, but the dimensions must be such that the length shall not exceed twice the width, except in the gold-dredging leases provided for by the dredging act of 1899.

The maximum areas which may be covered by a single lease are as follows:

	Acres.
Gold mining lease[a]	24
Gold mining lease, where ground has already been worked and abandoned or where cost of development is likely to be excessive	48
Gold dredging or sluicing lease in swamps, lakes, and lagoons (any part of such a lease is, however, open to entry as a claim and subject to lease for ordinary mining)[b]	5,000
Lease for minerals other than gold or coal[c]	48
Lease for minerals other than gold or coal where ground has already been worked and abandoned and where cost of development is likely to be excessive	96
Lease for precious stones	24
Coal lease ("coal" for the purposes of this act is defined as including "ironstone, shale, and fire clay")[d]	320
Coal leases, reward for discovery	640

Leases, the property of the same lessee, may be amalgamated under certain conditions. As to minerals other than coal, the minister may in general permit amalgamation up to 96 acres, but in special cases he may permit amalgamation to any extent he may deem necessary for the proper working of a reef or lode to a depth of 3,000 feet; such exceptional amalgamation is, however, subject to any conditions which the minister may from time to time impose and is also subject to such restrictions of areas as he may decide is advisable if subsequent development shows that the separate working of any lease included in the amalgamation is desirable. The minister may likewise allow the amalgamation of coal leases, provided the aggregate does not exceed 2,560 acres when the seam is of ordinary depth and 5,120 acres when the seam is at a depth of over 1,000 feet. Amalgamation permits the satisfaction of the labor conditions for a group of adjacent leases at one point, and is hence subject to cancellation on the transfer, surrender, or forfeiture of any lease included in the amalgamation.

The rent and royalty assessed are as follows: In ordinary gold-leases, 5s. or £1 per acre per year for the first year, as may be determined by the governor, and £1 per acre per year thereafter; in a gold-dredging lease, 6d. per acre per year and a royalty of 1s. per ounce of gold won; in an ordinary mineral lease, 5s. per acre per year, and in

[a] Under the proposed legislation, silver, platinum, and precious stones are classed with gold and dealt with under the provisions which now apply to gold alone.

[b] This was a special enactment (the slucing and dredging act, 1899) passed under the supposition that certain alkali lagoons and swamps on the gold fields would prove dredging propositions. There has been no development under this act, and in the proposed amendment it is to be repealed and provisions similar to those now in the regulation regarding dredging claims enacted therefor. The proposed rental charge is 2s. 6d. per acre per annum and the area of a single lease 320 acres.

[c] The conditions which now apply to all minerals except gold and coal are, under the proposed act, made to apply to tin, copper, lead, zinc, mercury, bismuth, arsenic, antimony, nickel, cobalt, wolfram, scheelite, chromite, molybdenite, tantalite, stibiotantalite, monazite, bauxite, kaolin, asbestos, mica, minerals containing earths used in the manufacture of incandescent-light mantles, minerals containing radium, phosphorite, gypsum, marble, ornamental stone, roofing slate, infusorial earth, graphite, iron pyrites. In this class amalgamation up to 192 acres is to be permitted.

[d] Under the amending act the following minerals are classed with coal: Carbonaceous shale, oil shale, petroleum, iron and manganese ores, building stone, ironstone, clay, fire clay, and common salt. But provision is made for a rent of 2s. 6d. in all cases except for coal, and in substances other than coal the maximum amalgamation permitted is to be 1,280 acres. Prospecting for minerals of the first two classes in the land covered by leases of this class are to be permitted under certain conditions.

mineral lease of the second character, 2s. to 5s., as may be determined; in an ordinary coal lease 6d. per acre per year and a royalty on every ton of coal raised of 3d. for the first ten years and 6d. thereafter; in a reward coal lease rent at 6d. per acre per year, no royalty for the first ten years and then a royalty of 1d. per ton. There is no limit expressly fixed to the number of leases any person or company can hold, but the law provides that the governor may refuse to issue any leases and that no lease shall be transferred, sublet, mortgaged, encumbered, or otherwise dealt with without the written approval of the warden or minister.

Under the conditions of continuous development it is required that a lease granted for coal or oil shall be worked every working day by not less than one man for every 60 acres or fraction thereof for the first twelve months, two men for every 60 acres for the second twelve months, and three men for every 60 acres thereafter; gold leases and mineral leases in which double area is allowed must be worked by not less than two men for every 12 acres thereafter. Ordinary gold and mineral leases must be worked by one man for every 6 acres after the first twelve months. Provision is made, however, for exemption from labor conditions if the holder has made reasonable efforts to work and develop the mine and is prevented from doing so by conditions beyond his control. Exemption may also be demanded as a right for certain periods by the expenditure of a given amount of capital in a certain length of time. The executive officers are in this respect given very wide discretionary powers and are able fully to protect any bona fide developer from loss through forfeiture due to no real fault of his own. In some of the earlier Australian enactments in which no provision was made for exemption from the development conditions, the labor covenant was used by labor organizations as a lever to accomplish their ends. Specific provision for exemption in case of general strikes is made in the last enactment. It also provides for exemption for six months as a right on the expenditure of £1,500, and in the same direction of rendering the tenure more secure, permits the warden in cases of breach of labor covenants either to recommend forfeiture or to impose a fine not exceeding £500, from which the complainant may be compensated for expenses and loss of time. In the proposed mining bill a new and very far-reaching cause for exemption is proposed in the clause which allows exemption when, "owing to existing conditions, it is impossible to dispose of the product of the leasehold to a profit."

The chamber of mines of Western Australia has for several years strongly recommended, and in this recommendation they have the concurrence of the present minister for mines and the mines department, that the condition of continuous development be expressed in money instead of men. They feel that while they have no complaint to make on the administration of the law thus far, and that while under existing law the executive officers have sufficient discretionary power to enable them fully to protect the bona fide developer, there is always the danger that the Labor party, which is now greatly in the minority, may become more powerful, and of the country having a labor minister for mines who might be arbitrary and unreasonable in the granting of labor exemption. This change, it is thought, would render the tenure more secure without in any way affecting the underlying principle that all mining tenure must rest on development.

Leases authorizing the removal of any of the reserved minerals on or under private lands and mining claims to any portions of such lands may be obtained at the discretion of the minister of mines and subject to the payment of compensation for damages to the owner and occupier of the surface, the amount or amounts to be fixed by agreement or, if the parties can not agree, by the warden. The area, rent, and royalty of such leases are the same as those on the public domain. If the government desires, it may resume any such private lands on payment of fair compensation, no allowance to be made for the value of the reserved minerals. When land is resumed in this manner, the rent and royalty are not subject to the general provisions of the law, but may be fixed at will by the governor.

In respect to the unreserved minerals on alienated lands this law, carrying out the doctrine that all land should be utilized for that for which it is most valuable, and that no one can hold mineral rights to the exclusion of another without development, declares that any person may petition that such land be declared open to mineral development. If on investigation the government decides that there is a reasonable probability that the land contains minerals in paying quantities, the minister may, in his discretion, by the publication of a formal notice, declare that at the expiration of six months from the date of such notice the land specified will be considered mineral land. If within this six months' period the owner registers with the department a declaration that he desires exclusive right to mine on such land or any portion thereof, the area indicated by the owner will be surveyed into lease areas of the regulation size, and the owner shall, so far as development is concerned, be held to hold the land subject to a mineral lease or leases, and it shall be obligatory for such registered owner to work the land in accordance with the requirements of the mineral acts and regulations, but no rent or royalty shall be payable. If this owner does not within the six months' period register his exclusive right to mine on the area, the government proceeds to lease the same in the usual manner, but during the currency of the lease pays all rent and royalty to the owner less 10 per cent. Thus while giving the owner a preference right in respect to mining on his own property, it effectually prevents him from hindering the general development of the region.

Holdings in connection with mining.—In a mining region certain tenements are required which do not necessiate anything more than surface rights. The proper conservation of the interests of all parties concerned demands that special provisions be made for such holdings, which will at the same time guarantee the occupier thereof against damage to his improvements and yet will not allow such holdings to interfere with the removal of minerals, on which the prosperity of the whole settlement ultimately depends. The holder of a miner's right is therefore authorized to take up the following: A residence area not exceeding one-fourth acre; a business area, not exceeding 1 acre; a market-garden area, not exceeding 5 acres; a machinery area for erecting machinery for extracting gold or minerals, not exceeding 5 acres; a washing area, for washing any earth containing gold or minerals, not exceeding 5 acres; a tailings area, for stocking and treating tailings, not exceeding 5 acres. For all these, except the market-garden area, for which the rent is 5s. per acre per year, a rental of £1 per acre

per year is charged. These areas are registered and may be held so long as they are actually used for the purpose for which they are registered. Any portion of such holding may be granted as a lease or claim, but only subject to payment of compensation for all damages. In the proposed legislation all these holdings are treated as leases for a period of twenty-one years instead of registered holdings under a miner's right. The rentals range from 2½s. to £5 per acre per year. A new form of lease, "the tramway lease," is added.

Water rights.—In a semiarid region such as that containing the most important of the Western Australian mineral fields the matter of water supply largely controls the possibility of development and the mineral law and regulations practically provide for government control of this subject. In the first place, practically all permanent water is reserved by the government. Water may be obtained (except from one of the public or private systems) only by the holder of a water right. Water rights are divided into (1) stream water rights; (2) lagoon, lake, spring, or swamp water rights; (3) watershed or storm water rights; (4) dam, tank, or reservoir water rights; (5) subterranean water rights; (6) race or pipe track water rights. In the first two cases the amount of water that can be used is limited. Provision is made in all cases for the sale of water by the holder of a water right, but the minister reserves the right to fix prices. For a stream water right there is no rental; for a watershed water right the rental is 6d. per acre per year of the area of the watershed; for a dam, tank, or subterranean water right the rental is £1 per acre per year; for a lagoon, lake, swamp, or spring water right, the rental is 6d. per 1,000 gallons.

Miners' homestead leases.—The governor, by proclamation, may create gold or mineral fields with such boundaries as he may decide, may alter the boundaries of such fields, or may abolish the fields entirely. No land in any such gold or mineral field may be disposed of under the general land laws except with the consent of the minister of mines. The provision in the mining law for miners' homestead leases seems to indicate that in a gold or mineral field the ordinary homestead laws are generally not operative, for it provides for a kind of tenure which is very similar to the conditional homestead purchase, and which is evidently intended as a substitute for it. The holder of a miners' homestead lease, however, acquires no title to the soil, although after paying rent for twenty years he acquires the right to hold the same indefinitely at a rental of 1s. per year for the whole area, if the rental is demanded. This form of tenure is evidently intended to provide for the acquisition of larger areas than are authorized for the holdings above described.

Any holder of a miner's right (either an individual or a company) may take up any number of homestead leases, provided that the aggregate area taken up in any gold field shall not exceed 20 acres, if the land is within 2 miles of the nearest boundary of any town site and 500 acres if beyond that distance. The rent for the first twenty years is 2s. per acre per year if the area is less than 20 acres, and 6d. per acre per year if the area exceeds 20 acres. The lessee must, within three years from date of the lease, fence the whole of the land and within five years make improvements to the value of 10s. per acre. Such a homestead is, however, open to mineral lease or claim and is in part or whole subject to resumption on six months' notice, but in any

of these cases the holder of the homestead lease is compensated for the improvements affected.

Reward areas and leases.—As regards coal, the law provides that the discoverer of payable coal more than 16 miles from the nearest known payable coal or at a depth exceeding 600 feet, shall be entitled to a reward lease of 640 acres free of royalty for ten years, after which the royalty shall be but 1d. per ton. In regard to the other mineral discoveries there is a general provision that the minister may grant reward areas by way of lease or otherwise to the discoverer of minerals. Under this provision the discoverer is at present allowed by the regulations either to take a reward claim, which varies in area from 1 to 16 acres according to the minerals found and the distance of the discovery from other mines, or to take a reward lease, which is of the same size as an ordinary lease, but in which the rent is omitted for a period not exceeding five years, the period varying according to the distance of discovery from other mines.

ADMINISTRATIVE AND JUDICIAL SYSTEM.

The administration of the provisions of the mineral law is vested in a minister, under whom are wardens for each gold or mineral field, mining registrars, mining surveyors, inspectors, geologists, and such other officers as the governor may deem necessary. The wardens are both executive and judicial officers, and command salaries of from $2,600 to $4,200 per year and quarters. It is this judicial portion of this system that is of the greatest interest to Americans, because of the evident expedition which is possible thereunder. The warden's court has in effect jurisdiction over all matters relating to mining tenements and mining; its proceedings are similar to the local courts and its judgments enforced in a like manner; it may order mines or minerals seized by bailiff or other officer until further order of court; it may inspect any mine or mining tenement and "may take judicial notice of anything observed," or it may order such inspection, may issue injunctions, may procure witnesses by means of subpœna, may punish for contempt by fine or imprisonment, may order sale under writ of execution, etc. Appeals from the decisions of the warden's court lie to the supreme court, but no appeal is permitted:

(1) If the parties agree that the warden's decision shall be final.

(2) If the value of the matter or interest in dispute does not exceed £200, except by permission of the supreme court or a judge.

(3) From any decision, order, or recommendation of the warden upon any application for a mining tenement, the forfeiture thereof, or exemption from labor or other conditions. (Except to the minister of mines in case the final decision rests with him, as it usually does.)

This gives ample and effective judicial powers to the officers who are charged with administration of the law and who are on the ground. Under the American system a limited amount of judicial power is vested in the Land Office under the Secretary of the Interior in respect to lands so long as they remain in the hands of the United States, but this is very different from the judicial powers here vested in the officers of the department of mines. The intricate relation of State and Nation, of state courts and federal courts, of course greatly complicates the situation in this respect in the United States, but it must be conceded that the effective and rapid judicial administration of

any extensive mineral-leasing system in the United States is certainly not one of the least matters deserving earnest consideration in connection with any adequate mineral-land legislation.

CONCLUSION.

The Western Australian mining law is, in short, a wonderfully symmetrical and carefully balanced enactment; and while one may not regard it as applicable in all its features to American conditions, it contains many suggestive provisions, all of which merit careful consideration. They can not in any way be considered the idle visions of the theorist, but are the mature enactments of a legislature whose members are entirely chosen by the voters of a great democratic mining State—a State which ranks among the great mining states of the world, and which has as recently as 1904 reorganized and revised its mining laws to meet the practical workaday conditions of that region.

CHAPTER II.

The Development and Practical Workings of the Mining Law of Western Australia.[a]

The history of the mining law of Western Australia is one of very gradual and normal development under peculiarly favorable circumstances. In every stage of the growth of Western Australia, from a nonmineral country to the greatest mineral-producing State of Australasia, the mining law has ever kept a step ahead of the mineral development. There is constant evidence of wise supervision which was ever ready to change and amend the law to meet new conditions as rapidly as they arose, and which, while endeavoring in every reasonable way to encourage the individual to develop, has ever been on the alert to safeguard the general interests of the community.

Although Western Australia was first permanently settled in 1829, its mineral history does not commence until 1842, and gold was not discovered in payable quantities until 1885. The country first settled was for the most part a recent coastal plain containing little or no mineral wealth, and, although a circular of information issued by the British colonial office on March 1, 1831, contained the statement, "The Crown further reserves to itself all mines of precious metals," and such a reservation was inserted in all the crown grants with but one exception[b] up to 1899, when the reservation was extended to cover all minerals, it was not until long after the British Government had placed the disposition of minerals and lands entirely in the hands of the people of Western Australia that gold was found in payable quantities. The first metals discovered were the baser ones, and the government policy was developed around these.

The first reference to mineral land was in a proclamation in the Government Gazette of March 28, 1839. In this the government offered a grant of land of 2,560 acres in fee simple to any person "who may discover and point out any considerable bed of coal," the land to be selected "in any located district in the vicinity of the mine, but not so as to interfere in any way with the working of it."

From this it appears that the government clearly did not intend that the discoverer should be permitted to acquire title to any coal land. How it would have dealt with such coal land is a matter only for fruitless speculation, since, although the offer was again repeated on April 6, 1839, and in 1840, 1844, and 1847, no commercial coal was found. Whatever may have been the idea of the government in reserving this coal land from selection, when deposits of lead and copper were discovered in 1842, the land was sold soon after the

[a] Australian Mining Law Report No. 1, forwarded to President December 3, 1907.

[b] This involved about 215,000 acres in the vicinity of Kalgoorlie, which was granted two years before the discovery of gold at that place. In this grant the right to mine gold was specifically given.

discovery of these minerals under the regulations covering disposal of ordinary agricultural land. These required that agricultural land be sold at public auction for not less than £1 per acre and in areas not less than 160 acres. Other discoveries followed, and until 1853 mineral lands were disposed of under exactly the same conditions as the other lands of the colony.

In January, 1846, Lieut. Andrew Clarke succeeded John Hutt, esq., as governor, and seems to have at once taken up the matter of the sale of mineral lands under the ordinary land regulations. On July 25, 1846, he wrote to the colonial office requesting information as to whether or not copper, lead, and iron were precious metals, and caused the following notice to be published in the Government Gazette of September 25, 1846:

COLONIAL SECRETARY'S OFFICE,
Perth, September 17, 1846.

His excellency the governor, having learned with great satisfaction of the discovery of the existence of metalliferous ores in this colony, is pleased to direct it to be notified for general information, with a view to prevent any apprehension as to the royalties to be reserved to the Crown in all future grants of land, known or supposed to contain such ores, that the amount of such royalty will not for the present exceed one-fifteenth of the proceeds of the mine, and that with the exception of this reservation and the conditions necessary for the securing of it, all lands will be put up to sale as heretofore.

Dispatches on this subject are expected from Her Majesty's Government, and full regulations for the information and guidance of the public will shortly be promulgated.

The claim of the government to all metalliferous ores suggested in this notice was evidently based on a supposition that such ores were precious metals. The royalty indicated in this proclamation does not appear to have been collected, and the question raised was settled by the British colonial office in the following dispatch which was published in the Western Australian Gazette, December 10, 1847:

COLONIAL OFFICE, DOWNING STREET,
London, December 23, 1846.

SIR: I have received your dispatch No. 29 of the 25th of July last, in which you submit the question whether the terms of reservation hitherto used in deeds of grant in W. A. (namely, "all mines of gold, silver, and other precious metals") can be legally held to include copper, iron, lead, or other metallic ores than those of gold and silver. * * * I have to acquaint you that it was not the intention of Her Majesty's Government to claim on the part of the Crown, under the name of "precious metals," such minerals as copper, iron, or lead.

Since only mines of copper and lead were then known in the colony, the regulations promised in the governor's proclamation of 1846 were not issued, and all mineral lands continued to be sold under the same conditions as agricultural lands.

The lead regulations, proclaimed September 9, 1851, having made provisions for pastoral leases under which a lessee had the preemptive right to purchase any part of his lease at a fixed price without submitting the same to auction as in ordinary cases, a means of securing mineral lands without the competition and risk of an auction sale was afforded. This was evidently due to an oversight in drafting the land regulations, and as soon as this possibility was appreciated (August 20, 1853) all lands "known to contain minerals or mineral indications" were exempted from acquisition under preemptive rights, and it was decreed that all such lands should be offered at public auction at the ordinary upset price after three months' notice in the Government Gazette. This was followed, on March 4, 1854,

by a notice which reduced the minimum area which could be purchased "of land conjectured to contain valuable minerals" to 80 acres, and which required that the land must be advertised as "mineral land" three months prior to its sale. This put an end to the questionable practice which had been in vogue since the discovery of minerals in 1842, of publishing notices of auction sales of mineral lands which were simply descriptions of blocks of land without anything to indicate, except to those on the inside, that the land contained minerals.

In 1865 the leasing principle was first applied to mining. "Mining licenses," which permitted the holder to search for minerals, were issued for a term of one year at a rate of 2s. per acre. These were renewable for a further period of one year on payment of 4s. per acre. No license was to be issued for less than one year nor for a sum of less than £8. These mineral licenses gave to the holder an exclusive right to prospect, but no right to remove minerals, and hence were essentially the same as the modern prospecting area. Mining leases were issued for periods of not exceeding ten years at an annual rate of 8s. per acre. The sale of mineral lands was continued under the following provisions:

> Lands known or supposed to contain minerals shall be termed "mineral lands" and (except those containing precious metals and coal) shall be sold to the first applicant at the fixed price of £3 per acre.

The minimum area allowed was 80 acres and the payment might be distributed over three years. These regulations continued in force until March 20, 1872.

The royal family in England relinquished its right in respect to the precious metals to the state in 1760, and the right to precious metals has since that time been exercised by the state as an incident of sovereignty, but while all mines of precious metals were reserved to the "Crown"—that is, the British Government—in all grants and mineral leases in accordance with the circular of information above mentioned, the working of these metals under local supervision was so regarded as a matter of course that on July 20, 1869, the Government offered a reward of £5,000 to the discoverer of a payable gold field within 300 miles of any declared port of the colony, to be paid after 5,000 ounces of gold had been shipped to Great Britain.

This proclamation having caused a question to be raised as to the right of the local government in the matter of dealing with gold, the governor, on October 13, 1869, pointed out to the colonial office "that power should be given to the governor in council to waive the right of the Crown to minerals, a right which has been waived in all other Australian colonies, and the maintenance of which in Western Australia may cause much embarrassment." In reply the Earl Granville, then secretary of state for the colonies, conveyed to the governor power to waive the right of the Crown to minerals in Western Australia in the event of the discovery of gold in the colony." This, in placing the matter entirely in the hands of the governor, is regarded in Western Australia as the waiver on the part of the home government of its rights to minerals. Whatever question may have remained concerning the transfer of these rights to the local government was completely set at rest by the Western Australian constitution act of 1890 (Imp. Stat. 53–54, Vict. C., 26), which provided that

the entire management and control of all royalties, mines, and minerals were vested in the legislature of that colony.

Because of the conditional clause, "in the event of the discovery of gold in the colony," leases still contained the reservation of precious metals. On the first discovery of gold the local government at once availed itself of the privilege thus conferred and issued regulations dealing with mining for gold. On one occasion, owing to the reported discovery of a rich gold-bearing reef on the Blackwood, in the southern part of the colony, a draft of regulations dealing with auriferous land was prepared in great haste. This reported discovery, however, turned out to be a mistake or a hoax, and the governor, Sir William Robinson, to whom the draft had been sent for approval, returned it with an indorsement to the effect, "These papers may now be filed, but they will be wanted again some day." Later, with the reported discovery of gold in 1884, regulations relating to auriferous lands were again drawn up, but nothing was ever done under these regulations, and with the confirmation of the discovery of gold the goldfields act of 1886 was passed by the legislative council and proclaimed by the governor.

The land regulations of 1872 were in force for twelve months when they were replaced, as regards mineral land, by the rather more liberal regulations of 1873. The regulations of 1872 provided for "licenses to search for minerals," which were granted for terms of two years on the payment of 2s. 6d. This is the first indication of the modern miner's right. The holder of "a license to search" could, on the payment of £1, define a block of not more than 200 acres and enjoy exclusive right to prospect thereon for a period of twelve months, which period might be extended a further twelve months on payment of £1. The holder of such a "miner's right" could only remove minerals for testing purposes, and then not exceeding a total of 5 tons. Leases for twenty-eight years for all minerals except precious metals and coal, for which no provisions were made, could be obtained for not more than 200 acres nor less than 20 acres, at the following rates:

For the first seven years, 5s. per acre per year.
For the second seven years, 10s. per acre per year.
For the third seven years, 15s. per acre per year.
For the fourth seven years, 20s. per acre per year.

Provision for the sale of mineral land was made only on the termination of a lease, at which time the lessee might purchase at a rate of £10 per acre, or renew the lease on such conditions as might be agreed upon. The regulations of 1873, while retaining the features regarding licenses to search and exclusive prospecting areas, provided for leases of seven years [a] at a rental of 5s. per acre per year, and introduced the new principle of requiring development before sale. Under these regulations mineral lands could be sold only after a person or company had erected such a plant as the commissioner deemed necessary for the proper working of the mine, or had filed bond with ample securities to do such work. Under these conditions land could be purchased in areas of not less than 20 acres at £3 per acre. These

[a] In the body of the regulations provision is made only for the period of seven years, but in the schedule referred to, which is a form of lease, provision is made for lease of twenty-eight years on the same conditions as the 1872 enactment.

regulations likewise provided that if any lease should remain unworked and undeveloped for a period of twelve months such a lease should be liable to forfeiture.

These regulations applying to mineral lands other than gold appear to have been but little changed until 1892. Under the regulations of 1887 the holder of a license to search was permitted to enjoy the exclusive right of mining on a selected 20 acres during the term of his license. If he desired to mine on this 20 acres after his first year, he was required to take out a lease therefor. The lease period is definitely fixed at seven years, and the reservation is changed to include "precious metals, gems, and jewels."

The discovery of gold in payable quantities in 1885 led at once to the passing of "An act for the management of gold fields," which came into force on October 1, 1886. This act of necessity recognized the possessory miner's claim, which had not before been known in Western Australia. Miner's rights which permitted the holder not only to search but also to take up claims and mine for gold were procurable on payment of £1 per year, and were in force for any term of years not exceeding ten. Provisions were made for leases not exceeding 25 acres, soon afterwards changed to 24, at a rate of £1 per acre per annum for periods of twenty-one years, but these could not be obtained until two years after the proclamation of a gold field. This restriction was, however, found to be unsatisfactory, and was repealed in 1888. In the original enactment no provision was made for the renewal of the lease, but in 1894 an amendment was passed granting authority to renew all leases for a further period of twenty-one years upon the terms and conditions of the acts and regulations in force at the time of such renewal. This provision holds to this day, and is believed to give an essentially perpetual title so long as the conditions of the lease are fulfilled.

Although provision was made for development work as one of the essential conditions of a lease in the mineral-land regulations as early as 1872, no such provision was incorporated in the act of 1885, and as a result "large numbers of leases were taken up, * * * but very little work was done." This defect was remedied in 1892, when it was required that all leases issued should be worked continuously by not less than one man for every 3 acres. This condition was found rather exacting, and the requirement has since been reduced to one man for every 6 acres, which is universally regarded in Western Australia as entirely fair and reasonable. Although this requirement of continuous development was introduced to prevent speculative holding and to promote bona fide development, it was found that in many cases it worked undue hardship on the bona fide developer. Amendments were therefore made from time to time providing for the granting of exemption from the labor conditions for any good and sufficient cause. The early provisions gave the warden no discretionary power; on proof of noncompliance with labor conditions he had no alternative but to forfeit the lease. This excited fear on the part of the large companies that through the neglect or incompetence of their local manager they might be guilty of a technical breach of the conditions of their lease. In the extensive evidence taken by the Western Australia royal commission on mining in 1897 no case was adduced of the forfeiture of a lease so long as a genuine desire was shown to work it, but the possibility

that the power which the law gave might fall in the hands of "undesirable persons" was regarded by all the principal interests as a grave danger. Power was therefore given to the warden in the gold-fields amendment act of 1898 to impose for the first offense a fine or forfeit, as the facts in the case demanded. The act of 1904 went further and provided for exemption as a right (not at the discretion of the minister or warden as above) for six months on the expenditure of £1,500 for every 24 acres held under a gold-mining lease, or for every 48 acres held under a mineral lease, and twelve months' exemption where the sum exceeded £4,000 for the same areas, but "no exemption shall be granted for any expenditure incurred prior to the date of any expired exemption."

In 1887 new land regulations gave power to the governor, in addition to making the usual reservation of all gold, silver, and other precious metals, to "direct whether any of the precious metals existing in the form of metalliferous deposits or any inferior metals or any gems or jewels should be reserved to the Crown, in which case the form of the deeds of grant should be modified." The land act of 1898 went a step further and directed that all crown grants issued thereafter should contain a reservation of all minerals. This act, however, introduced the principle of selling agricultural lands, still with the reservation of minerals, to a limited depth. From January 1, 1898, to January 1, 1899, grants of land on the gold fields extended only to depths of 15 or 20 feet. On and after January 1, 1899, deeds for gold-fields lots were issued to a depth of 40 feet, and all other lots to a depth of 2,000 feet, until the 1st of March, 1904, when the depth was made 200 feet.

In 1890 the first steps were taken to permit the working of all reserved minerals on private property. A proclamation was issued authorizing the owner of the land to work the reserved minerals on payment of royalties "for coal, 6d. per ton; for gold, 2s. per ounce; for other minerals, 2½ per cent of value of gross output."

This provision was followed in 1897 by a mining on private property act, which was based almost wholly on the South Australian enactment of 1888 as amended in 1895. This provided for the resumption of the land on certain conditions involving compensation to the owner, together with a portion of the revenues received by the government. This act provided that before such mining could be permitted an official of the government must in all cases certify that the land in question contained precious metals in payable quantities. As no provision was made for prospecting or other means of determining the mineral value by the government official the law was found unsatisfactory in the only case in which an attempt was made to apply it. It was repealed in 1898, when an enactment based on the provisions of the Victorian mining law was substituted. Under this enactment the government may authorize prospecting on private lands for the precious metals, and may grant leases for the purpose of mining for such metals, subject to the payment of compensation to the owner for damages. This provision was slightly amended in 1899, but its broader features still remain in force.

In the mining act of 1904 Parliament carried to the fullest extent the doctrine that "all land should be utilized for that which it is most valuable" by declaring that if a private owner would not work the unreserved minerals that the government would permit anyone

else to do so; would assess a rental or royalty and pay the same to the owner less 10 per cent for administrative expenses.

In 1892 the mineral lands act was passed extending the application of the general principles which had been applied to gold mining to all other minerals. Provision was made for the staking out of claims by the holders of mining licenses which bore the same relation to minerals other than gold as the miner's right did to gold. These mining licenses were issued for a period of twelve months on payment of 10s. There was no limit to the number of claims which could be taken up under one mining license. Development was made the basis of all mineral-land holdings. Mineral leases for not exceeding 160 acres could be obtained for a term of twenty-one years at a rental of 5s. per acre per year, and were renewable for a further term of twenty-one years on "such conditions as the minister may deem equitable." In respect to renewals, mineral leases were in 1904 placed on the same basis as gold leases, namely:

> The lessee shall at the expiration of his lease have a right to renew the lease for a further period of twenty-one years, subject to the provisions of the acts and regulations relating to mineral leases in force at the time of such renewal.

A special section was inserted dealing with coal, in which a maximum lease area of 640 acres was prescribed with a rental of 6d. per acre per annum and a royalty of 3d. per ton for the first ten years and 6d. thereafter. This act likewise provided for licenses for quarrying and brickmaking purposes, the fee being such as the governor might determine, but not less than 5s. per month for each man employed.

So long as the mineral lands were of no particular importance they were handled by the lands department, but when the mineral development began to assume some importance this portion of the land system was placed in charge of the mines department, which was created in 1895 for this purpose. The lands department still retains the control of quarry, mineral spring, and guano licenses and leases.

SUMMARY OF THE HISTORICAL DEVELOPMENT OF MINING LAW.

The mining law of Western Australia has shown the following stages of gradual development:

As regards reservation of minerals in deeds of grant:

From foundation of colony to 1887: Reservation of "gold, silver, and other precious metals;" in effect a mere formality.

1887–1898: Reservation in addition to the precious metals of such substances as the governor might deem wise to reserve in special cases.

1898 to date: Reservation of all minerals.

As regards disposal of mineral lands with reservation of gold and silver:

From date of discovery of minerals to 1854: Sale after advertisement at public auction under the same conditions as agricultural lands.

1854–1865: Separation from agricultural lands and compulsory disposal at public auction after as "mineral land."

1865–1872: Optional sale at fixed price of £3 per acre or lease for ten years at 8s. per acre per year, neither sale nor lease involving any conditions of development, lessee having option of purchase at any time at £3 per acre. This practically marked the end of the sale of mineral lands. Only one sale of subsequent date (1873) is recorded and this appears to have been under rights existing prior to the regulations of March, 1872.

1872–1873. Sale at £10 per acre only at termination of lease for twenty-eight years.
1873–1892: Sale, after the erection of such a plant as the commissioner might deem necessary for the proper working of the land, or after filing of approved bond to do such work, at a price fixed by the government but not less than £3 per acre; or lease for seven years at 5s. per acre per year, lease liable to forfeiture if land was unworked for twelve months. Practically no mineral land was sold during this period.
1892 to date: Development entirely under claims and leases, principally the latter, with conditions of continuous development.

MINING ON PRIVATE PROPERTY.

Although "gold, silver, and other precious metals" were reserved to the government in all deeds of grant no special provisions were made by the government for the working of these minerals until 1890, or a short time after the discovery of gold and after the date (1887) when the governor was empowered to reserve minerals other than gold and silver. Under the regulations of 1890 the owner of the freehold was permitted to work for the reserved minerals on payment of the following royalties:

For coal, 6d. per ton; for gold, 2s. per ounce; for other minerals, 2½ per cent of the value of the gross output.

These regulations were followed in 1897 by a mining on private property act, which act was little more than an exact copy of the South Australian mining on private property act of 1888 as amended in 1895, and was evidently adopted without much consideration, for the conditions in South Australia were entirely different from those in Western Australia. In South Australia the gold and silver had been specifically granted to the freeholder by the government, and the South Australian law was thus framed to provide a means for mining on private property for minerals which belonged to the freeholder.

Among other things this act provided that before such mining could be permitted an official of the government must in all cases certify that the land in question contained precious metals in payable quantities. As no provision was made for prospecting or other means of determining the mineral value by the government official, the law was found unsatisfactory in the only case in which an attempt was made to apply it. This law was repealed in 1898 and an enactment based on the provisions of the Victorian mining law substituted. Under this enactment the government may authorize prospecting on private lands for the reserved minerals and may grant leases for the purpose of mining for such minerals subject to the payment of compensation to the owner for damages. This act was slightly amended in 1899, but its broader features still remain in force.

In the mining act of 1904 Parliament carried to the fullest extent the doctrine that all land should be utilized for that for which it is most valuable by declaring that if a private owner would not work the unreserved minerals the government would permit anyone else to do so; would assess a rental or royalty and pay the same to the owner less 10 per cent for administrative expenses. This last is a theoretical enactment entirely original in certain parts, but owing to the fact that no important mineral lands have been sold in Western Australia, it has never been subjected to actual tests nor is it at all likely ever to involve any large interests.

The present law, in addition to providing for the indemnification of the freeholder for all damages, provides that the rental charges for

leases for reserved minerals on private lands shall be the same as the charges for leases on government land, and that in the case of unreserved minerals the owner shall have a preference right for six months after an application is filed to take out a lease without rent or royalty; otherwise the usual rent and royalties will be collected and paid to the owner as described above.

TERMS AND CONDITIONS OF LEASES.

The first definite instructions regarding mineral leases issued to any of the governors of the Australian colonies were dispatched in 1845 to the governor of Western Australia. These instructions were not prompted by the greater relative importance of Western Australia as a mineral-producing region, because it was in fact then one of the least important in Australia, but were due to an application from a party in England for a mineral lease in that region. These instructions fixed the term of mineral leases at thirty-one years and the rent and royalty at one-fifteenth of all metalliferous ores or, at the option of the government, an equivalent in money according to a rate per ton, which should be ascertained by parties appointed for the purpose. This royalty was the same as that suggested the following year to the governor of South Australia and was but an advance announcement of the decision in the South Australian matter. When this plan was abandoned because of the strenuous protest of the people of South Australia, and the policy of selling known mineral lands again adopted, all thought of leasing was for a time abandoned in Western Australia.

Provisions for leasing mineral lands were not repeated until 1865. Then the developer was permitted to choose between a mineral lease and a mineral freehold. The lessee was further given the right to purchase the land at any time, and, although this plan was not practically abandoned until 1887, the last sale of known mineral land occurred in 1873. The freehold of several lead and copper properties was purchased during this early period and production is recorded for some of them as late as 1903, but since that time the entire mineral production of Western Australia has come from government leases. In 1906 this production was as follows:

Quantity and value of minerals produced in Western Australia during 1906.

	Quantity.	Value.
Black tin (raised)....statute tons..	1,495	£157,644
Coal (raised)....do....	149,755	57,998
Copper ore (raised)....do....	7,430	50,337
Gold (export and mint)....fine ounces..	1,794,547	7,622,749
Ironstone (raised)....statute tons..	1,280	512
Limestone (raised)....do....	9,472	1,691
Pig lead (exported)[a]....do....	2,681	44,460
Silver (exported)....fine ounces..	282,145	37,612
Tantalite (raised)....statute tons..	15	2,644
Total values....	....	7,975,647

[a] Contained in bullion from the Fremantle Smelters (Limited).

The terms and conditions on which mining leases have been issued at different times in Western Australia are summarized in the table following.

Terms and conditions on which mining leases have been issued at different times in Western Australia.

	Instructions, 1845.	Mineral land regulations, January, 1865.	Land regulations, March, 1872.	Land regulations, May, 1873; March, 1887.	Gold fields act, 1886 (regulations, 1892).
Term of years:					
Gold	31	.....	.....	.....	21
Minerals other than gold		10	28	7	.....
Period for which renewable:					
Gold	(a)	.....	.....	.....	21
Minerals other than gold		(a)	b 28	b 7	.....
Maximum area in acres:					
Gold	No limit.	.....	.....	.....	25
Minerals other than gold and coal		160	200	200	.....
Coal		.....	.....	.....	.....
Rent per acre per year:					
Gold	None.	.....	.....	.....	£1
Minerals other than gold or coal		8s.	5s., 1st 7 yrs. 10s., 2d 7 yrs. 15s., 3d 7 yrs. 20s. thereafter.	5s.	.....
Coal		.....	.....	.....	.....
Royalty on gross output:					
Gold	6⅔ per cent.	.....	.....	.....	None.
Minerals other than gold and coal		None.	None.	None.	.....
Coal per ton		.....	.....	.....	.....
Development conditions expressed in men per acre per year:					
Gold	None.	.....	.....	.....	⅓
Minerals other than gold and coal		None.	None.	(c)	.....
Coal		.....	.....	.....	.....

	Mineral lands act, 1892 (regulations, June, 1892; regulations, May, 1900).	Gold fields act, 1895 (regulations, April, 1896).	Sluicing and dredging for gold, act, 1899.	Mining act, 1904 (regulations, July, 1905).
Term of years:				
Gold	.....	21	21	21
Minerals other than gold	21	.....	.....	21
Period for which renewable:				
Gold	.....	d 21	(a)	d 21
Minerals other than gold	e 21	.....	.....	d 21
Maximum area in acres:				
Gold	.....	24	5,000	f 24
Minerals other than gold and coal	g 50–150	.....	.....	f 48
Coal	h 320	.....	.....	i 320
Rent per acre per year:				
Gold	.....	£1	6d.	j £1
Minerals other than gold or coal	5s.	.....	.....	5s.
Coal	6d.	.....	.....	6d.
Royalty on gross output:				
Gold	.....	None.	1s.	k 1s.
Minerals other than gold and coal	None.	.....	.....	None.
Coal per ton	3d. 1st 10 yrs. 6d. thereafter.	.....	.....	3d. 1st 10 yrs. 6d. thereafter.
Development conditions expressed in men per acre per year:				
Gold	.....	l ⅛	(m)	n ⅛
Minerals other than gold and coal	1/10	.....	.....	n ⅛
Coal	1/60	.....	.....	o 1/60

a No provisions for renewal.
b On such conditions as might be agreed.
c Land liable to forfeiture if "undeveloped and unworked" for one year.
d Subject to acts and regulations in force at time of such renewal.
e On such conditions as the minister may deem equitable.
f May be double this size if land has been worked and abandoned or if development requires unusual expenditures.
g For tin, silver, and antimony not exceeding 50 acres; other minerals not exceeding 150 acres.
h Six hundred and forty acres may be allowed in a reward lease for the discovery of coal. On such a base the royalty is 1d. per ton instead of 3d.
i Six hundred and forty acres may be allowed as a reward lease. On such a lease royalty is remitted for ten years, and thereafter only 1d. per ton is charged.
j May be 5s. for first year.
k Charged only when gold is mined in connection with other minerals and in too small quantities to justify its separate extraction. If gold can be profitably worked, lessee must either take gold-mining lease or pay a royalty of 10s. per ounce.
l Only 2 men required on base during first year.
m Must keep constantly employed "machinery of a value of not less than £3,000 for every 2,000 acres."
n Except leases for double area where only one-half the usual labor per acre is required.
o One man to 60 acres first year, 1 man to 30 acres second year, and 1 man to 20 acres thereafter.

Under the existing law the maximum areas which can be held under one lease are: For gold, except dredging, 48 acres; minerals other than gold and coal, 96 acres; and coal, 640 acres. The minister may, however, allow the concentration of labor on a group of leases if he deems best, provided the total areas do not exceed the following: For coal, if at a depth less than 1,000 feet, not exceeding 2,560 acres; if at a depth exceeding 1,000 feet, not exceeding 5,120 acres. For other minerals, except gold, any area necessary to work a reef to a depth of 3,000 feet, provided the distance along the outcrop of the reef does not exceed 90 chains; for gold any area necessary to work a reef to a depth of 3,000 feet, provided the length along the outcrop of the reef does not exceed 66 chains.

EXTENT OF OPERATIONS.

The holdings possible under the mining law include, besides mining leases and claims, various holdings involving the use of the surface only, such as residence areas, business areas, machinery areas, water conservation areas, and the like. In the accompanying statistical table only data relating to mining leases, claims, and prospecting areas are presented.

Table giving mining holdings under the provisions of the Western Australian mining laws on December 31, 1900–1906, inclusive.

Year.	1900.	1901.	1902.	1903.	1904.	1905.	1906.
Number of miners' rights (including mineral licenses prior to 1904)	8,751	7,424	7,341	7,080	7,422	7,853	7,973
Claims	1,049	899	822	886	778	600	533
Prospecting areas	845	891	627	561	509	523	863
Gold:							
Leases on public lands	2,546	2,482	2,406	2,308	2,471	2,447	2,181
Area of leases on public lands...acres	35,841	34,192	32,334	30,173	32,362	32,273	29,370
Government leases on private lands[a]	15	21	18	20	17	.....	.....
Area of government leases on private lands...acres	210	306	236	242	168	.....	.....
Minerals other than gold and coal:							
Leases on public lands	233	278	214	150	112	152	197
Area of leases on public lands...acres	5,973	6,626	5,594	3,838	2,614	3,549	4,227
Government leases on private lands[a]	.....	.....	.....	.....	.....	2	2
Area of government leases on private lands[a]...acres	.....	.....	.....	.....	.....	50	50
Coal:							
Leases on public lands	98	96	94	94	68	74	74
Area of leases on public lands...acres	30,743	29,785	29,145	29,145	20,975	22,894	22,894

[a] No provision for working minerals other than gold on private land prior to mines act of 1904.

No coal known on private lands.

RESULTS OF TEST OF GOVERNMENT MINERAL LEASEHOLD.

It is under the condition of leasehold, with its accompanying compulsory working of mineral holdings under government supervision, that the phenomenal development of mining in Western Australia has taken place. During the five-year period, 1881–1885, the total mineral production of this colony was £45,000, or approximately

£9,000 per year, and practically all of this was derived from freehold lands. Since 1902 the total production has generally exceeded £8,000,000 per year, and for several years every pound of this has come from public land held under government lease. While it would be illogical in the extreme to deduce from this fact the conclusion that the policy of government mineral leasehold has been the cause of this phenomenal development, it must be conceded that such legislation clearly does not prevent the development of the country—whether or not it has in the opinion of mining men retarded it to any degree will be considered presently—and that this legislation has most certainly had a severe practical test.

In arriving at a conclusion on the related points (1) whether this policy of leasing has retarded development, or, expressed more broadly, whether in the opinion of mining men the development of a region is promoted more by a freehold than a leasehold tenure with conditions of a continuous development, and (2) whether the operations of the law are as a whole agreeable to mining men, and if not, in what particulars they can be improved—four lines of evidence are available:

(1) The detailed evidence taken by the Western Australia commission on mining in 1897.

(2) The proposed amendment of the existing mining law, prepared by the mines department in 1907, which embodies the government interpretation of the popular demands.

(3) The criticism of the above and of the general mining law, prepared by the Chamber of Mines of Western Australia in 1907.

(4) The opinions of the president and secretary of the Chamber of Mines of Western Australia and of other leading mining men in Kalgoorlie, obtained during the writer's recent visit.

The commission of mining was appointed after the leasing system had been in operation exclusively for twelve years, and to a limited degree for thirty-three years, and about at the close of the boom period of discovery and intense mining activity, when there had been great mineral excitement and gold rushes—in fact, all the conditions necessary to fully and exhaustively try the law and regulations. This commission distributed very widely through the gold fields a list of questions bearing on the operations of the mining law and then held meetings at five of the most important mining centers. Among the 39 questions contained in this list and discussed in these meetings were the following, which bear particularly on the present discussion:

Do you think gold-mining leases should have a better title than at present? If so, why? State your proposed alterations.

What alterations in the gold-field act of 1895 and regulations do you think necessary to create a greater interest in mining?

Are you in favor of leaseholders being permitted to hold ground unworked for a portion of the year in consideration of spending during the time the mine is actually worked as much cash in wages as would be required for the whole year's labor conditions?

The net result of this investigation was an overwhelming verdict in favor of leasing with the condition of compulsory development. By only five witnesses was freehold definitely recommended, but three of these ended by indorsing the system of leasehold with the condition of development, and the indorsement of freehold by the

other two proves on analysis to be far from an indorsement of the American mining law. An abstract of the evidence of these five witnesses on this point follows:

A. G. Jenkins, mayor of Coolgardie, a solicitor with mining experience in Victoria and Western Australia and legal representative of certain English companies, stated that he preferred a system of freehold similar to that given in the United States (5737),[a] but he explains that freehold should only be given after the sum of £5,000 had been spent on actual development work, not simply putting machinery on the lease (5799 and 5800).

Modest Maryanaski, a Polish mining engineer who had spent eleven years in the United States, "favored the introduction of the mining law of the United States of America with certain alterations and variations." (8777.) He stated that he would require an annual expenditure of £100 to £200, and when the expenditure had reached the total of £1,000 would give a "proper title," but after this proper title had been given he "would tax that property so that it would be impossible to keep it except it was being worked." (8779.) "To prevent shepherding (that is the holding of mining property without full development), I would impose a nominal tax." (8803.) On analysis this proves to be rather more of an indorsement of the principles of Western Australian mining law than of American mining law.

John Marshall, president of the Prospectors' Institute of Kalgoorlie, with six years experience in Western Australia and extensive experience in America, in reply to the question (6315) "You consider the present lease tenure in this colony as good as can be given?" replied, "No; I do not. You could give the fee simple of the land." Later, the same witness in reply to the question (6327) "Would you be in favor of companies who have spent large sums of money having some concession granted them; it has been suggested that they ought to have an indefeasible title after spending £10,000?" replied, "I know in New South Wales those mines which were held in fee simple were a curse to the neighborhood in which they were situated. I believe that the system of giving a fee simple on account of having spent a certain amount of money would not be fair to the country. My experience in the past has been that it was a curse to New South Wales."

Henry Clay Callahan, an American, testifies that he does "not agree with the mining laws of Australia." He favors those of the United States. Asked if he would prefer a freehold or a leasehold he naturally replied "I should prefer a freehold." He, however, states (8048): "I am not a believer in absolute security of tenure unless mines are worked by some means or another."

As this is the essence of the principle underlying the matter of leasing—leasing is but the means of enforcing the requirement of development—Mr. Callahan must be held to have imbibed something of the principles of Australian mining law.

G. R. Fearsby, a mining engineer with experience in Western Australia, New South Wales, Queensland, Borneo, Philippine Islands, China, and British Columbia, propounds a most astonishing version of the American mining law (9784–9792). He at first states he favors the American freehold (9783), and later states (9836) he does not advocate the American system.

Several witnesses expressed themselves as in favor of granting, after the expenditure of certain large sums, an "indefeasible title," in some cases for the normal term of a lease and in a few cases for all time, which certainly suggests a freehold, though this point was not fully developed and it is not always possible to determine the full point of view of the witness, the testimony being vague or contradictory, thus:

George Webb, the manager of the Kalgoorlie mine and Iron King mine, favored granting an indefeasible title for twenty-one years (9289) or lease in perpetuity (9230–1) after an expenditure of £500 per acre. (This in the case of an ordinary American mining claim, 1,500 by 600 feet, would mean the expenditure of over $100,000 before patent could issue.)

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[a] The numbers given in parentheses correspond with those used in numbering the answers of the witnesses in the report of the Western Australian mining commission.

In the matter of leaseholds, the prospectors and labor men were a unit in indorsing it as entirely satisfactory. Among the representatives of large financial interests many of the men in the most responsible positions strongly indorsed leasehold and compulsory development. The following testimony bearing on this point has been selected as of special weight because of the character and position of the witnesses:

M. W. Judell, a mining engineer and representative of English capitalists, states (1129): "I do not advocate an absolutely indefeasible title. I want to have a title surrounded by certain reasonable conditions which will insure the exploitation of the land."

H. A. M. Morgans, mining manager, with experience in Australian States, United States, and Great Britain, in reply to the question "Would you be in favor of amending the act so as to give leaseholders an indefeasible title" states that he would not, that he would only grant absolute exemption from the labor conditions for a period of two years after the company had expended £10,000 (7660–2). He holds that for a man to retain possession of a lease he should expend £700 per annum in actual mining development (7546).

Edward Skewes, manager of the Bolder Main Reef, one of the large mines at Kalgoorlie, testifies (8457): "I think so long as men do the work they should hold the ground and you should not allow the ground to remain idle for more than two years, no matter what amount of money has been expended on it."

William Dick, manager of the Golden Horseshoe, another of the great Kalgoorlie mines, testifies (8973): "Would you favor a company which has spent say £20,000 on this property having an indefeasible title for all time to that property?" "I do not think so. I think it is right that the Government should have some control over it." "You do not favor the American system?" "No, I do not."

The testimony taken by the commission developed the fact that there was a considerable amount of "shepherding" of leases—that is, the holding of leases without the performance of the required amount of development or the obtaining on the part of the lessees of the proper legal exemption, and the commission therefore recommended the appointment of "rangers whose duty will be to see that the labor conditions on leases and so forth will be fulfilled." This recommendation has never been carried out by Parliament.

Among the other questions inserted by the commission in the list which had been distributed was "Are you in favor of the government of this colony reserving the undoubted state right to the royal metals?" Particular interest attaches to this question as it asserts the right to the royal metals as a state right, not as a royal prerogative. The answer to this question was almost unanimously "aye."

The main point of criticism developed by this commission related to the enforcement of the condition of continuous development. The larger operators, while as a whole favoring the principle that no mining tenements should be held without development, felt that certain improvements in the existing law and regulations were desirable. They advocated:

(1) The substitution of a fine for forfeiture in the first or second breach of the labor conditions. This, it was pointed out, would protect a large company from loss through incompetence or neglect on the part of their local manager;

(2) Exemption as a right for limited periods not exceeding two years after the expenditure of certain sums;

(3) The expression of the labor covenant in money instead of men, usually estimated at from £400 to £700 per year for an ordinary gold lease of 24 acres with exemption from further expenditure for the balance of the year on the expenditure of this sum;

(4) The provision that no lease should be forfeited for any reason whatsoever except nonpayment of rent or noncompliance with labor conditions. All other breaches of the regulations should be punished by fines. This arose from the injudicious threat of one of the officers to forfeit certain leases for very trivial breaches of the regulations, which proceeding was held to unduly and unjustly jeopardize the title; and

(5) The incorporation of the labor conditions in the act instead of allowing them to be fixed by the regulations which could be changed at will by the minister.

The commission recommended all these changes except exemption as a right after the expenditure of a certain sum and the expression of the labor conditions in money instead of men. The mining act amendment of 1898 provided for a fine in case of the first breach of the labor conditions and regulations. The act of 1904 provided for exemption as a right for six months on expenditure of £1,500 and for twelve months on expenditure of any sum exceeding £4,000, providing that "no exemption shall be granted * * * in respect of any expenditure incurred prior to the date of any expired exemption." Exemptions were also allowed as a right which in effect required that a lease held by working miners must be worked only eight months out of the year, and leases held by companies with a capital not exceeding £5,000 only nine months out of the year. The amending act prepared by the mines department in 1907 contains an expression of the labor conditions in money instead of men. The other changes in the amending act are of minor importance, which is equivalent to a statement that with this exception the law has been entirely satisfactory. This change has the hearty indorsement of the Chamber of Mines of Western Australia, and its comments on the proposed amending act and the list of additional changes in the existing law which it suggests have to do wholly with minor matters of phraseology or of local interest.

In a recent visit to Kalgoorlie special efforts were made to see the representatives of the larger interests, and they unanimously and unqualifiedly indorsed the leasing system as a better method of promoting mining development than freehold.

The views of Mr. Richard Hamilton, president of the Chamber of Mines and manager of the Great Boulder Proprietary Company mine, one of the richest gold mines of the world, carry great weight, as they represent the conclusions of a man who is not only a mining engineer, but a lawyer, a man with wide experience, and one who speaks only after careful consideration, and then with mature judgment. Man after man in the field said "See Hamilton, he knows what we think; he knows the conditions, and what he tells you may be taken as the opinion of the mining men of this country." Mr. Hamilton has spent considerable time in America in studying our mining conditions and is emphatic in the belief that mining development is better promoted by the Western Australian leasehold system than by the American freehold. The manager of another big Kalgoorlie mine, when he expressed himself in favor of leasehold, was asked, "Well, if the Government should offer to give you a freehold title to your property would not you take it?" replied, "Certainly, just as I would take £100 in bank notes if you offered them to me, but I would think you a fool nevertheless."

In view of these facts one may confidently assert:

(1) That the mining law of Western Australia has been exhaustively tried.

(2) That it is now, with minor exceptions, regarded as entirely satisfactory by the mining interests of the country.

(3) That in the opinion of the mining men development is better promoted by leasehold than by freehold tenure.

In short, viewed from the standpoint of present-day knowledge, the Western Australian mining law has proved a decided success.

CHAPTER III.

The Development and Practical Workings of the Mining Law of South Australia.[a]

South Australia[b] has a total area of a trifle over 380,000 square miles, or but slightly less than the combined area of Colorado, Wyoming, Utah, and Nevada, and a population of about one person to each square mile, or slightly less than the combined population of the last three States. Although it has always been an agricultural and pastoral rather than a mining community, its mining industry has in a quiet way attained considerable size, and the circumstances connected with the development of its mining laws have been such that it furnishes important data on the practicability of government leasehold as applied to mineral development, and on that particular phase of the matter of special interest to Americans—the feasibility of introducing a system of government leasehold after important mining properties have passed into the hands of private owners.

In South Australia not only were no reservations of the precious metals inserted in the first Crown grants, as in Western Australia, but when the plan of inserting a reservation of one-fifteenth of all metalliferous ores was put in force, in 1846, it met with so much disapproval that the home government waived all rights to minerals and the local government in 1849 canceled the reservations which had been inserted. Grants were then issued containing no reservations of minerals and were generally believed to convey everything to the freeholder. When, however, the privy council, in 1877, decided, on an appeal from the Victorian courts, that the precious metals do not pass to the freeholder, unless the intention that they should so pass is specifically stated in the deed of conveyance, the parliament of South Australia at once passed an act stating that deeds of grant in Southern Australia should be construed to convey all minerals including gold and silver. In this respect South Australia has gone further than the United States in the matter of confirming the title of the freeholder to the precious metals, for while it has been held as to lands alienated by the General Government of the United States that the owner of the surface does have title to the precious metals, the Government has never, by enactment or in any other authoritative manner, waived its common-law right to the precious metals.

The present separation of surface and mineral rights in South Australia, the reservation of all minerals to the Government, and the working of those minerals only on Government leasehold have thus

[a] Australia Mining Law Report No. 2, forwarded to President December 27, 1907.

[b] The Northern Territory, an area of 523,620 square miles, extending north from the twenty-sixth parallel of south latitude, which was added to South Australia in 1863 and which has been governed by laws differing in some respects from those of South Australia proper, is not included in this discussion. Its mineral wealth has not been extensively developed; the total population in this enormous area is less than 5,000, and arrangements are just being completed to turn this territory over to the Australian Commonwealth.

developed, in a thoroughly democratic state, from a condition in which the title of the surface owner to everything above and below the surface was at one period even more fully confirmed than it is in the United States to-day.

DEVELOPMENT OF GOVERNMENT POLICY IN REGARD TO ALIENATION OF MINERALS.

From the settlement of South Australia in 1836 until March 5, 1846, deeds of grant contained no reservation of minerals, it being expressly announced in the Government Gazette of November 14, 1840, that "The sole condition of purchase shall be the payment of money at the rate of £1 sterling per acre and nothing whatever above or below the surface will be reserved to the Crown." In 1841 galena deposits were discovered a short distance southeast of Adelaide, and after the land had been purchased under the system of public tender then in vogue, the first mine in the colony was opened. Other discoveries followed, including the Kapunda mine, the first copper mine in Australia, and the lands were disposed of in the same way. In January, 1843, this system of disposal was changed by the coming into force of the imperial waste-lands act of 1842, to sale at public auction at a minimum price of £1 per acre, and the property containing the Montacute copper mine, discovered in 1843–44, was acquired in this manner. The regulations under this new law provided that if any person should offer to purchase at private contract 20,000 acres or more at £1 per acre, the land could be sold without auction and the area so bought would be specially surveyed. This provision was utilized in five cases in 1845–46, and the areas so selected and surveyed are referred to by the surveyor-general as "the special surveys of mineral lands." One of these special surveys contains the famous Burra Burra copper mine, the discovery and development of which is said to have done much to attract attention to this struggling colony and assure its future settlement and development. The total yield of copper from this mine prior to 1877 amounted to £4,749,000.

These discoveries resulted in a change of policy. The colonial land commissioners in recommending this change said that "before there was any reason to suppose the existence, to any important extent, of valuable minerals in the Australian colonies we did not think it expedient to continue the early practice of inserting in crown grants a reservation of all mines," but that now that valuable mines had been discovered they did not consider it any longer desirable to sell the lands entirely without reservation. They concluded that it was not wise to separate the surface from the underground rights, but recommended that one-fifteenth of all "metals and metalliferous ores," and possibly coal, be reserved in each grant. The secretary of state transmitted these recommendations to the governor of South Australia, who on March 5, 1846, proclaimed regulations in which it was stated that in all lands alienated thereafter there would be reserved to the Crown "one-fifteenth of all metals and ores containing metals lying upon, in, or under such lands, payable in kind."

These regulations further provided that all lands would be sold at auction, as had been the custom, but when the lands were known or supposed to contain minerals they would be advertised for as long a period before sale as the law would permit, generally about three months, while ordinary lands would be advertised only about one

month. They further provided that lands known or supposed to contain minerals could be obtained on lease. These regulations stopped at once the purchase of large 20,000-acre blocks for mineral values.

The imposition of this royalty was regarded as a great hindrance to the development of the colony. Its collection was resisted by the colonials, and when an attempt was made to collect it by legal process the local court decided against the State on the basis that the insertion of such a reservation in grants was illegal. So great was the popular indignation that one of the first acts of Lieut. Governor Henry Young, who succeeded Lieutenant-Governor Robe on August 2, 1848, was to dicontinue such reservations pending further advice from London. In 1849 the English Government, "conceding to the express wishes of the great body of the community of South Australia," entirely yielded all royalty or seigniorage, and the governor, with the advice and consent of the legislative council, enacted (No. 7 of 1849) that all grants containing reservations of royalty on metalliferous ores should be construed as if no reservations were contained therein.

In the waste lands alienation act of 1872 power was given to the commissioner of public lands for the first time to "decline to accede to any application for the selection of any waste land known or supposed to contain gold, copper, or other minerals." The commissioner practically had this power before in respect to lands known to be mineral before survey, for no lands could be sold without survey, and the commissioner could refuse, if he so desired, to survey lands known to contain minerals. The introduction of this clause into the legislation, therefore, indicates a desire to force the development of known mineral lands by leasehold. The Crown lands consolidation act of 1877 not only contains the same clause but goes a step further and empowers the governor to create mineral reserves and reserves for gold mining purposes.

Regarding the ownership of the precious metals in private lands the legislature set all doubts in this matter at rest by Act No. 88 of 1877, which reads as follows:

> Whereas doubts have arisen whether or not all minerals and metals, more particularly gold and silver, belong to the owner in fee simple of the land heretofore alienated from the Crown, and it is desirable to remove such doubts, and to declare as is hereinafter declared: Be it therefore enacted, etc., as follows:
>
> 1. The grant in fee simple of any land in South Australia heretofore granted or hereafter to be granted shall be construed to include and convey to the owner in fee simple for the time being of such land the absolute property in all mines and minerals including gold and silver (commonly termed "royal metals"), nothing whatever above or below the surface of the land being reserved by the Crown.

This act was repealed by the crown lands act of 1886, which provided that thereafter all grants should be construed as not including or conveying "to the owner of fee simple for the time being * * * any property in any gold above or below the surface of the land." The Crown lands act of 1888 extends this reservation to all minerals.

As regards the sale of mineral lands and the reservation of minerals in Crown grants or patents, the history of the mining law of South Australia has thus shown the following stages:

From settlement of colony in 1836 to 1846: No minerals reserved; and in sale no distinction made between known mineral lands and other lands.

1846–1848: Reservation of royalty of one-fifteenth of all metalliferous ores. Mineral lands sold after longer advertisement than in ordinary cases, but with the reservation of royalty as aforesaid.

1848–1886: No minerals reserved, the legislature by two special enactments waiving all rights to the precious metals.

(*a*) 1848–1872: Government had no power to refuse to sell known mineral lands under the same conditions as other lands provided same had been surveyed.

(*b*) 1872–1877: Government had power to refuse to sell known mineral lands and this practically ended the sale of such lands.

(*c*) 1877 to date: Government had power not only to refuse to sell known minerals, but to create mineral reserves.

1886–1888: Gold reserved in all grants.

1888 to date: All minerals reserved in all grants.

TERMS AND CONDITIONS OF LEASES.

The first provision for leasing minerals in South Australia is found in the land regulations of 1846. Prior to that time no distinction had been made between mineral and nonmineral lands. All were disposed of either by tender or auction at a minimum price of £1 per acre and without any reservation of minerals. The land regulations of 1846 provided that:

> Lands known to contain metals and metalliferous ores may be obtained by lease, with the right of mining, for periods not exceeding twenty-one years, if so desired by capitalists. In such leases there will be reserved the same royalties [one-fifteenth of gross output] as upon lands sold in fee simple; but the price of the lease will be subject to competition at public auction.

No leases were taken out under these regulations, the conditions being regarded as practically prohibitive.

On December 18, 1851, special regulations for the leasing of mineral lands were issued with the following explanatory statement:

> The lieutenant-governor directs it to be notified that as he is not at present authorized, either by the waste-lands acts or the recent orders in council to grant leases, excepting for pastoral purposes, His Excellency can only grant leases of mineral lands * * * subject to Her Majesty's confirmation.

These regulations were approved and confirmed by the home government in June, 1853. They provided for leases for all minerals other than gold of not exceeding 80 acres, for not exceeding fourteen years[a] at a rental of 10s. per acre per year, the lessee being entitled to the right of search for one year, the lease to date from the commencement of the second year. The regulations further provided that on the termination of a lease the land should be put up at public auction and sold, and if sold to other than the former lessee he was to receive the value of improvements from the purchaser.

The first application for a lease was filed on December 19, 1851, but the first lease was not issued until June 20, 1854, the great delay being due to the facts that the early applications were, to a large extent, abandoned and that the regulations for leasing minerals were not finally approved by the home government until 1853. On the abandonment of these early applications the lands were sold at public auction. This policy of selling at public auction mineral lands for which application for lease had been made but for which the application was not completed within three months continued until 1862.

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[a] The Colonial Office held that under the act 9–10 Vict., C. 104, this period could not exceed fourteen years (Dispatch, December 30, 1846), and it was changed accordingly.

The waste-lands act of 1857, which was the first lands act passed by the local parliament after the granting of constitutional government, incorporated the provisions of the Mineral Lands Regulations of 1851, but provided for the renewal of leases for a further period of fourteen years on payment of a fine of not less than £1 per acre, and for the imposition of such working conditions as might be prescribed by regulations. This act continued the policy of the sale of all lands at public auction at not less than £1 per acre; it abandoned the 20,000 acres special block option without auction under which mineral lands were acquired in 1845–46, but there was still in the administration of the law nothing to prevent the acquisition of a mineral discovery by purchase in the regular way. Indeed, the surveyor-general in 1859 expressed some surprise that men should take up leases at a rental of 10s. per acre per year when "they might have applied for the survey of the land and bought it in fee simple for a sum probably little exceeding £1 per acre." However this might have been, prospectors as a rule appear to have preferred mineral leases, and practically all new development work was undertaken on this form of tenure. The explanation of this lies perhaps in the fact that a lease was granted only to the original discoverer or one authorized by him. The lease guaranteed possession for a period sufficient to demonstrate the value of the land on payment of half the minimum purchase price, and if the find amounted to anything a yearly rental of 18s. per acre was clearly no great burden. On the other hand, if he applied for the survey of the block preparatory to purchasing it (no land was sold before survey) such a survey would only be made at such a time as the surveyor-general thought fit, and after the survey the discoverer had no assurance that he would be the successful bidder.

It was during this period that the famous Wallaroo and Moonta copper deposits were discovered and the discoverers, following the usual practice, applied for leases. It thus happened that the two most valuable mining properties in the State, though discovered and worked long before South Australia prohibited the sale of mineral lands and introduced a system of leasehold without alternative, are held on a government leasehold tenure. The first two 80-acre leases at Wallaroo were applied for in the early part of 1860 and were issued on April 10 and April 17, 1860, respectively, under regulations which provided that the fine for renewal should be not less than £5 per acre, but which fixed no maximum fine. These leases proved to be located on very rich ground, and when they expired in 1874 they were renewed on the payment of fines of £7,000 and £11,000, respectively. This, while apparently a large sum for the privilege of renewing a lease for fourteen years, was not unreasonable in view of the fact that the production of this mine up to 1886 exceeded £4,000,000 and the dividends exceeded £400,000.

The other leases at this point were issued under the regulations of October 18, 1860, which provided that the fine for renewal should not be less than £1 nor greater than £20 per acre, and the fines on the renewals of these leases therefore did not exceed £1,600 in any case. The Wallaroo property is now composed of government leases aggregating 2,000 acres.

The Moonta mine was discovered in 1861 and the leases were, under the regulations of October 18, 1860, and the mineral leases act of 1862, subject to renewal at a fine not exceeding £20 per acre. The maximum fine when the first Moonta leases were renewed in 1875, there-

fore, did not exceed £1,600 for any lease, but the aggregate paid by this company on its first 11 leases was £10,320. The total production of this mine up to December 31, 1898, was £5,113,252 and the dividends paid amounted to £1,168,000. The property now consists of government leases aggregating 2,670 acres.

The mineral-leases act of 1867, passed at a time when the great wealth of Wallaroo and Moonta had been demonstrated, raised the fine for renewal to £100 per acre and reduced the rental from 10s. to 2s. 6d. per acre per year. No fines were collected under this 1867 act because, before the expiration of the leases issued thereunder, the crown lands consolidation act of 1877 was passed, permitting the holders of existing mineral leases to surrender their leases and take out new ones for ninety-nine years at a rental of 1s. per acre per year and a royalty of 2½ per cent on the net profits, and all existing mineral leases of value were converted into ninety-nine-year leases.

The early development of gold was conducted either on private property or on the basis of miners' licenses or rights, and it was not until 1866 that provision for leasing gold were made. The gold discoveries were, however, not of sufficient importance to justify the payment of the rental of £5 per acre per year charged at this time, and no leases were taken out until the rent was reduced to £1 per acre in 1869. The first gold-mining lease bears the date of July 1, 1869.

Details regarding the changes in the terms under which leases were issued are summarized in the following table:

Terms under which mining leases were granted at different times in South Australia.

	Land regulations, 1846.[a]	Mineral regulations, 1851.	Waste land act, 1857.		Mineral leases act, 1862, regulations, 1866.	Gold mining regulations, 1866.[b]	Gold mining regulations, 1867.[b]	Gold mining regulations, 1868–9.	Mineral leases acts, 1867, mineral regulations, 1868.
			Mineral regulations, 1859.	Mineral regulations, 1860.					
Term of years	21	14	14	14	14	14	14	14	14.
Number of years for which renewable.	None	None[c]	14[d]	14[e]	14[f]	None	None	None	14.[g]
Area:									
For gold	Not fixed.					20 Ac.	20 Ac.	20 Ac.	
For minerals other than gold and coal.		80 Ac.	80 Ac.	80 Ac.	320 Ac.				640 Ac.
For coal		80 Ac.	80 Ac.	80 Ac.	320 Ac.				
Rent per acre per year:									
For gold	None					£5	£5	£1	
For minerals other than gold.	None	10s.	10s.	10s.	10s.				2s. 6d.
Royalty	6⅔ per cent.[h]	None	None	None	None	None	None	None	None.
Labor conditions (expressed in men per ac. per year):									
Gold						1[i]	4	2	
Minerals other than gold and coal.		None	None	3/80	3/80				3/80.
Coal									
Labor conditions expressed in money expenditure per year:									
Minerals other than gold		None	£3	£3	£3				£3.
Equivalent of 1 horsepower or 1 horse in men in computing labor conditions.							3	5	

[a] No mineral leases were issued under the regulations of 1846.
[b] No leases were issued under these regulations because of the very high rental.
[c] Land sold at public auction at termination of lease.
[d] On payment of fine not less than £1 per acre.
[e] On payment of fine of not less than £5 per acre.
[f] On payment of fine of not less than £1 nor more than £20 per acre.
[g] On payment of fine not exceeding £100 per acre.
[h] Of output.
[i] For quartz-reef claims 1 man for every 30 feet along the reef.

Terms under which mining leases were granted at different times in South Australia—Continued.

	Gold mining act, 1870-71.		Murray Flat special gold act, 1871-72.	Crown lands act, 1877.	Gold mining act, 1885.	Crown lands act, 1886.	Crown lands act, 1888.	Consolidated mining act, 1893.	Gold dredging act, 1905.
	Special coal section.	Gold-mining regulation, 1871.							
Term of years	15	14	5	99	21	99 [a]	99	42	10.
Number of years for which renewable.	(b)	None.	(b)	None.	21 [c]	None	99 [d]	None.	10. [e]
Area:									
For gold		40 Ac.	10,000 Ac		20 Ac.			20 Ac.	200 Ac.
For minerals other than gold and coal.				640 Ac		80 Ac.	80 Ac.	40 Ac.	
For coal	10,000 Ac.					640 [f]	640 [f]	640 Ac.	
Rent per acre per year:									
For gold		10s.	Pepper-corn.		10s.			1s.	1s.
For minerals other than gold	Pepper-corn.			1s.		1s.	1s.	1s [g]	
Royalty	None.	None.	None.	2½ per cent. [h]	None.	2½ per cent. [h]	2½ per cent. [h]	2½ per cent. [h]	None.
Labor conditions (expressed in men per ac. per year):									
Gold		(i)			1 [j]			1/5	1/10.
Minerals other than gold and coal.			(k)	3/80		3/80	1/20	1/10	
Coal	None.							1/40	
Labor conditions expressed in money expenditure per year:									
Gold			4s.					Must be labor.	£20.
Minerals other than gold.				£3		£3	£3		
Equivalent of 1 horse-power or 1 horse in men in computing labor conditions.		5			2				

[a] On public reserves only twenty-one years.
[b] On discovery and expenditure of £10,000 has right of purchase at £1 per acre.
[c] Under the regulations in force at the time of such renewal.
[d] On payment of a fine to be fixed at time of renewal.
[e] On such conditions as the minister for mines may think fit, but rent shall not exceed 5 shillings.
[f] At such rent and royalty as may be fixed.
[g] 6d. per acre until payable in the case of coal.
[h] Of the net profits. No royalty fixed on coal before 1900.
[i] To be determined at times of granting lease on statement of lessee.
[j] Reduced to 1 man for every 2½ acres by regulation, February 16, 1888.
[k] Must expend not less than £2,000 a year exclusive of machinery.

Term of years.—Omitting cases of special legislation, such as the Murray flats act of 1871–72, the coal section of the act of 1870–71, and the inoperative regulations of 1846, the term for which mineral leases (except gold) have been granted has changed from fourteen to ninety-nine years and is now fixed at forty-two years. Gold leases were first issued for fourteen, then for twenty-one, and now for forty-two years. South Australia, under the act of 1893, which is still in force, thus gives a longer tenure than is found elsewhere in Australasia, except New Zealand, and the act of 1905, in which the term of gold dredging leases is fixed at only ten years may perhaps be regarded as a suggestion that even in the opinion of the South Australians this term is too long.

Renewal of leases.—With mineral leases the basis of renewal has been almost entirely the payment of a fine to be fixed according to

the value of the property. In gold leases no provision for renewal was made until 1885, when it was provided that leases could be renewed on such terms and conditions as might be fixed by the regulations in force at the time of such renewal. The acts now in force make no provision for the renewal of any mining leases, except those for gold dredging, which are renewable on such conditions as the minister may think fit.

Leases for minerals other than gold have commonly been renewed only on the payment of a fine. Whether this policy of assessing a fine as a condition of renewal is to be regarded as a good one or not depends upon whether the government policy of nonalienation of minerals and their development by leasehold is based on, either (1) the commercial instinct to handle this public estate so as to make it yield the greatest general revenue, or (2) the belief that the country's welfare can be promoted more by the encouragement of the bona fide development of its mineral wealth and that the mineral lands should be handled so as to promote and encourage such bona fide development to the greatest possible degree.

If the nation is to treat this matter entirely from the standpoint of a commercial company—in short, if the nation is to assume the rôle of the landed proprietor—the assessment of a fine as a condition of renewal affords an excellent means of differentiating in the collection of dues between a good mine and a poor one. If no royalty is provided for in the lease, it affords a means of collecting a lump-sum royalty from successful and important mines, and if a royalty is provided, it permits the taking of an extra slice from a company holding an unusually good mine.

If, however, the mineral leasehold is considered not as a means of securing revenue, but as the most effective method of promoting bona fide development, of insuring mining under proper supervision, of preventing harmful combinations, and the holding of mineral properties unworked to the detriment of the common welfare, this fine is undesirable. From the standpoint of the company developing a mine the uncertainty of the amount of this fine is an unsatisfactory feature. The fine may be so excessive as to be prohibitive. There is nothing to prevent its being relatively more severe in one case than in another.

A much more satisfactory basis is found in the provision now in force in Western Australia that leases shall be indefinitely renewable subject to the provisions of the laws and regulations in force at the time of renewal. This prevents the individual discrimination possible under the fine method and more satisfactorily insures the remedying of any errors, for, if the existing laws and regulations are unsatisfactory at any time, it will be to the interest of all mining men to have them changed. In the one case one man clamors for a change which will benefit him alone; in the other many men demand a change that benefits them all. In the act of 1893, the practice of assessing a fine as a condition of renewal is abandoned, but no other provision is made for renewal.

Area.—The maximum area of a mineral lease, originally 80 acres, was soon raised to 320 acres and then to 640. In 1886 the area for minerals other than gold or coal was reduced to 80 acres and in 1893 to 40 acres. The coal area still remains 640 acres, but there

are no important coal properties in the State. As it was until 1893 possible to take out a lease of 10,000 acres with a preemptory right of purchase if coal was discovered, this provision is not of much practical significance. The area allowed for gold leases, originally 20 acres, was increased in 1871 to 40 acres, but was reduced in 1885 to 20 acres. The present area of 20 acres is very nearly that commonly allowed throughout Australasia. In 1870–71 a special act permitted the taking out of gold leases for 10,000 acres on the Murray flats with the right of purchase at £1 per acre after the discovery of gold and the expenditure of a sum not less than £10,000. Only one lease was taken out under the provisions of this special act, and it was abandoned in a few years.

Under the mineral-leases act of 1867 adjoining leases could be surrendered and a new lease obtained therefor, provided the new lease did not exceed the usual maximum, and this principle is still in force. The regulations of 1893 provide that the minister may permit the concentration of labor on one or more of a group of not exceeding four adjoining gold leases. This makes the maximum area which can be worked under lease as one property 640 acres of coal, 40 acres for minerals other than coal or gold, and 80 acres for gold.

Number of leases which may be held by one person—Right of transfer.—No provisions regarding the number of leases which one person can hold appear to have been made prior to 1888, and judging from the large holding at the Moonta and Wallaroo mines no limitation of this character was imposed.

The crown-land act of 1888 provided (113) that "it shall be lawful for any company * * * to hold any number not being more than 12 gold-mining leases or mineral leases." The regulations under this act provided further that no person shall hold at one time in one locality more than 640 acres of leases for coal, guano, petroleum, mineral oil, or other valuable substance not being a metal or metalliferous ore. As at this time the act of 1870–71, which provided for the leasing of 10,000 acres of land for the development of coal or oil at a peppercorn rent, was unrepealed, these regulations were of no practical importance. The mining act of 1893, however, provides that any person can hold any number of mining leases, and this provision is still in force.

Rental.—The rent has shown the same progressive reduction that has taken place in the adjoining States of Victoria and New South Wales. In gold leases the rent has been progressively reduced from £5 per acre per year to 1s. and in mineral leases from 10s. to 1s. During the early gold excitements in the neighboring colony of Victoria large fees and rentals were charged, evidently on the theory that the mineral wealth should be made to yield a considerable direct revenue to the State, but this policy has undergone a gradual change and the rents have been reduced from time to time. South Australia first attempted to encourage development without a general reduction of charges by remitting the rents in certain leases when the lessees had spent money without returns. Thus in 1866 a bill was introduced and passed (30 Vic., 16) remitting the rents on 46 specified leases for two years, on 43 for three years, and on 62 for four years. In 1867 the desirability of reducing rentals became so evident that a new mineral-leases act was passed providing that the rent should

be 2s. 6d. instead of 10s. per acre per year, and the rents on 260 leases issued under the old law were remitted for two years. In 1870 rents on 101 leases were remitted for the years 1870–71. The still further reduction which has since taken place is to some degree due to the introduction of a system of royalty on net profits.

Royalty.—In 1846 the royalty was fixed at 6⅔ per cent, and although leases were issued at this rate in New Zealand and New South Wales, no record could be found of any having been taken out in South Australia, where this provision was abandoned within three years. Twenty years later a royalty of 2½ per cent on the net profits was introduced in leases for minerals other than gold, and in 1893 this royalty was made operative with respect to gold. This provision of the mining law is not regarded as satisfactory by the officers of the mines department, who are now advocating the entire abandonment of the royalty system. They regard the practical difficulty of actually ascertaining the net profits as insurmountable, and state that this portion of the law has for several years been almost a dead letter. They have recently prepared, with the approval of the minister of mines, a new mining bill in which the royalty is absolutely abandoned.

This matter of royalty affects only the revenue. It does not involve any of the far-reaching advantages of government leasehold, and so far as the broader underlying considerations of public welfare are concerned, need be considered only as a possible means, where rental merges into royalty, of promoting development or as a method more or less objectionable, of more equitably distributing the cost of the administration of such a system. In any case a very low rate of royalty on the gross output is much more easily administered, though not as equitable as a royalty based on the net profits. In coal mining the gross output in many cases could be very definitely checked by measurement of the workings.

Labor conditions.—While the mineral leases regulations of 1851 contain the provision that a lease might be forfeited if the land was not "bona fide applied to mining," no development covenant appears to have been actually formulated until the mineral leases regulations of 1868. These provided only that the lessee should expend not less than £3 per acre per annum in mining operations. The next regulations provided that the lessee might, if he desired, in lieu of the stated expenditure, employ not less than 3 men for every 80 acres for not less than nine months in the year. With regard to mineral leases, this option continued in force until 1893, since which time the development covenant has been expressed in men only. This gradual change from an expression of the development covenant in money to its expression in men only, the money expenditure other than as wages being now entirely disregarded, is criticised as undesirable by all the larger mining interests. In Western Australia there is a very strong demand for the expression of the development conditions in money instead of men, but with the safeguard that for the first six months of a lease a stated number of men must be actually employed. With this provision the expression of the labor conditions in money offers certain decided advantages, provided that care be taken that the money expenditure is for bona fide development. We have had in the United States, in connection with the development requirements on claims, numerous instances where the sum required by law to be spent yearly on development work has been spent in "improvements"

of a portable character which were made to do duty on many claims; in many other cases the expenditure has not tended in any way toward the bona fide development of the claim.

The contention that the labor conditions should be expressed in men rather than money has, however, points in its favor. The value of a mine to a community, its importance in the development of the country, lies largely in the number of men to whom it gives employment. The importation of machinery and the purchase of supplies, while under certain conditions valuable as an evidence of a bona fide intention to develop, does not directly benefit the region involved unless men are employed.

In connection with mineral leases the table shows a progressive increase in the number of men required for every 80 acres of lease; beginning at none in 1851 it rose to 3 in 1860, 4 in 1888, and 8 in 1893, and as mineral leases are the only ones of importance in South Australia this but evidences anew the growth of the principle in this State which demands the utilization of the mineral resources as a means of developing the country and affording employment.

The growth of the same idea is shown also in the gradual decrease of the number of men considered equivalent to 1 horsepower, and the final abandonment of this method of discharging the labor conditions. In 1867, 1 horsepower was considered equivalent to 5 men; in 1885 this was reduced to 2 men, and in the present legislation no provision is made for the counting of power as in any way satisfying the labor conditions of a lease, although in mineral claims horsepower can be still computed on the labor conditions at the rate of 2 men. This last is a concession to the prospector.

Waiver of labor conditions.—Although provisions were made in the early regulations dealing with gold claims for exemption from labor conditions for stated periods, no specific provision was made for such exemptions in connection with leases prior to 1888. Labor was required for only nine months out of the year; in mineral leases money expenditure could be made to satisfy the development conditions; the procedure required to effect forfeiture was very cumbersome; the mining developments were comparatively not great, and this matter therefore never assumed the importance it did in the neighboring States. The gold-mining regulations of 1888 extended to the lessee the privilege which had theretofore been enjoyed by claim holders of applying to the warden for exemption from work for a period of one month, and through the warden to the minister for exemption for three months. The latter application was heard in open court.

The act of 1893 gives the minister power to—

> suspend or wholly or partially suspend all or any of the covenants and conditions contained in any lease for mining purposes in any case where he is satisfied that by reason of special circumstances it would be impossible to comply with or would inflict great hardship upon a lessee to enforce such covenants or conditions.

This provision is regarded as less satisfactory by the mining interests than the more specific provisions of the West Australian mining law; and while there are no complaints of the abuse of this power it is suggested that if requests of this sort could be heard in open court it would to a greater degree safeguard the interests involved.

Forfeiture.—While violation of any of the covenants rendered a lease liable to forfeiture, it was not until 1862 that the machinery for such forfeiture was made evident. The regulations then provided that a lease might be declared forfeited by order of the Supreme Court. This method proving rather cumbersome, the acts of Parliament from time to time contained lists of leases which were thereby declared forfeited and canceled.

In 1893 this difficulty was removed by the provision that in cases of noncompliance with labor conditions or nonpayment of rent, and in cases of noncompliance with any other covenants after due notice, the publication of a notice in the Government Gazette would conclusively cancel and forfeit any lease. This has immensely simplified the procedure in this respect, but the details have not been perfected to the degree found in the more important mining community of Western Australia.

CLAIMS AND PROSPECTING AREAS.

While the claim in Western Australia is a form of tenure in no way intimately related to a lease, in South Australia it is merely the first step toward a lease. In Western Australia the holder of a claim may retain his right thereto so long as he has a miner's right and complies with the regulations. There is no way by which he may be forced to take out a lease. In South Australia, however, in all cases except an alluvial claim the minister may, on the discovery of minerals, require the owner of the claim to take out a lease. The opportunity of obtaining relief from labor conditions is rather better in a leasehold than a claim hold and the claim holder therefore naturally desires to take out a lease when he has made a find. The present law holds, in fact, that a miner's right is necessary to initiate any mining holding; without a miner's right the individual has no right to go on the public lands and peg out the area which he desires for a claim or lease. Therefore no lease can be issued to anyone who is not a holder of a miner's right. No person can at the same time hold more than one claim by virtue of the same miner's right. The South Australian law has reached this point by a very gradual evolution from the original status in which the mineral lease was the first and only thing. As regards minerals other than gold, the first regulations in 1851 provided that any person could acquire a lease for 80 acres at 10s. per acre per year. On payment of the first year's rent a person could search for one year on the property and could then determine whether the lease should actually be issued.

In connection with gold, particularly alluvial gold mining, leases did not seem at first to be feasible, and a system of licensed claim was introduced. The fee first charged for such licensed claims was 30s. per month per man. This was reduced in 1866 to a quarterly fee of 2s. 6d. In the same year a concession was granted to the prospector for minerals other than gold, which allowed the holding of a definite prospecting area of 80 acres with preference right to lease for three months on payment of £2, which term could be extended for three months three separate times on payment of £1 for each such extension. In 1868 provisions were made for the issuing of mineral licenses for one year for specified areas not exceeding 640 acres at 1s. per acre, and in the same year the cost of gold licenses was reduced

to 1s. per quarter. In 1869 the gold digger's license was renamed a "miner's right" and issued at 10s. per year. This miner's right was effective only on a proclaimed gold field, and gave the holder the right of searching for gold on lands held under mineral license or lease. Only one claim appears to have been allowed for one miner's right. Annual prospecting licenses were issued conferring the right of searching for gold over all waste lands not within a gold field on payment of 5s. In 1877 the cost of a prospecting license for minerals other than gold, still restricted to a specified area, not exceeding 640 acres, was reduced to £1 per year. In the lands act of 1886 provisions were made for the first time for the issuing of general mineral licenses on the payment of 20s. per year. These gave the holders the right to prospect anywhere on the public lands and the preemptive right to a lease of any lands on which he found minerals, but not exceeding the maximum area allowed for one lease.

In 1893 it was appreciated that there was no essential difference between prospecting for gold and other minerals, that forcing a prospector to take out two or three licenses was an unnecessary burden, and that the prospector should be encouraged, not taxed, except so far as it was necessary to protect him and the general mining interests, and a miner's right was provided for at the rate of 5s. per annum covering all minerals. It was further provided that—

> No person shall at the same time own more than one claim by virtue of the same miner's right; but any person may hold any number of miner's rights, and for each miner's right so held by him he may own one claim; provided that no person shall hold more than one alluvial gold claim.

The desirability of issuing a miner's right for each claim lies in the fact that it affords an efficient method of automatically cleaning the records each year of all abandoned claims. If only one claim can be held at one time by virtue of the same miner's right, the prospector must declare one claim abandoned before he takes out another with the same right. It further means that if at the end of the year a miner does not think a claim worth the cost of a new miner's right, the claim will lapse, and the records will automatically show that it has lapsed. The present cost of a miner's right is not to be considered as a general revenue tax such as the original rate of 30s. per month undoubtedly was, but as a reasonable assessment toward the cost of keeping the records, from which none will benefit more than the bona fide prospector. Whether a miner's right is clearly a necessary prerequisite in taking out a lease, as is asserted in South Australia, may be regarded as somewhat open to doubt. In most cases some prospecting work would be undertaken before a man took out a lease, and in such a case he must of necessity have a miner's right, but if a man without prospecting knows that he wants a lease to a certain piece of ground, there would certainly be no good reason for requiring him first to take out a miner's right.

Size of claims and ordinary prospecting areas.—The holder of a miner's right is authorized by law to peg out a claim on any land whereon any metal, mineral, coal, or oil "may be or be supposed to be." The ordinary areas are for alluvial gold, 30 by 30 feet; for reef gold, 100 feet along the reef by a width of 600 feet; for minerals other than gold or coal, 40 acres; for coal and oil, 640 acres. In wet alluvial ground, twice the usual area is allowed.

The miners seeking for alluvial gold may peg out protection areas of the following size:

	Yards.
If between ½ and 1 mile from nearest gold workings	100 x 100
If between 1 and 2 miles from nearest gold workings	150 x 150
If between 2 and 3 miles from nearest gold workings	250 x 250
If over 3 miles from nearest gold workings	500 x 500

On the discovery of payable gold the holder of an alluvial prospecting area is entitled to the following multiple of ordinary claims:

	Multiple of one man's ground allowed.
If between ½ and 1 mile from nearest gold workings	3
If between 1 and 2 miles from nearest gold workings	4
If between 2 and 3 miles from nearest gold workings	6
If over 3 miles from nearest gold workings	10

The miner seeking for reef gold may peg out a reef protection area of the same width but of twice the length of a reef prospecting claim. On discovery of payable gold, the holder of a reef protection area is entitled to a reef prospecting area of the following size:

	Feet.
If between 1 and 5 miles from nearest occupied claim	200 x 600
If between 5 and 10 miles from nearest occupied claim	300 x 600
If over 10 miles from nearest occupied claim	400 x 600

Labor conditions on claims.—The essential condition connected with the tenure of all claims has always been the one of continuous development. A claim rests on a possessory right tenure. Under the last regulations one man must be kept constantly employed for each one man's ground held as a gold claim; two men are required on each mineral claim of 40 acres, and 8 men on each coal or oil claim of 640 acres. Provision is now made for the amalgamation of any number of gold claims, of not exceeding four mineral claims and of not exceeding two coal or oil claims. The labor requirements on such amalgamated claims are reduced one-half until the claims become payable, when they must be manned in full. Power is given to the warden to grant suspension of labor for not exceeding three months after three months' work has been performed. After such a suspension no further suspension can be granted until six months' work with the full complement of men. There is no provision for the expression of development conditions in money; men must be employed, except that in a mineral claim each horsepower shall be counted as two men.

Special prospecting areas.—In order to encourage prospecting for "precious stones, mineral phosphates, oil, rare metals, minerals, and earths, the mining for which, in the opinion of the minister, has not proved payable in any instance in any portion of the colony," the mining act amendment act, 1900, provided for special licenses for one year, giving the right to search for any of the above minerals over any specified area not exceeding 5 square miles at a rental of £1 per square mile. The licensee must keep at least one man constantly employed on the land for each 640 acres thereof. On discovery, the holder of the license has a preferential right to lease not exceeding 40 acres for minerals other than phosphate and oil, 100 acres for mineral phosphates, and 640 acres for oil.

MINING ON PRIVATE PROPERTY.

In Western Australia and Victoria the first mining on private property acts had for their object only the providing of a legal method of mining on freehold lands for the minerals which belonged to the government. Before the passage of these laws the government made no protest when the freeholder undertook to mine for the precious metals and protected agreements made between the freeholder and any miner, but there was no provision whereby the government could authorize any person to mine for the reserved minerals without the consent of the freeholder. In both these colonies the precious metals belong to the government; in Western Australia by specific reservation, and in Victoria in the absence of such reservation, by the common law; but in South Australia all minerals, including the precious metals, had by special enactment been conveyed to the freeholder in all lands alienated prior to 1886. The South Australian mining on private property act of 1888 therefore deals primarily with mining on private property for the minerals which belong to the surface owner, thus asserting in principle, as was finally and more effectually done in Western Australia, that the development of minerals is a public use. While this suggests that South Australia had at one step gone from the extreme of giving to the freeholder all minerals, to the other extreme of declaring the mining for minerals a public utility, and providing that the minerals on any property whensoever alienated, should be developed, the law is far from having this practical effect. While appearing to affirm a principle the provisions of the law are such as to make the attainment of the end sought almost as distant as if the law has not been passed. The "vested interests" opposed to the general principle of mining on private property could well congratulate themselves on the passage of this law, for, while appeasing the popular demand by passing a mining on private property act, they in fact yielded practically nothing. The provisions of the law which defeat the end sought are:

(1) The requirement that before any land either could be resumed or a compulsory lease issued, an official must certify that "payable" mineral exists thereon.

(2) The provision that if the freeholder within from two to six months after the date on which any other person applies for mining rights with respect to the property involved works the land himself with the same number of men as required by the regulations for mining leases of that area, he shall have exclusive right to the minerals.

(3) The fact that a compulsory lease can be issued only by the master of the supreme court; in which connection it is stated that the procedure required is almost prohibitive.

The requirement that a government official must certify that the land contains payable minerals is perhaps the most serious of these obstacles. If development is to be promoted the point involved is not, as this law asserts, "Does this land contain payable mineral as a positive fact?" (such an assertion prior to the development work could seldom if ever be made), but "Is it possible or probable that such a deposit will be found—is there any evident justification for the desire to develop indicated by the application for a permit to mine." The mere application is, in the absence of malice, proof that the applicant is ready to invest his money, being convinced that there is a reasonable possibility of developing a payable mine. If the land is so very rich that the government official can certify from common knowledge

that it contains payable mineral the land will have been developed, and there is no need of such a law to promote and permit development. If, on the other hand, an examination is necessary, as it would be in practically all cases, the government official has under the law no right to enter the property to make such an examination; he would be liable to prosecution as a trespasser. In the first place the government official is required to make a positive statement as to the payable character of the deposit which few capable and conscientious men would care to make previous to some development, and in the second place the official has no right to make an examination. The net result is that the law has been practically inoperative, and the officers of the mines department have repeatedly recommended that a new law, based on the principles of the Victorian law, be adopted. Such a law was, in fact, prepared this year, but the pressure of other business did not permit its being introduced into Parliament.

As originally passed in 1888 this law was restricted to mining for gold, but its operations were by the amendment of 1895 extended to all minerals if under the resumption clause, and by the amendment of 1899 to all metals if under the compulsory lease clause. The 1888 act provided that in case the freeholder disagreed with the report of the government officer as to the mineral value, he could require the appointment of a mining expert. This provision was repealed in 1895, but its repeal, though a concession, did not materially affect the situation. The freeholder receives under this law compensation for all damages and all the royalties received by the government less 2½ per cent for administrative expenses.

Mining for the reserved minerals on private property, which is the principal point involved in the mining on private property acts in the other Australian States, is of very little importance in South Australia to-day, and it is considered by the mines department officials to be covered by the crown lands acts and the general mines acts rather than by the mining on private property acts. These provide on the one hand for the reservation of all minerals and for the working of the same by persons authorized by the government on payment of damages, and on the other hand by the proclamation that freehold land out of which minerals have been reserved are "mineral lands" within the meaning of the mines act of 1893.

Western Australia adopted this law bodily in 1897, apparently without very mature consideration, since ownership of the precious metals in the majority of the freeholds is, as has been pointed out, entirely different in the two States. After a trial of one year this law was repealed by Western Australia and the Victorian law adopted, which, with certain amendments, is still in force and is working satisfactorily.

ENCOURAGEMENT OF MINING.

South Australia, like the other Australian States, has, throughout its history, endeavored to promote mining development by means of rewards, subsidies, and assistance in many ways. It is a matter of no little significance that these States which have shown the greatest desire to assist mining should have abandoned freehold and taken up leasehold as a better method of dealing with minerals. This change was not based on a demand for the "nationalization of the land" (the demand for perpetual leases as a form of land disposal

did not come until many years after the adoption of this policy in regard to minerals and was practically repudiated in a few years), but on the belief that the end sought, the proper development of the mineral wealth of the country, could be attained more by a leasehold than a freehold tenure.

A reward of £1,000 was offered for the discovery of a payable gold field on January 1, 1851, and a reward of £10,000 was offered some years later for the discovery of a payable coal field. The gold mining act of 1885 authorized the governor to pay a sum not exceeding £1,000 to the discoverer of a payable gold field and provided for the subsidizing of gold mining companies to an amount not exceeding £500 in any one case either by the loan of money or by the loan of diamond drills, the subsidy to be repaid out of the profits at the rate of 50 per cent on any dividends paid to the stockholders. The acts now in force provide for rewards of not exceeding £1,000 for the discovery of new mineral districts or deposits, for the subsidizing of companies to amounts not exceeding £1,000 per company, and for the loan of diamond drills. The government has also voted appropriations for the payment of one-third of the freight on the first 50 tons of ore produced from any mine, for the purchase of diamond drills, and the conduct of very extensive drilling operations, and for the erection of government batteries and cyaniding works.

EXTENT OF OPERATIONS.

The extent of the operations under the South Australian mining law for the past few years, so far as they relate to purely mining holdings, are summarized in the following table:

Table giving mineral holdings under the provisions of the South Australian mining law from 1903 to 1907, inclusive.

[Compiled from reports of mines department.]

	Year ending—				
	Dec. 31, 1903.	June 30, 1904.	June 30, 1905.	June 30, 1906.	June 30, 1907.
Number of miners' rights	1,740	(?)	1,336	1,642	2,350
Number of claims	538	571	493	848	908
Total area of claims (acres)	18,830	19,985	17,255	33,920	29,600
Number of special prospecting areas (not exceeding 5 square miles each)	466	220	90	77	107
Total area of special prospecting areas (acres)	(?)	279,040	106,240	142,720	134,400
Number of ordinary gold leases	237	216	118	127	120
Total area of ordinary gold leases (acres)	4,320	3,900	2,006	2,338	2,040
Number of gold-dredging leases	.....	.....	.....	41	40
Total area of gold-dredging leases (acres)	.....	.....	.....	6,934	5,944
Number of mineral leases (other than gold and salt)	538	404	293	286	362
Total area of mineral leases (other than gold and salt)	18,830	8,210	10,255	15,529	11,946
Number of miscellaneous leases (for salt, gypsum, mineral springs, and smelting works)	29	31	30	32	35
Total area of miscellaneous leases (acres)	6,436	7,212	6,813	7,168	7,227

PRACTICAL RESULT OF TEST OF GOVERNMENT LEASEHOLD.

Government leasehold as applied to mineral development has thus been under trial in South Australia for over fifty years. It was first introduced before the government had any power to refuse to sell lands known to be mineral provided they had been surveyed,

and after important mineral properties had been alienated. It continued in operation while laws were passed giving to the freeholder the ownership of all minerals, and it was not until 1888 that the government decided to reserve all minerals in future grants and thus effectually prevented their further alienation. The fact that after this long trial leasehold is the accepted government method of dealing with minerals in itself indicates that the system has been found satisfactory, and were any corroboration necessary it is found in the fact that the officers of the mines department assert that there is no demand for a freehold tenure in connection with mining. Had there been any demand for freehold it undoubtedly would have been granted by the legislature, which has in connection with the land laws repeatedly shown that it is merely the servant of the people. The secretary for lands and mines states that some years ago there was a demand for perpetual leases in the alienation of land. Legislation was passed authorizing such leases, but after a time there was a demand that the holders of such perpetual leases should be permitted to convert to freehold. Acts were therefore passed allowing perpetual leaseholders to convert to freehold. Provisions were made for the repurchase of large estates and their subdivision by the government for closer settlement.

In this connection it was held that if the government did not retain some control over the land these small holdings would be amalgamated and the government would have it all to do over again. It was therefore decided that blocks in repurchased estates could be acquired only on perpetual lease, which, while giving the holder nearly all the advantages of the freehold and some in addition, gave the government power to prevent transfer and consequent amalgamation. After a few years there was a demand for freehold in connection with these repurchased estate lands, and the legislature again permitted the holders of perpetual leases to convert to freehold. Land was formerly sold with conditions of improvement and development, but the government has now gone to the other extreme of selling without such conditions. The secretary cited this as evidence that had there been any demand for freehold in connection with mining, freehold would undoubtedly have been granted. This is clearly a most emphatic indorsement of the success of leasehold, indicating, as it does, the approval of the whole of the people of South Australia.

Capt. Bodham Whitham, aid-de-camp to the governor of South Australia, a gentleman who has been interested in mining operations in several of the States, says that all the mining men in Australia indorse leasehold as the proper form of tenure for mining purposes; that the only people who at times suggest that freehold is better are a few of the prospectors, who, when they have worked two or three months, go to town and spend their earnings in drink and think it "jolly hard" that another man should be permitted to take up the claim or lease that they have abandoned for the purpose of this spree. Captain Whitham adds that the majority of these men, when pinned down to it, agree that it is quite right that they should lose their claim or lease under these circumstances.

CHAPTER IV.

THE DEVELOPMENT AND PRACTICAL WORKINGS OF THE MINING LAW OF TASMANIA.[a]

INTRODUCTION.

The mining law of Tasmania has several claims to special consideration. It has been repeatedly commended by the Australian Mining Standard and Financial Review, the most important mining publication in Australasia, as the model among the Australian laws from the standpoint of the capitalist. Tasmania was the first among the Australian States to insert in all mining leases a provision that no lease should be forfeited for noncompliance with the development conditions during strikes. The development requirements in this State have generally been more in accord with the demands of capitalists than in the other States. In the last mining acts these features have been incorporated with other provisions, and as a result the laws grant the principal points which are demanded by the larger mining interests: (1) Expression of the development covenant in money instead of men; (2) exemption from development conditions as a "right" during strikes; (3) exemption from development conditions as a "right" on account of previous expenditure in excess of that required, provided the aggregate exemption does not exceed three years; (4) the assessment of a fine, in certain cases, in lieu of forfeiture for a breach of labor conditions.

The Tasmanians pride themselves on their conservatism. They consider it a point for extreme congratulation that the labor party has never been of any importance in their community. One prominent official, expressing the general sentiment, said that Tasmania had not embraced any of the socialistic or "laboristic" doctrines which had found expression in continental Australia. In the face of this assertion, it is a bit astonishing to find in the last lands act a provision which is in effect far more extreme than is found in the legislation of any of the adjoining States. Until 1903 there was no special provision in Tasmania for reserving any minerals; some grants contained a reservation of the precious metals and others did not, but the lands act of 1903 provides that any land can be "resumed" by the Government for mining purposes on payment of its value exclusive of all minerals. This is a piece of retroactive legislation without any very evident justification other than the claim that all minerals are "treasure trove," and as such are the property of the government. The Tasmanians have objected strenuously to any mining on private property act, but the claim asserted in this legislation—that as between the government and the freeholder, the freeholder has no right to claim compensation for any minerals—is certainly much more

[a] Australian Mining Law Report No. 3, forwarded to President December 31, 1907.

extreme than the provision of the South Australia and Western Australia mining on private property acts, which, while providing for mining for minerals on private property which does not belong to the government, pays to the owner not only compensation for damages and, if the land is resumed, the agricultural value of the land, but also all the rental and royalty received by the government from mining leases on the property after deducting a percentage for administrative expenses.

The fact that conservative Tasmania, where there are but 5 labor members out of a total of 35 in the house of assembly and where the upper house is wholly a "house of (land) lords" has in this particular adopted a more radical policy than any of the other Australian States, and the fact that it, like the other States, early adopted the system of government leasehold clearly demonstrates that there is no basis for the cry that there is any political aspect in the adoption of the companion policies of nonalienation of minerals and government leasehold. The Australian States differ widely in political complexion, ranging from South Australia, where the labor party is overwhelmingly in power, and New Zealand, where the Progressive party is fairly in control, to Tasmania, which considers itself the stronghold of conservatism and where the labor party is of practically no importance. Yet all of these States have, after experiment, adopted the same policy. Whether government leasehold or freehold is the better method of dealing with mineral lands never was a political question, and is now, so far as Australia is concerned, not a "question" at all.

Although in Tasmania mining does not have the preeminent and overshadowing importance that it does in Western Australia, yet Tasmania is essentially a mining State. During the past six years the total mineral exports have amounted to from 41 to 58 per cent of the total exports of the country—that is to say, the mineral exports were equal to all other exports. Tasmania, while the smallest of the Australian States, having an area only one-fourteenth of South Australia, exclusive of the northern territory, has a mineral production of from three to four times that of the latter State. Its mineral production in 1905 was approximately that of the State of Nevada, and though its area is but one-fourth, its population is four times as great. The total mineral production in 1906 was £2,257,147. This was composed almost wholly of copper, tin, silver-lead, and gold—copper, £934,924; tin, £557,266; silver-lead, £462,443; gold, £254,963.

GROWTH OF THE GOVERNMENT POLICY IN REGARD TO THE NONALIENATION OF MINERALS.

The first mineral to be worked commercially in Tasmania was coal, which was discovered in the forties in several parts of the colony. No other minerals were found until 1852, when gold was discovered in north Tasmania. Prior to 1837 no reservation of any mineral was contained in any grant. In that year the reservation of gold and silver was inserted in all grants of country lands, but omitted in all town grants, and this appears to have continued until the lands act of 1903. Land was alienated under the lands regulations then in force without any thought of mineral value, and thus some of the first discovered coal-bearing land passed into private hands. On the discovery of gold in 1852 the governor at once issued a proclama-

tion in practically the same words as that issued by the governor of Victoria in the preceding year, in which he declared that all mines of gold and all gold in its natural place of deposit, whether on alienated or unalienated lands, belonged to the government, and warned all persons that any attempt to mine such gold without license would result in both civil and criminal prosecution. In 1858 an attempt was made to purchase gold-bearing land under the provisions of section 19 of the waste-lands act of 1858, which permitted the purchase of lands at private contract at £1 per acre. This resulted in a petition to the house of assembly against the sale of the land, in which the—

petitioners beg to represent the great injustice which would be inflicted on the people at large by permitting private parties to select land where gold was known to exist. Your petitioners pray that your honorable house will take such steps as will except lands where gold is known to exist from the operations of the waste-land act.

This petition resulted in the executive withdrawal of the land and its "reservation for mining purposes," and culminated in the passage of the first gold-fields act in 1859. This empowered the governor to "except defined areas of the crown lands from the operation of section 19 of the waste-lands act" and also to decline to accede to any applications for the purchase of lands if same were known or supposed to be auriferous. In 1862 this provision was extended to include all minerals, and such a provision has been included in all lands acts since that time. Provision was, however, made in the regulations of 1863 for the purchase of mineral land outright by a mineral lessee after his lease had been in operation for a period of three years at a valuation to be fixed by arbitration. This plan was abandoned in 1870, and as no important mineral discoveries were made in the interim, no leases were taken out, and thus no mineral lands were alienated in this manner.

Although no act providing for the reservation of minerals in grants was passed until 1903, and the question whether any mineral land should be sold or not was entirely one of executive discretion (and, it should be added, of the correctness and completeness of the knowledge of the lands department officials), yet so faithfully have these officers discharged the trust thus imposed on them regarding the nonalienation of minerals that not only are all the important mineral properties in the State still owned by the government, but, except for the small areas of coal lands alienated in the early history of the colony, no mineral deposits of importance have passed into the hands of private owners. So insignificant are the coal areas that the only coal mines in this country which are now being worked are operated on government lease. Indeed, the total mineral production of Tasmania to-day, and in 1905 it equaled that of Nevada, comes from government leasehold.

These results contrast very markedly with those obtained in the United States. Here, while the law of July 4, 1866, expressly forbids the alienation of mineral lands under the agricultural-land laws, enormous areas of such lands have been acquired in this way.

So far did the Tasmanian officials deem it advisable to carry this policy of reservation from sale of lands known or supposed to contain minerals that it became necessary to provide some form of surface holding within the mining areas. The waste-lands amendment act of 1881, therefore, provided for the sale of lands in mining

settlements subject to the right to mine on payment of damages. The act of 1885 gives to the holders of business and residence areas the right to purchase the same after an expenditure of a certain sum on improvements, but in all cases with the reservation of the right to mine at depths of not less than 50 feet. The act of 1889 went a step further and declared all lands in mining areas open to selection, but with the reservation of the right to search for gold and the right to mine at depths of not less than 50 feet. In 1891 the depth was reduced to 20 feet, and in 1900 the reservation included the right to search and mine for gold and other minerals. The crown-lands act of 1903 marks the natural conclusion of these several steps by providing that thereafter all grants should contain a reservation of the right to mine for all minerals at a depth of not less than 50 feet, on payment of damages. The lands-act amendment of 1905 waived all question of depth and provided for the reservation of all minerals in all grants.

To guard against the possible harmful result of some pieces of valuable mineral land escaping the vigilance of the officials, a clause was introduced in the lands act of 1870 providing that lands alienated under that act should be subject to resumption for mining purposes on payment of value other than auriferous, but providing that no such land should be liable to resumption after a period of five years from date of alienation. The lands act of 1890 included this section, with the same five-year proviso, but with the addition that the compensation should be the value exclusive of gold and other minerals. The lands act of 1905 provided that—

> All land alienated under the provisions of this act or any former act relating to the sale of crown lands may be resumed for mining purposes * * * on paying full compensation * * * other than that of gold or other minerals contained in such land.

The omission of the restrictive five-year proviso makes this a retroactive clause, which in effect appropriates to the government all minerals whensoever alienated. In this respect it is perhaps the most radical enactment which has seen light in Australasia, for it in effect takes back that which has been given without any very evident excuse other than the argument of some English lawyers that all minerals are in fact "treasure trove," and as such are the property of the government. It is in this particular to be distinguished from the suggestion recently made that the Government of the United States might with considerable justice claim all minerals in all lands alienated under the agricultural land laws since the development of the government policy in the fifties and sixties, which required the reservation of all mines and mineral lands to the government. Prior to 1866—

> the uniform reservation of mineral lands from survey, from sale, from preemption, and from all grants, whether for railroads, public buildings, or other purposes, fixed and settled the policy of the government in relation to such lands—

and helps to fix and explain the reservation which was inserted in the act of July 4, 1866, which remains in force to this day. On account of this provision agricultural claimants have been required to make affidavits that the land is not valuable for minerals and that they in effect want it only for agricultural purposes. A legislative assertion on the part of the government of its right to all minerals in agricultural alienations since that time would give to every man exactly

what he swore he was getting, but no more. It would further have the effect of automatically cleaning the record of all land frauds involving mineral values.

Even under the administration of the present Tasmanian law under which all minerals are reserved, the policy of not alienating mineral lands is continued. All applications for the final patent of lands are referred by the lands department to the mines department for an indorsement as to whether the land will or will not probably be needed for mining. These departments, while they have generally been under the same ministerial head in Tasmania, have been entirely separate organizations since 1882, or soon after the mineral development of the colony became of importance. Before that time all matters relating to mineral lands were administered by the department of lands and surveys.

The development of the government policy in Tasmania in regard to the alienation of minerals has thus shown the following progressive stages:

From settlement of colony in 1803 to 1859: Lands sold under general land laws without regard to mineral value. Some grants contained reservations of gold and silver, others contained no such reservations.

1859 to 1863: Lands sold as before, but governor had power to exempt lands from sale and to refuse to sell lands supposed to contain gold.

1863 to 1870: Lands sold as before, but governor had power to exempt from sale and to refuse to sell lands supposed to contain any minerals. In case of mineral leases the lessee had a right, after three years, to purchase the property on valuation to be fixed by arbitration; this provision was not utilized, as no mineral leases were issued during these years.

1870 to 1890: Lands sold as before, but governor had power not only to exempt lands from sale and to refuse to sell land supposed to contain minerals, but to resume freehold lands for mining purposes on payment of a value other than auriferous, provided such resumption should take place within five years of the date of alienation.

1890 to 1903: Lands sold as in preceding period, but with the addition that the land commissioner might resume on payment of value other than for gold and other minerals, provided such resumption took place within five years of the date of alienation.

1904 to 1905: Lands sold with reservation of right to mine for all minerals below 50 feet. Government empowered to resume any lands whensoever alienated on payment of value other than mineral; this in effect asserts the right of the government to all minerals in all lands whensoever alienated.

1905 to date: Lands sold with reservation of all minerals. Right of resumption as in preceding period.

TERMS AND CONDITIONS OF LEASES.

The first government mineral lease in Tasmania was issued in 1849 for the purpose of mining coal on Shouten Island. The period was seven years, and the royalty was fixed at 2d. per ton. At this time the operations of the land sales act of 1842 (5–6 Vict., c. 36) were suspended in Tasmania and the governor was empowered to frame land regulations. Negotiations were conducted with other companies about this time for leases on the same terms, but whether or not leases were issued is not known. In 1852 an application was made to mine for coal under the orphan-school estate at Newtown by certain persons who had, previous to that time, been mining for coal on adjoining freehold land under agreement with the owner. A government lease was finally issued on September 1, 1853, for a period of seven years at a royalty of 6d. per ton on all slack, and 6d. per ton for the first year, 9d. per ton for the second year, and 1s. per ton thereafter on all other coal. Operations were continued for

the full term of the lease, which was then evidently extended, as coal royalty continued to be paid until 1863. These leases are to be regarded as special arrangements rather than as the initiation of any general policy. No minerals were known in the colony at that time except coal, and lands containing coal were sold under the same conditions as other lands.

The protest of certain citizens in 1859 against the alienation of auriferous lands near Fingal, where gold was discovered in 1852, and the attempt to work reef deposits in that locality resulted in the passage of the first gold fields regulation act in 1859. It provided for development by means of leases which were not to exceed a term of ten years at such rental and royalty as might be fixed. The act was approved on September 23, 1859, and the Government Gazette of December 12 contains a notice of the intention of the government to issue to the Fingal Quartz Crushing Company a gold lease of 320 acres at a rental of £1 per acre per year. The reason for the unusually large area of this gold lease does not appear, for in the first regulations issued in 1860 the area of leases for alluvial ground was fixed at not less than 5 nor more than 50 acres, and for quartz ground at not exceeding a length of 900 yards along the reef by a width of 300 yards (about 56 acres). The rental was fixed at £1 per acre for alluvial land and £1 for every 100 yards of reef, or about £1½ per acre.

In 1862 a mineral-leases act was passed, which in like manner provided for the leasing of minerals other than gold, and in the following year the provisions of this act were incorporated in the waste-lands act. Very little development was done under these laws, as the early gold finds did not prove important, and the great discoveries in Victoria and New Zealand proved more effective lodestones. With the dying down of the Victorian excitement attention was again turned to Tasmania, and about 1869 discoveries were made which mark the beginning of the present period of mineral development. In this year £2,500 was paid into the treasury under the provisions of the mining acts, while in 1868 there had been no payment, and in 1867 the payments had amounted to but £5. In 1871 the future of Tasmania as a mining country was assured and a great vista of promise opened up by the discovery of the now famous Mount Bischoff tin mine, which up to the close of 1906 had paid in dividends £2,088,000. In 1882 rich silver deposits were found at the now important mining center of Zeehan, and in 1886 the Mount Lyell mine was discovered. This mine, first worked as a gold mine, has proved on development to be one of the most valuable auriferous and argentiferous copper deposits in the world. This mine paid for the single year 1904 dividends to the amount of £150,000; for the year 1905, £175,000; and for the year 1906, £420,000.

All these properties are held under government lease; Mount Lyell under special act of parliament, and all others under the ordinary provisions of the mining law. All these important mines were discovered before there was any law forbidding the alienation of mineral lands; whether the lands were sold or leased was under the law entirely a matter of administrative discretion. It has already been pointed out that, with the exercise of the same sort of executive discretion and with a similar interpretation and administration of the laws in the way most favorable to the government, much of the

regrettable portion of the administration of our own land system might have been avoided.

The provisions of the acts and regulations of Tasmania relating to mining leasehold are summarized in the following table. In this table there are many evidences of the conservatism on which the Tasmanians pride themselves. The rental has not changed during the productive period of the colony, neither has the maximum area allowed for minerals other than gold. The expenditure required has varied only between £2 and £4 per acre per year, and the labor on mineral leases has changed only from 3 men for 80 acres to 4 men for 80 acres.

Terms under which government mining leases have been granted at different times in Tasmania.

	Special coal lease, 1853.	Gold fields act, 1859.		Mineral leases act, 1862; waste lands act, 1863 (regulations, 1863; regulations, 1867).	Gold fields act, 1870 (regulations, 1878).	Mineral leases act, 1870 (regulations, 1870, 1874, 1875, 1877).
		Regulations, 1860.	Regulations, 1867.			
Term of years:						
Gold	.....	10	[a] 15	.....	10	.....
Minerals other than gold	7	.....	.....	21	.....	21
Number of years for which renewable	[b]	[b]	[b]	[c] 14	[d] 10	[e] 14
Maximum area in acres:						
For gold—						
Alluvial	.....	50	40	.....	5	.....
Reef	.....	[f] 56	25	.....	10	.....
For minerals other than gold and coal	.....	.....	.....	80	.....	80
For coal	14	.....	.....	320	.....	320
Rent per acre per year:						
For gold	.....	[g] [h] £1	£1	.....	£1	.....
For minerals other than gold and coal	.....	.....	.....	[i] 5s.	.....	[i] 5s.
For coal	10s.	.....	.....	[i] 2s. 6d.	.....	[i] 2s. 6d.
Royalty per ton	6d.–12d.	None.	None.	None.	None.	None.
Development conditions expressed in men per acre per year:						
Gold	.....	[j]	[k] 2	.....	[l] 1; [m] 4	.....
Minerals other than gold and coal	.....	.....	.....	[n] 3/80	.....	[n] 3/80
Coal	[o]	.....	.....	[n] 3/320	.....	[n] 3/80
Development conditions expressed in money expenditure per acre per year:						
Gold	.....	[j]	None.	.....	None.	.....
Minerals other than gold and coal	.....	.....	.....	£2	.....	£3
Coal	.....	.....	.....	£2	.....	£3
Equivalent of 1 horsepower or 1 horse in men in computing labor conditions	.....	.....	.....	.....	1	.....

[a] The act under which these regulations were made provides for a term not exceeding ten years.
[b] No provision for renewal.
[c] On payment of fine. Lessee had right to purchase fee simple after three years.
[d] Subject to such rent as may be determined.
[e] On payment of fine.
[f] Lease for 320 acres granted under this act before adoption of regulations of 1860.
[g] For alluvial gold.
[h] £1 for every 100 yards of reef in the case of reef gold.
[i] Or such higher rental as may be fixed.
[j] Regulations required that machinery of the following horsepower must be erected within twelve months: Two horsepower for every 5 acres alluvial and 3 horsepower for every 100 yards of reef.
[k] For every 100 yards of reef.
[l] For quartz after six months; first six months, 1 man to every 2 acres.
[m] For alluvial after six months; first six months only 1 man per acre.
[n] For nine months out of the year.
[o] If not worked for one year to be forfeited.

Terms under which government mining leases have been granted at different times in Tasmania—Continued.

	Mineral leases act, 1877 (regulations, 1878, 1882).	Gold fields act, 1880; amendment, 1881 (regulations, 1883).	Mineral leases act, 1884 (regulations, 1884).	Mining act, 1893 (regulations, 1894).	Mining act, 1900.		Mining act, 1905.
					General.	Dredging.	
Term of years:							
Gold	.....	[a] 10	.....	10	21	10	21
Minerals other than gold	21	.....	21	21			
Number of years for which renewable	[b] 14	[c] 10	[d] 21	[e] 10 / 21	[e] 21	.....	[e] 21
Maximum area in acres:							
For gold—							
Alluvial	.....	20	.....	10	[f] 20	20	40
Reef	.....	10	.....				
or minerals other than gold and coal	80	.....	80	80	[f] 80	.....	80
For coal	320	.....	320	320	[f] 320	.....	320
Rent per acre per year:							
For gold	.....	£1	.....	[g] £1	£1	25	£1
For minerals other than gold and coal	[g] 5s.	.....	[g] 5s.	[g] 5s.	5s.	.....	5s.
For coal	[g] 2s. 6d.	.....	[g] 2s. 6d.	[g] 2s. 6d.	2s. 6d.	.....	2s. 6d.
Royalty.....per ton	None.	None.	None.	None.	None.	None.	[h]
Development conditions expressed in men per acre per year:							
Gold	.....	[i] 1	.....	[j]	[k] ½	[k] 1/20	.....
Minerals other than gold and coal	[k] 1/20	.....	[k] 1/20	[k] 1/20	[k] 1/20	.....	.....
Coal	[k] 1/20	.....	[k] 1/20	[k] 1/20	[k] 1/20	.....	.....
Development conditions expressed in money expenditure per acre per year:							
Gold	.....	None.	.....	None.	£20	£4	£10
Minerals other than gold and coal	£3	.....	£3	£3	£4	.....	£2
Coal	£3	.....	£3	£3	£4	.....	£2
Equivalent of 1 horsepower or 1 horse in men in computing labor conditions	.....	1	1	.....	.....	.....	.....

[a] The regulation of 1883 provides for twenty-one-year gold leases under certain conditions.
[b] Subject to such rent as may be determined.
[c] At such rent, not exceeding 3 times original rent, as may be fixed.
[d] At not exceeding 7 times original rent.
[e] At not exceeding 5 times original rent.
[f] Except in special cases.
[g] Or such higher rental as may be fixed.
[h] Such as may be fixed by regulation. No royalty has been charged up to this time and none is likely to be.
[i] Only 1 man for every 2 acres for first six months.
[j] Apparently determined in each case.
[k] For nine months out of the year.

Renewal of leases.—The first acts made no provision regarding the renewal of leases. In 1862 a plan, similar to that which had been initiated in South Australia in 1859, was adopted, which provided for renewal, but for a shorter period than the original lease, on payment of such a fine as might be assessed. In 1870 as to gold, and 1877 as to other minerals, the plan was adopted, and has since been continued, of allowing renewal on payment of such additional rent as might be determined, thus in effect spreading the payment of the fine over the full term of the renewal and providing for its payment only so long as the mine proved payable. In 1880 as to gold, and in 1884 as to other minerals, it was provided that the rent on renewal should not exceed seven times the original rent and that the term of the renewed lease should be equal to that of the original lease. In

1893 the maximum rent chargeable on renewal was reduced to five times the original rent.

If the original lessee failed to renew, it was first provided that the right to the lease must be sold at public auction. Now auction is resorted to only as a means of deciding between several applicants; if there is but one applicant for an expired lease, or if one applicant has a preference right, the lease is awarded to him.

Consolidation of leases.—No restrictions seem ever to have been imposed on the number of leases of the regulation size which any person or company might hold. The fact that, under certain conditions, leases larger than those usually provided for might be desirable was early recognized, and the first regulations under the gold fields regulation act of 1859 empowered the governor to issue special leases of any size on such terms as he might think fit. This policy of allowing gold leases of any size or the consolidation of any number of gold leases, provided that it was shown that such a union was necessary for the more efficient working of the land continued, until 1880.

The gold-fields act of 1880 provided that no consolidated lease for gold should exceed 60 acres or six times the normal maximum amount for reef claims. This was reduced in 1893 (mining act 1893, S. 41) to 30 acres or three times the usual amount, and in 1900 increased to 40 acres, at which figure it remained until the mining act of 1905.

As to leases for minerals other than gold, the first provision for consolidation is found in the act of 1870, which provided that no consolidated lease should exceed 320 acres. This was reduced to 160 acres in 1893 (which was half the normal amount allowed for coal, and thus the law did not permit the amalgamation of small coal leases up to even the maximum area), and remained at that figure until the act of 1905. This act, which applies to all minerals, including gold, provides for both the consolidation and amalgamation of leases. It provides for the issuance of a consolidated lease including any number of adjoining leases when the minister is convinced that such consolidation would facilitate the working of the property. This consolidated lease must be for a period not exceeding the term of the surrendered leases. An "amalgamation of leases" under this law is only a means of meeting an emergency, such an amalgamation is in force only for a stated period, generally twelve months, and the total area involved must not exceed 100 acres for gold and 300 acres for other minerals. In amalgamation the leases do not lose their identity; amalgamation merely permits the concentration of labor. The provisions for consolidation in effect mean that there is absolutely no limit to the size of a mining lease in Tasmania except what may be imposed by the discretion of the minister, but, judging from the past history of Tasmania, there is no great danger of abuse of this power by the mines department.

With such a liberal provision it is interesting to note that at the present time the largest consolidated gold mining lease in Tasmania is for 75 acres, and that there are only 7 mineral leases out of a total of 1,600 with an area exceeding 320 acres: The Mount Bischoff lease of 880 acres, the Mount Lyell Mining and Railroad Company's lease of 546½ acres (the Mount Lyell Company also holds consolidated leases for 278, 226, and 131 acres, giving them 1,181 acres in 4

leases), the Tasmanian Copper Company's lease of 454 acres, the Silver King Prospectors' Association lease of 386 acres, the Tasmanian Smelting Company's lease of 366 acres (the Tasmanian Smelting Company also holds consolidated leases for 291, 240, and 159 acres), the Arba Tin Mining Company's lease of 365 acres, and the Pioneer Mining Company's lease for 333 acres. The holdings of the Briseis Tin Mining Company, which undertook the development of a stream tin deposit deeply buried by a basalt flow, and which encountered unusual difficulties, consists of 3 consolidated leases of 139, 120, and 93¾ acres, respectively. Other consolidated leases allowed companies for unusual undertakings are of a similar small size.

Royalty.—The early coal leases of 1849 and 1853 appear to have been the only leases under which royalty has been collected on minerals in Tasmania. The early acts provided that the rent and royalty should be fixed by regulation, but in no case was royalty assessed, and after a time the acts provided only for rental. The insertion of a clause in the mining act of 1905 which permits the collection of royalty is probably to be regarded as a saving claused designed to permit the exercise of this right in special cases if found desirable, rather than an intimation that royalty is to be generally collected. All companies in Tasmania now pay 5 per cent on their declared dividends, but this is to be regarded as a general tax rather than as a special mining royalty, since it is not, as in South Australia, collected from mining companies alone.

Labor conditions.—One of the essential conditions of a mining lease in Tasmania has always been that of development. In gold leases this development covenant was always expressed in men until the mining act of 1900, but provision was made for an indefinite amount of exemption at the discretion of the local warden or commissioner of mines, and the lease further provided that a suspension of labor for at least six months was necessary to constitute a breach of the labor covenant. In connection with leases for minerals other than gold no provision for exemption from development conditions was made until 1893, but because of the option which permitted a fixed money expenditure per year a lease could not be declared forfeit until the expiration of that year. The 1893 act provided that at least six months noncompliance with the labor conditions was necessary to render any lease liable to forfeiture, and permitted the local commissioner to grant an indefinite amount of exemption. The labor conditions on leases during this period are therefore not to be considered as very severe. The act of 1900 first provided for exemption as a "right" during "general strikes" and for excess expenditure at the rate of three months' exemption for every excess expenditure amounting to that required for one year, providing the total exemption thus acquired should not exceed three years. The action of Parliament in this respect had been foreshadowed to some degree by the passage in 1893 and 1895 of acts granting special leases to the Mount Lyell Company, on the guarantee of an expenditure of £200,000 within five years, at a rental of £1 5s. per acre, or the combined rental on a gold and mineral lease under the general mining act then in force.

The mining act of 1905 appears to have gone a step further by providing (1) for exemption during "a strike" where before it was a "general strike in the district;" (2) for exemption for six months

for each excess of expenditure equal to that required for twelve months, provided the total of such exemption should not exceed three years; and (3) by permitting the assessment of a fine not exceeding £500 as an alternative for forfeiture on breach of labor conditions.

All these are changes which have been repeatedly urged in connection with the "security of tenure agitation." The exemption-as-a-right clause for excess expenditure, though it provides for a longer period of exemption for the same expenditure, is, however, in some respects not as satisfactory as the provision in the act of 1900, because in the 1905 act the lessee is entitled to exemption for such expenditure as a "right" only after he has satisfied the warden "that there are reasonable grounds for applying for exemption." This in effect places the matter entirely in the hands of the warden, and can not be considered as much better than the provision of the Western Australian law, which in essence empowers the minister to grant exemption for any good cause.

In the matter of fine in lieu of forfeiture, it should be pointed out that forfeiture has been effected, as a rule, not on the initiative of the mines department but of prospectors who have a preference right to the lease forfeited, and that when this compensation is removed there is little to induce men to take the time and trouble to apply for forfeiture, particularly in view of the fact that the applicant must make a deposit of either £5 or £10. Although this deposit is designed to protect a bona fide developer from meddlesome and inconsequent allegations, the provision of the Western Australian law that the warden or registrar, if he is satisfied that such an application is made bona fide, may permit the applicant to proceed without making such a deposit, has very evident advantages if properly administered. In case forfeiture for noncompliance with the labor conditions is punished by fine only, some provision must be made for compensating the applicant for his time and trouble. If the lessee is adjudged guilty of a breach of the labor conditions and the lease is not forfeited, the fine should be sufficient to compensate the applicant for "any reasonable expenses incurred by him in relation to the application for forfeiture." In this particular the provision of the Tasmanian law that the applicant shall not be entitled to compensation for expenses in any case exceeding the amount of his original deposit, £5 or £10, as the case may be, seems entirely inadequate. After considering the "shepherding" of leases (holding without bona fide development), it was suggested by the Western Australian royal commission on mining in 1898 that government mining rangers should be appointed to see that the labor conditions were being fulfilled.

Tasmania has taken a step in the direction of assisting the government officers to enforce the labor conditions by requiring in the last mining act that each lessee furnish a yearly declaration, under oath, giving full particulars of the work done. In the administration of this and other matters connected with mining leases, the mines officials in all the Australian States are assisted by the local police officers, who in some degree take the place of rangers. The conditions of administration in this respect are somewhat different in the Australian States than in the United States. In Australia

the lands are being handled by the same government which is in charge of the local peace officers—which service, by the way, is immensely more efficient than in the western United States—and the two services work together. The same efficiency may not be attainable in this matter with our dual system of government, where the State controls the local peace officers and the nation the public land, but the desired results can doubtless be obtained in other ways, if cooperation in this respect is not, with proper administration, indeed possible.

The simple expression of the labor conditions in money per year, as in this Tasmanian law, makes it possible to hold a property almost a full year without doing any work. While designed to assist development, such a provision permits speculation to an undesirable extent, and a modification in which the labor covenant is expressed in men for the first six months of the lease period with the usual privilege of exemption from labor at the discretion of the officials, would make it possible to assist the bona fide developer in cases where cause for leniency was shown, and at the same time, to a more satisfactory degree, to prevent speculation.

Forfeiture.—The early acts required that leases could be declared forfeit by the supreme court. After a time forfeiture could be effected by the publication of a notice in the Government Gazette by the commissioner of crown lands. About 1880 the governor in council, which in practice means the minister for mines, was empowered to forfeit leases, and such forfeiture was usually effected on the recommendation of a commissioner of mines or warden after a hearing in open court. This made the minister a court of appeals in such cases. In 1900 this responsibility was shifted from the shoulders of the minister for mines to a mining board composed of six members, the minister for mines, the secretary for mines, and the commissioners of the four districts. In 1905 the number of members in the board was reduced to three, and it was provided they should be appointed by the governor. A similar change is considered desirable in Western Australia, only there it is proposed that the board of appeals or mines board should be composed of the minister for mines, the secretary for mines, and the magistrate at Perth. The lack of definiteness in the last Tasmanian enactment regarding the composition of this board and the fact that provisions are made for salary and expenses suggests that it has been thought wise to make it possible to have a board composed of other than the departmental officers.

MINERS' RIGHTS.

The first gold-mining regulations, while defining the size of claims and stating that they should be subject to such royalty and rent as might be fixed, made no provision for miners' rights or other form of authorized prospecting. The public lands were in theory open to any who cared to search. This has been true for minerals other than gold for the greater part of the history of the mining development in Tasmania, and in this respect there is a momentary parallel with American mining practice. The gold fields regulation act of 1859 provides for miners' rights for periods of twelve months at a fee not exceeding £1. In 1880 the period of a miner's right, still restricted to gold mining, was extended to ten years at an annual

rent of 5 shillings, and miners' rights were issued under the same terms till 1900, when the practice of issuing miners' rights was abandoned and the American plan of allowing prospecting and the holding of a claim without any government license initiated.

But so firmly had the custom of having a miner's right fixed itself on the mining community that this provision raised a storm of protest. Deputation after deputation waited on the secretary for mines demanding the restitution of the miners' right. On the explanation of the secretary that they had all the privileges conferred by a miner's right without having to pay the fee which had been charged for such a document, they replied that they wanted the miner's right nevertheless. Provision was therefore made for the "miner's right" in the mining act of 1905. All such miners' rights expire on December 31 of each year, and are issued on payment of 5s. if applied for before June 30 and 2s. 6d. if applied for after that date. Miners' rights under this act of 1905 cover all minerals instead of only gold as theretofore. Although between 1900 and 1905 the Government abandoned miners' rights, it still required fees for prospecting areas (under the provisions of the mining laws of other Australian States prospecting areas are allowed under miners' rights) and the innovation was therefore not of such far-reaching importance as it appears at first sight.

CLAIMS.

With regard to the number of claims or miners' rights which one person could hold, the practice in Tasmania seems to have been generally not to allow more than one miner's right to any person. The present act provides that only one miner's right shall be issued to any person and that only one claim can be held thereunder. In this respect Tasmania has perhaps unknowingly kept more closely to the original idea of a claim than the other States. A claim in the beginning represented the natural manner of permitting a man to hold certain ground on condition that he worked it. It was a possessory right only and the claim to hold the ground lapsed automatically when the claimant ceased to work it. In this initial stage it was in all countries so clear that a man could not work two claims at once that the fact that a man should only hold one claim needed no demonstration. It was only after the introduction of the capitalist, who might employ men to work for him on several claims and so fulfill the conditions of occupation, and after the relaxation of the first and natural requirement of continuous development and the initiation of some such entirely inadequate provision as the $100 a year assessment work required in the United States that one man could speculatively hold more than one claim.

The early change in the expression of the development condition in America from the original condition of the labor of one man for each one man's ground with exemption for cause, which is still in force in Tasmania and throughout Australia, to the expression of the development condition in money, coupled with the provision that one man may hold any number of claims, opened the door to wholesale speculative holdings of claims, for as the development condition is expressed in money per year, and as this expenditure can be made the last day in the year, any number of claims may be held for purely speculative purposes by one man for twelve months without devel-

opment. In the first instance no registration was required. Each man was on the ground he claimed and his presence was the only recognized evidence of his right. Later, in order to provide for the granting of exemption from labor conditions for cause, it became necessary to register claims. A survival of this original condition is evident in the Tasmanian law, but the unregistered claim has in most other countries ceased to exist.

On taking possession of a claim every miner in Tasmania must notify a registrar of mines that he has taken up such ground, but such a notification is not considered a registration. Such an unregistered claim is forfeited if not worked for a period of forty-eight hours; no exemption is allowed. If the miner desires to register the claim, he applies for registration, the claim is surveyed, a notice published, objections are heard, and the claim, if there are no valid objections, registered. After such registration, exemption may be obtained at the discretion of the warden. The area now allowed for all claims in Tasmania is one-half acre per man. Provisions are made for not exceeding 10 men, each holding a miner's right, jointly taking possession of land, and the 5 acres thus acquired is regarded as the largest possible claim under existing law. There is, however, in the law a provision that a company or combination of persons may take out a consolidated mining right on payment of a sum equal that charged for a single miner's right, multiplied by the number of miners' rights the consolidated miner's right is to represent. Under this there is absolutely no limit to the area a company might acquire as a single claim, but as there has never been any request in Tasmania for a consolidated miner's right this point has never arisen. Under the Tasmanian law, because of exemption as a right under certain conditions, a lease is a more satisfactory form of tenure than a claim, when important development is to be undertaken, and the claim and miner's right have both practically ceased to be of importance in this country.

PROSPECTING AREAS.

The prospecting area and prospecting license in Tasmania have included privileges which in other States were sooner or later included under a miner's right. As regards minerals other than gold, this appears to have been the favorite form of holding prior to lease, and although mineral licenses which permitted the taking out of mineral claims, comparable to the miner's right gold claims, were provided for in the act of 1870, this provision was abandoned in 1877 and has now been revived only in connection with the revival of the miner's right. The claim allowed under a miner's right is so absurdly small that there is no inducement to take out such a holding except in connection with gold, and even then it is of doubtful value.

The desirability of prospecting before taking out a lease was recognized in the first regulations dealing with mineral lands in 1863, where it was provided that a commissioner of mines might issue an "authority to select," good for one year. This was changed in 1867 to a provision which required the applicant to pay a full year's rent for the privilege of prospecting. In 1870 the mineral lands act provided for licenses to search for and remove minerals other than gold, good for twelve months, on payment of a fee of £1, and this provision continued in force until 1877, when this form of holding, except for

gold, was abandoned. The gold field regulations of 1878 provided that any miner wishing to prospect at a distance of more than 10 miles from the nearest known gold discovery should be entitled to the exclusive right to prospect on an area of 50 acres for six months, which term might be extended for a further six months. This provision was slightly amended and incorporated in the gold fields regulation act of 1880. Special gold prospecting claims up to an area of 640 acres continued to be allowed under miners' rights, the area varying with the distance from proven discoveries and, without regard to distance, with the depth of the proposed sinking.

In 1884 provisions were made for prospecting licenses for minerals other than gold at a rate of 10s. per year. This did not, like the miner's right, permit the removal of minerals, and the prospecting areas allowed were much smaller than those allowed for a lease, being only 20 acres for minerals other than gold and coal and 100 acres for coal except where deep prospecting was undertaken, where an area up to 640 acres might be allowed.

The act of 1893 provided for miners' rights for gold only, but for prospectors' licenses for all minerals, including gold, at a rate of 10s. per year. The prospecting areas allowed under such rights remained entirely inadequate for the purpose for which they were granted, since being less than a lease they did not afford adequate protection. They did not prevent persons from acquiring adjoining claims and preventing the holder of the prospecting area from obtaining the maximum lease area to which he was entitled under the law. This plan of special prospectors' licenses is continued in the existing law and the areas allowed are 20 acres for gold, 40 acres for minerals other than gold and coal, and 100 acres for coal, except that under special circumstances 320 acres may be allowed. It is perhaps in respect to the inadequate size of the exclusive prospecting areas allowed that the Tasmanian law most nearly fails to attain its evident aim of promoting development.

DUAL TENURE—ASSOCIATION OF MINERALS.

The theory that as rich alluvial gold was preeminently the field of the small man special rights should be granted in respect thereto, found expression in Tasmania as in other states in special provisions. Regulations under the gold fields act of 1870 provided that the owners of alluvial lands should be entitled to all reefs, but that the owners of reefs should not be entitled to the alluvial. About 1880 the practice of leasing alluvial ground seems to have been abandoned, since the regulations under the 1880 act provided that every lease should contain a condition exempting from its operations all alluvial gold within 75 feet of the surface, and providing that such gold could be taken by the holder of a miner's right, "provided such mining shall not interfere with or obstruct the bona fide operations of the lessee." The mineral lands amendment act of 1880 likewise provided that the holder of a gold miner's right could mine for gold on any mineral lease on paying compensation for damages. These regulations continued in force for some years and produced the inevitable conflict between the alluvial digger and the lessee. In the act of 1893 power was given to the minister to exempt any lease from such a condition and to reduce the minimum depth of 75 feet at will. In 1898 the

Kalgoorlie riot, in Western Australia, was produced by a dispute on this point, and in the act of 1900 all difference between alluvial and reef gold was abandoned and every lease was held to give the lessee "the right to all gold within the perpendicular of his pegs."

The somewhat allied matter of the mining for associated minerals was attacked by Tasmania in 1881. The mining amendment act of that year contained a provision that any lands held under mining lease might be leased for mining for gold or any other metal or mineral than that intended to be mined for under such lease, provided no such occupation should interfere with or obstruct the first lessee in conducting mining operations under his lease. Under this provision the two leases are essentially for parts of the same ground and more or less in conflict. The act of 1893 slightly restricts the operation of this provision by providing that the holders of gold leases shall be entitled to all minerals, and takes a step toward separating the two overlapping leases by providing that the rent payable by the first lessee as to the lands occupied by the second lessee shall be remitted. Provision is, however, made in the regulations under this act only for the mining of associated minerals by the original lessee. The act of 1900 provides for prospecting for, as well as mining for, associated minerals, and adds that the holder of a lease for minerals other than gold shall be entitled to all minerals other than gold. The regulations under this act provide for leases for the associated minerals of not less than three nor more than five years, on payment of specially assessed rents. The act of 1905 practically abolished this dual tenure by providing that the only lands held under mineral lease which may be subject to lease to any person for another mineral are those held under coal lease, where any portion of the land not necessary for the mining of the coal on which any other minerals may be found shall be considered Crown lands and leased. This, in effect, involves nothing more than the resumption of the land not needed by the lessee, without compensation, and its subsequent leasing, and so is entirely distinct from the original provision regarding mining for associated minerals, which was little better than the alluvial question. Regarding gold, this act provides that the holder of a lease for minerals other than gold must on penalty of forfeiture report the discovery of any gold, and if the value of the gold exceeds that of all other metallic products he must take out a gold-mining lease. It gives no rights to any person other than the original lessee.

ENCOURAGEMENT OF MINING.

Tasmania has endeavored to encourage development (1) by special concessions and rewards to the discoverers of minerals, (2) by subsidies to assist development, (3) by government exploration and diamond-drill borings, and (4) by the passage of a mining law which, while maintaining the fundamental principle of government leasehold which all Australian mining men indorse, endeavors to give a tenure satisfactory to large companies.

In the first period of development the law provided that a discoverer should have a preference right to a lease, and this soon led to the announcement that no application for a lease "would be entertained except that of the original discoverer." This is a very natural first-hand conclusion. "Why indeed should anyone but the original

discoverer have any initial right to a mining tenement?"—and it is the basis which was adopted in the United States about the same time that this provision was adopted in Tasmania, and has perhaps been one of the factors which has assisted in the production of the feeling in the West that the laws are impossible—so why try to live up to them?

Suppose that a prospector discovers a payable lode at some new point—this man is in fact a discoverer, and, under the American law, is entitled to a claim. Other men wish to expend their means on the ground round about this find, hoping that they may also discover something good; but before they spend any time or money they naturally want some sort of an exclusive right to the ground, and as, under the American law, they have no right until they make a discovery, they at once stake a claim and post a notice declaring that they have made a "discovery." This is a very natural proceeding, in fact, it is the only one possible under such a law, if the land is to be developed, but the statement that a real discovery has been made is essentially false.

The question what is properly "a mineral discovery" is a very broad one, but it may be truly said that the percentage of American claims based on finds which would justify a government in granting a reward or other special compensation is extremely small. The absolute folly of such a requirement is in no way more clearly demonstrated than in connection with petroleum claims, where the nature of the deposit is such that a valuable discovery can practically be made only by drilling, and yet thousands and thousands of acres of the public lands in the western United States on which no drilling has been done are held as "placer petroleum claims," and on each is the declaration that on a specified day John Smith or some associated gentleman discovered a valuable petroleum deposit. The provisions of this portion of the American law, as well as certain other provisions connected with the public-land laws, might well have been specially designed by an evil power to make liars of honest men.

The first attempts at mining law in Tasmania and the neighboring States in many ways suggest the early history of the mining law in the United States, but, while America has accepted the early attempts and rested there, the Australian States have endeavored to remedy the defects and inconsistencies of their mining laws. The fallacy of this "discovery doctrine" soon became evident in Tasmania, and in 1877 the wise step was taken of providing that a lease should be granted to the first applicant unless it could be shown that there was an actual discoverer, and of rewarding the actual discoverer, in case the find was more than 10 miles away from any place where a mineral of like kind had been found and profitably mined, with a lease at a peppercorn rental for twenty-one years. This policy has been followed to this day. The present act provides for reward leases for twenty-one years at a peppercorn rental of the following areas: For gold, if the discovery is more than 2 miles from a "spot where gold in similar deposit is at the time of the discovery known to exist," 20 acres; if more than 5 miles, 30 acres; if more than 10 miles, 40 acres. As to coal, if the discovery is over 2 miles, 80 acres; if over 5 miles, 160 acres; if over 10 miles, 240 acres. As to minerals other than gold and coal, if over 2 miles, 20 acres; if over 5 miles, 40 acres, and if over 10 miles, 80 acres.

In 1864 a reward of £5,000 was offered by the government for the discovery of a payable gold field, and the last mining act contains provisions for rewards to the discoverers of "new mineral fields" and of "new and valuable deposits." In case of the discovery of a new mineral field, reward is paid if the discovery results in the establishment of a town within ten years in which a population of at least 500 persons is settled and maintained for a continuous period of twenty-four consecutive months. The reward is at the rate of £500 for every 500 inhabitants, but the reward shall in no case exceed £10,000. In the case of the discovery of a new and valuable deposit of mineral, reward is paid if as a result of such discovery 100 acres of gold leases, 640 acres of mineral leases, and 1,280 acres of coal leases are taken up and one year's rent paid thereon. In such cases the discoverer is entitled, in addition to a reward claim at a peppercorn rental, to half the rent paid for the first two years, provided that the total sum shall not exceed £100.

In 1886 the plan of aiding mining companies engaged in deep sinking by subsidies on a pound for pound basis was initiated with the appropriation of £2,000. This practice was continued for several years.

Diamond drill work was commenced by the government in connection with development in 1882 and continued until 1902, during which period 32,683 feet were drilled.

The government is now engaged in opening up "tracks" and roads in mining districts, which it is expected will materially assist in the mineral development of the densely covered southwest portion of the island. The expenditure in 1906 for this purpose was £823.

EXTENT OF OPERATIONS.

The fact that claims are not required to be registered makes it impossible to obtain data on the extent of such holdings, but, as has been pointed out, this form of tenure is not of importance in this State; neither does the mines department publish any data regarding the number of miners' rights and prospectors' licenses issued, nor the areas held under such licenses. The extent of mineral leasehold is shown in the following table:

Table showing extent of government mining leasehold under the Tasmanian mining law.

Leases in force on—	Leases for minerals other than gold, coal, etc.		Gold leases.		Dredging leases.		Leases for coal, slate, shale, etc.		Total.	
	Number.	Area (acres).	Number.	Area (acres).	Number.	Area (acres).	Number.	Area (acres).	Number.	Area (acres).
June 30, 1896	738	33,077	602	5,712	.....	.....	37	5,946	1,377	34,635
June 30, 1897	1,150	56,493	615	5,789	.....	.....	38	6,105	1,803	68,387
June 30, 1898	1,290	66,981	702	7,190	.....	.....	41	5,943	2,033	70,114
June 30, 1899	1,207	64,339	652	6,725	.....	.....	39	6,002	1,898	77,066
June 30, 1900	1,487	70,500	647	6,623	.....	.....	52	7,258	2,186	84,381
July 1, 1901	1,388	60,865	566	6,091	.....	.....	55	7,566	2,009	74,522
June 30, 1902	1,063	45,399	425	4,166	.....	.....	52	7,819	1,540	57,384
June 30, 1903	950	40,068	310	3,117	.....	.....	66	10,767	1,326	53,952
December 31, 1903	826	33,325	243	2,505	15	124	54	9,119	1,138	45,073
December 31, 1904	868	33,824	222	2,268	29	469	47	7,546	1,164	44,107
December 31, 1905	944	34,825	195	2,087	51	1,196	45	7,185	1,235	44,793
December 31, 1906	1,307	43,036	167	1,836	91	2,027	35	6,025	1,600	52,924

RESULTS OF TEST OF GOVERNMENT LEASEHOLD.

While Tasmania does not afford within itself an opportunity for comparing the relative operations of leasehold and freehold tenure in the development of minerals, since, for reasons already pointed out, no important mining properties are held in freehold in this State, the mining operations are conducted largely with capital from other regions, and the men interested in these ventures are in a position to speak of the relative merits of the two systems and to agitate a change in the form of tenure if they thought such a change desirable.

The Tasmanians regard the policy of government leasehold not as primarily a method of obtaining revenue, but as the best way of assuring the development of the mineral wealth and resulting increase in the population of the State. There is no theoretical consideration that the State should control all things, there is only the practical consideration that certain things should be done because the best results can be attained in that way. If freehold were shown to be the best way of promoting the attainment of the desired result it would be adopted, but there is among mining men in Tasmania the same abiding feeling of satisfaction with the general principle of mineral leasehold found in other parts of Australia. In response to the question, "What are the defects in the present law from the standpoint of the prospector and capitalist?" the secretary for mines replies, "No complaints from either prospectors or capitalists have been received, and I presume they are satisfied." In reply to the question "Does the policy of leasehold retard mineral development, as compared with freehold?" the secretary replies with the unqualified monosyllable "No." Mr. Lindsay Tulloch, a director of the Mount Lyell mine, the richest mine in Tasmania, states most positively that he considers leasehold a better method of promoting development than freehold. Col. F. G. Hughes, vice-president of the Victorian Chamber of Mines, and a mining man interested in properties all over Australia, including several in Tasmania, states that the mining men of Australia, with practical unanimity, indorse leasehold as a better method of promoting mining development than freehold, and in his wide acquaintance among mining men he knows of but one, an American, who seriously advocates freehold.

Colonel Hughes expressed the opinion that after a company had expended large sums of money in development work they should be entitled to exemption from the labor conditions as a right for certain periods. Asked if he thought that a company which had spent say £250,000 should be entitled to freehold, he stated that he did not, but that such a company should be entitled to exemption for a stated period as a right, not at the discretion of the minister or secretary for mines. Asked what was the maximum period of exemption a company that had spent £250,000 should be allowed as a right, he first replied five years, but later stated that after further consideration he believed that three years was the maximum a company should be allowed as a right, even if their expenditure was many times £250,000; that with three years as a maximum, lesser periods should be allowed for smaller expenditures. It should be noted that the three years maximum period is the one adopted in the Tasmanian law.

CONCLUSION.

The present Tasmanian mining law is in many respects not a very well rounded or matured enactment. Many provisions have been taken from the laws of other states and bodily incorporated in this enactment without due digestion, and appear a bit incongruous in their new settings. This act, as first pointed out, is noteworthy because of the very strong effort which has been made to encourage capital by meeting the various demands which have developed in the "insecurity of tenure" discussion. The provision for exemption from labor conditions in case of "a strike" is probably the most liberal provision in this respect in Australia. The provision for exemption as a right for excess expenditure is, owing to the qualifying clause added in 1905, not much of a concession. The provision for a fine, in lieu of forfeiture for noncompliance with the labor conditions, while good in some respects, is objectionable from a general standpoint because no adequate provision is now made for the payment of reasonable expenses incurred by the applicant; the prospecting areas are entirely too small as compared with the areas allowed under a lease; and the dual system of miners' rights and prospectors' licenses seems without adequate excuse. This last provision yields revenue, but the desideratum is not revenue but bona fide development under government control, as the Tasmanian officials have emphasized by the attempted abolition of the miner's right fee.

The point which deserves the greatest attention in the Tasmanian situation is the fact that although no provisions were made for preventing the alienation of minerals until 1903, and although such alienation was absolutely at the discretion of the lands and mines department officials, these officials have so faithfully discharged their trust that in no case has the fee simple of any important mineral property passed into the hands of private parties. This record for over thirty years of important mineral development is one of which the country may well be proud, and shows that an efficient and patriotic administration of the land affairs of a nation is not a human impossibility.

CHAPTER V.

THE DEVELOPMENT AND PRACTICAL WORKINGS OF THE MINING LAW OF VICTORIA.[a]

THE FORMATIVE PERIOD: A COMPARISON WITH THE UNITED STATES.

The discovery of workable alluvial gold in California in 1848 marks the beginning of the present American mining law, and in like manner a similar discovery in Victoria and New South Wales in 1851 marks the beginning of Australian mining law. To link these countries even more closely, it may be noted that the opening of the Australian gold fields was due to the return of persons who had been attracted by the California rush, and their application to the Australian fields of the knowledge gained in California. Victoria, furthermore, with only three-fifths the area of California, has to-day very nearly the same population, and between 1851 and 1905 produced gold to the value of $1,365,000,000, while California produced between 1848 and 1905 $1,400,000,000. The Victorian gold production in 1905 was about $16,000,000, while that of California was almost $19,000,000.

Previous to these discoveries in both America and Australia, several more or less abortive attempts had been made at mining legislation. In each case some of the early grants contained reservations of certain minerals, others did not. In America an attempt had been made at leasing lead and copper bearing lands, and in 1845 President Polk recommended the abolition of this system and the selling of the lands outright. This recommendation was adopted and was made effective by the acts of July 11, 1846, as regards the lead of the Mississippi Valley, of March 1, 1847, as regards the mineral lands of the Lake Superior land district in Michigan, and of March 3, 1847, as regards the mineral lands in the Chippewa district of Wisconsin. The minimum price fixed for these lands was $5 per acre.

In 1840, in like manner, the British secretary of state, Lord John Russell, announced his opinion in a letter to the governor in chief of New South Wales, Van Diemen's Land, and their dependencies, as follows:

> All deeds of grant throughout the whole of the colony should henceforth convey to the purchaser everything below and everything above the surface. Neither would I reserve lands merely because supposed, or even certainly known, to contain useful mineral substances. The small amount of profit derived from mines throughout the great extent of the British Colonial Empire would appear to us sufficient reason why such reservations would, as a general rule, be as unnecessary as they would be inconvenient to the progress of the settlement.

And the land regulations of the colony dated March 1, 1843, contained the statement that "deeds of grant from the Crown will be issued * * * conveying * * * all that is above and all that

[a] Australian Mining Law Report No. 4, forwarded to President January 11, 1908.

is beneath the surface," except that in certain areas coal will be reserved until 1862, and that "precious minerals or metals may also be reserved if it be known that they greatly abound, but not otherwise." In 1846 an attempt was made in South Australia and Western Australia to reserve to the government one-fifteenth of all metals and ores containing metals and to issue mining leases at this royalty of 6⅔ per cent. This was of particular importance in South Australia because of the copper mines which were then being developed there, and here again a close parallel is found in American history in the copper leases issued in the Superior district between 1843 and 1846 at a royalty of 6 per cent. In 1849 this plan was abolished and an act was passed in South Australia waiving the reservation contained in all grants previous to that date. In February, 1850, the governor of New South Wales issued a proclamation declaring that the reservations of coal contained in certain grants before that date were forever abandoned. Mineral lands were sold throughout Australia in much the same way as other lands and at a minimum price of £1 per acre.

It thus happened that in both the United States and Australia at the time of the discovery of gold the Governments had abandoned both the plan of reserving minerals in deeds of grant and of collecting a royalty thereon, and were selling the freehold of such mineral areas as were found under much the same conditions as other lands. In America the abolition of any system of mineral leasing or reservation was recommended by President Polk, because of the difficulty of collecting rents, the cost of administering the system, and the irritation of the people. In Australia the matter was placed on the rather broader grounds that the development of the country would be promoted by such a change.

Had only small amounts of gold been found there is little doubt that such auriferous lands would have been sold in the same way as other lands, as had been done in South Australia some years before, and that in time a system of mineral-land law would have been gradually evolved which would have had little in common with the present American law, and which might or might not have resembled the Australian law. But in both America and Australia the discoveries were not small; they were of such enormous magnitude that they made the whole world pause, and resulted in two of the most stupendous gold rushes ever known. Both California and that portion of southeastern Australia where gold was found, including portions of New South Wales and Victoria, were very thinly settled regions, and the influx of an enormous population, gold mad, at once produced a crisis. The new population many times exceeded the old, and as many of the older residents holding positions under the Government resigned their offices and joined the gold seekers, the preservation of law and order became a very serious matter.

In California the discovery of gold followed on the heels of the Mexican war. The district where the gold was found was under military government, and it continued to be so governed until the admission of California into the Union in September, 1850. The region was far from the seat of government, communication was slow and uncertain, and the whole future course of the mineral law for many years, as it is proved, depended upon the action of the man on the spot. This man, Colonel Mason, proclaimed on February 12, 1848,

that "from and after this date the Mexican laws and customs now prevailing in California relative to the denouncement of mines are hereby abolished." This proclamation, so far as this region was concerned, did away with whatever vestiges of mining law then existed, and left Colonel Mason free either to promulgate and enforce adequate provisions, having for their object the safeguarding of the future interests of the community, or to allow the miners to "fight it out among themselves." Colonel Mason visited the fields, and was so appalled by the magnitude of the task before him that he announced:

> It was a matter of serious reflection with me how I could secure to the Government certain rents or fees for the privilege of procuring this gold; but upon considering the large extent of country, the character of the people engaged, and the small scattered force at my command I resolved not to interfere, but to permit all to work freely.

Thus did Colonel Mason fail utterly to meet the great emergency with which he was confronted, and there followed a period of excess, crime, and lawlessness which forms a disgraceful epoch in our national history. Left to themselves, the miners were forced to form local organizations and vigilance committees for the administration of a rude justice, and for the partial preservation of order. Each locality promulgated certain evident regulations regarding the right of a discoverer to a claim, and the essential condition of development as the necessary requisite for the retention of title. These primitive and fundamental mining law conceptions, which spontaneously assert themselves in all regions when the demand arises, were soon followed by other regulations of a more local or special application. The most important of these special regulations, and the one which has exerted the most far-reaching effect on the mining industry of the United States, is that relating to extralateral rights, whereby the holder of the apex of a reef is considered to be entitled to all the underlay of the reef within the extension of his end lines. This is a distortion of the right of the discoverer, and originated under much the same conditions as that other impossibility of American mining law, the assertion that only a discovery can initiate the right to a mining holding.

Both these doctrines naturally found expression in Australian mining law, but Australia after giving both a careful test abandoned them, and herein is illustrated the basic difference between America and Australia in the matter of mining legislation. Starting from the same point and based on the same fundamental principles, developing along the same lines and under much the same conditions, the American law is essentially where it was over fifty years ago, while the Australian laws have been progressively improved. After fair trial the Australians have rejected what was bad and have produced enactments which much more fully protect the rights of all concerned than those which are to-day found on American statute books.

Whatever may have been the original utility of the discovery and extralateral right provisions the need of such provisions have long since passed. The discovery doctrine has been responsible for more essentially false declarations than probably any other enactment on the American statute books. The extralateral right doctrine has resulted in an endless amount of litigation, involving the absolutely unproductive expenditure of millions upon millions, and unless firm and decided action is taken at this late day the end is not yet. Fully realizing the difficulties which beset any endeavor to undo the harm

which has been done, it is confidently believed that an entirely equitable solution of this problem can be propounded. All the leading mining men in Australia with whom the matter has been discussed regard the matter as being susceptible of such a solution.

The Federal Government followed the policy of Colonel Mason and—did nothing. The matters which led up to the civil war were then of overshadowing importance, and the affairs of the distant State of California seemed of small moment in comparison. The war followed, and it was thus almost twenty years before any action was taken by the National Government relative to mineral land laws.

The enactment of 1866 did little more than legalize the customs which had grown up and to legalize whatever customs or regulations might be found locally agreeable after that date, provided they did not change the more fundamental of those which had been established and had been incorporated in the law. The majority of the western Congressmen were at this time strong, able men, interested in and benefited by the existing state of affairs, and unwilling or unable to look at the matter in any way than from the standpoint of their own selfish ends. Such is the origin and essentially the present condition of the mining law in the United States, for the mining act of 1872 did not materially affect the underlying principles enunciated in the act of 1866.

At the time of the discovery of gold, New South Wales and Victoria were, measured in the time required for the journey, but little farther from the seat of government in London than California was from Washington. In New South Wales and Victoria there were partially elective legislatures, but the governor was all-powerful, and the conditions of autocratic administration found in California paralleled. In New South Wales the existing order of affairs had been established for over half a century, and there was in existence machinery for the administration of justice based on the English law. In the Victorian portion of the colony this had been true for only fifteen years, but, while this gave an advantage not found in the Californian situation, the presence on the gold fields of large numbers of convicts who had been transported to Tasmania and New South Wales gave rise to a state of affairs which, so far as the preservation of order was concerned, certainly equaled, if it did not exceed in lawlessness, that in California.

The matter here, as in California, resolved itself into a question of the power of the man on the spot, and in Australia the man for the task was not wanting. While recognizing that the existing force was entirely inadequate to cope with the emergency, Governor Fitzroy of New South Wales, which then included Victoria, did not follow Colonel Mason's example and let the men fight it out among themselves, but said in effect: "Order must be preserved, and if the preservation of order requires a larger force and a greatly increased expenditure it is but right that those who will be most protected and benefited (the miners) should pay for it." This reasoning led to the first two acts of gold-field law in Australia, the issuing by Governor Fitzroy of a proclamation on May 22, 1851, and of regulations covering gold-digging licenses on the following day.

This proclamation asserted the common-law right of the Crown or Government to "all mines of gold and all gold in its natural place of deposit * * * whether on the lands of Her Majesty or of Her

Majesty's subjects," and warned all persons that anyone removing any gold, or digging for or disturbing the soil in search of such gold, without being duly authorized, would be prosecuted both criminally and civilly, and notified all persons that "such regulations * * * as may be found expedient will be speedily prepared and published, setting forth the terms on which licenses will be issued for this purpose." This assertion of the common-law right of the Government to all precious metals, while correct in law, was clearly an emergency proceeding, as it was in direct violation of the principles which had been announced in Lord Russell's dispatch of 1840 and in the land regulations of New South Wales of 1840 and 1843. It might be pointed out that a similar proclamation was possible in California without evoking the common-law right of the Government if Colonel Mason had desired to avoid it, because practically all the gold was obtained from public lands, and the remainder was entirely from Spanish grants in which the precious metals had not passed to the freeholder. There was in the United States at that time no law providing for free search on public lands, and the "diggers" were, as in Australia, legally trespassers. The matter thus lay even more fully in the hands of Colonel Mason than it did in the hands of the governor of New South Wales.

On July 1, 1851, Victoria was formally separated from New South Wales, and on August 15 and 18 Lieutenant-Governor Latrobe repeated the proclamations and regulations issued by Governor Fitzroy the preceding May. Other regulations followed, but they differed in detail in the two States. Those in New South Wales seem to have been rather better suited to the needs of the case than those of Victoria, and were received with much more general satisfaction by the "diggers." In April, 1852, Governor Fitzroy visited the diggings, and everywhere he was thanked by the miners for the tranquil and prosperous state of the extensive gold-bearing districts, which was due, in their opinion, to the wise gold-field regulations, to the police force established, and to the care evidenced by the government in maintaining order. New South Wales was at this time producing several million dollars more gold per year than is now being obtained from Alaska, and the situation affords a striking contrast to the early days in California, and one which does not redound to the credit of the United States.

In Victoria, which was the center of the excitement, the early period was not passed so successfully. While this may have been due in part to the greater magnitude of the operations (Victoria was then producing over £200,000 of gold per week), it seems to have been due more to certain ill-advised regulations, to opportunities which these regulations opened up for blackmailing and grafting on the part of some of the petty officials, and to the misconduct and misjudgment of some of these officers. The regulations of August 18, 1851, which became effective on September 1, and which fixed the license fee at the considerable figure of 30 shillings per month, was followed on December 1 by new regulations increasing this fee to £3 per month, and requiring that every person on the gold fields, including cooks and teamsters, should pay the fee. This raised a storm of protest, and seems to have marked the beginning of the feeling of discontent, which, fed by one official act or another, culminated in the Ballarat riot of 1854.

Following the proclamation of the regulations of December 1, 1851, thousands of men assembled, and with decency and order passed resolutions which led to the immediate revocation of these regulations.

During the following summer the partially elective legislative council passed an act to restrain by summary proceedings unauthorized mining on the waste lands of the crown. In this act there is the first evidence of special tribunals for the decision of mining disputes; provision is made for the appointment of certain officers called "gold commissioners," who were empowered to inquire into disputes between miners, and determine them in a summary way. This act provided that any person found mining or digging for gold should be liable to a fine, but expressly stated that nothing in the act should be construed to extend to any preliminary search or inquiry for the purpose merely of discovering any ore or minerals. This provision was undoubtedly intended to relieve the unsuccessful prospector from the payment of the license fee, but the police did not so interpret it, and demanded that every person found on the gold fields should have a license. As the police received half the fines, there commenced the practice of "digger hunting," which was carried to such an extreme, with so many evidences of rank injustice and of collusion between police officers and magistrates, that the matter became one of very serious import to the miners. Another fertile source of discontent lay in the fact that the gold commissioners appointed were mere youngsters of good families, with entirely erroneous ideas of their duties and prerogatives, and, while some of them afterwards made good wardens because of the experience gained, their conduct during this critical period was often far from commendable.

The license fee not yielding the protection of their rights, for which it was in theory assessed, was regarded by the miners as an odious tax. This feeling of discontent was intensified, in the fall of 1853, by the reduction of the license fee to 10s. per month in New South Wales, when it was found that the receipts more than met the expenses, and judging from the fact that the fees from gold-diggers' licenses are reported to have amounted to as much as £700,000 per year at this time, it would seem that Victoria might have done likewise. Public opinion was crystallized in the fall of 1854 by the discharge by a local magistrate of a notorious personage who had been guilty of many crimes, and who had boasted that the magistrate would not convict him, and the imprisonment of three innocent miners in connection with the case on the perjured evidence of the police officers. A mass meeting was held, at which resolutions were passed demanding the release of the miners. Governor Hotham, who had succeeded Lieutenant-Governor Latrobe, was a high-strung navy officer, accustomed to implicit obedience, and not only refused the "demand," but sent soldiers to the spot to enforce order. This led to the inevitable conflict, and resulted in the death of 25 miners and 5 soldiers.

This Eureka stockade affair led to the immediate appointment of a royal commission to investigate the matters at issue. The report of this commission on March 29, 1855, resulted in the passage, the following June, of a new gold-fields act, which marks the beginning "of practical legislation, having for its object the advancement of mining, the improvement of the position of the men, and the collection, by methods least likely to be burdensome, of reasonable fees

for the privilege of mining on crown lands." This 1855 act abolished the license fee of 30s. per month, and substituted for it a document happily called a "miners' right," which was issued on payment of 20s. per year. The act also provided for local courts, composed of a chairman appointed by the governor, and 9 holders of miners' rights, elected by the miners of the district. These local courts were empowered to frame regulations in the nature of by-laws to regulate the taking up and working of claims and the settlement of disputes between miners. Five mining districts were created in this year, each of which had its own local court. The gold commissioners were replaced by officials called "wardens," who, with the abolition of the judicial feature of the local courts in 1865 and their reorganization under the name of "mining boards," became very important officers in the administration of the mining law.

This act marks the end of the disturbances on the gold fields. These troubles were primarily conflicts between the miners and the officers of the law, not through the lawlessness of the miners, but through the indiscretions and injustices of the officers of the law, and are to be viewed in a very different light from the disturbances in California. One is quite ready to agree with the statements contained in the dispatches of Governor Latrobe to the colonial office in London, that the conduct of the greater number of miners was deserving of all praise, and that life on the gold fields was far more orderly than the precedent of California might have led him to expect, and to indorse the following summary of the matter made in 1869 by a leading Victorian mining man: "But for the prompt action of the governor * * * it is certain that a repetition of the atrocities which disgraced California would have been seen in our colony." Changes were made from time to time as new needs arose, and with the passing of the shallow alluvial gold period the need of a further fundamental change in the law became evident. Another royal commission made an extensive study of the matter, and the mining statute of 1865 resulted. This is by many regarded as the mother mining act of Australia.

The enormous developments in Victoria between 1851 and 1865 were certainly, under wise supervision, calculated to develop and fully test a practical mining law, and the Victorian mining act of 1865 has therefore taken a foremost place among Australian mining enactments, because it was based on the most experience. Victoria continued its premier position as the principal mineral producing district in Australia for many years, and during these years the chief judge of the court of mines, Robert Molesworth, a man of very strong and forceful character, laid in his decisions the broad foundations of Australian mining law and practice as it exists to-day. Speaking in 1897, Sir Samuel Griffith, then chief justice of the supreme court of Queensland, and now chief judge of the high court of the Australian Commonwealth, said: "It is a well-known fact that the mining law of Australia was practically made by the decisions of Mr. Justice Molesworth and the supreme court of Victoria."

One of the first recognized and fundamental principles of both the American and Australian mining laws was that no claim could be held without development. It was considered but fair that if one man did not work the ground another should be permitted to do so. This was not due to any abstract theorizing in the realms of political economy; it was a doctrine which appealed to all men as fair, and

one which was not more firmly held in Australia than in America. In America, however, this fundamental idea was soon lost sight of and became obscured by other considerations. The conclusion, so evident in the early days of the gold rushes, that a man could constantly work only one claim was obscured by the introduction of capital, whereby the labor condition on many claims could be fulfilled by hired workmen. This led to the provision that any person could hold any number of claims, and when, after the subsidence of the first excitement, the remaining holders agreed among themselves regarding a modification of the condition of continuous development, there resulted an expression of the development condition in money per year, which made it possible for a speculator to hold any number of claims, the result was but little short of the absolute abandonment of the original idea. The final step in the absolute negation of this fundamental principle was taken when it was provided that at the expiration of five years a holder could purchase the fee simple. A freehold, as applied to mining, means the waiving of the fundamental condition of development for all time. Starting from a common-sense basis which spontaneously appeals to all, the American mining law developed amid scenes of the wildest description, and was so distorted to meet entirely selfish ends that when the Government finally concluded to do nothing more than recognize this product it had practically repudiated the principles from which it had sprung.

Australia, on the other hand, has logically followed out the principle thus forced upon it by the necessities of the gold rush of the fifties. It has continued to hold bona fide development—that is, the reasonably continuous labor of one man for each one man's ground contained in a claim—as the essential condition for the retention of title. It has not reduced this condition, as has been done in America, to such a point that a man can even fully comply with the letter of the law and yet hold a claim without real development. When the growth of the mining industry showed the necessity of some form of tenure other than a claim, the lease followed as a logical result. Only under leasehold tenure is it possible to enforce the condition that "if one man will not work the ground, another should be permitted to do so." This is not government ownership in the abstract sense; it is only the Government guaranteeing the exercise of a right which miners have asserted in all free countries. Starting at the same point, and from the same basic conception as the American law, the Australian law developed under conditions of order, and the result represents the combined efforts of miners, business men, and statesmen to frame a law which to the greatest possible degree would conserve the rights of the miner, the prospector, and the developer, and yet would fully protect the interests of the country at large.

OWNERSHIP OF THE PRECIOUS METALS.

As has been shown, at the time of the discovery of gold in Australia, the government had abandoned any idea of reserving either mineral lands or the minerals contained in such lands. In 1840 and again in 1843 the government announced that every grant would convey all minerals. Had deposits of minerals of only small consequence been found, and requests been pushed for the waiver of all

governmental rights, such requests, under the conditions existing before the discovery of gold, would doubtless have been granted. In South Australia, the only colony then known to contain metalliferous deposits of consequence, and where a gold mine had been worked as early as 1846, such a request was indeed made and granted by the home Government in 1849, and the legislative council promptly passed an act waiving all reservations in previous grants. In New South Wales, of which Victoria then formed a part, coal was the only mineral which had proved of commercial importance, and reservations of coal had from time to time been inserted in grants. In 1850 Governor Fitzroy, evidently in reply to a general request, proclaimed that "her present Majesty being desirous of promoting the welfare of her subjects has been graciously pleased to direct that all such reservations, and the rights incident thereto, shall be abandoned." But no definite legislative action was taken in any part of the Australian States confirming the ownership of the gold to the freeholder who held land under a deed of grant without reservations. This lack of action was apparently due to the fact that outside of South Australia the question of mineral reservations was of little importance and because the freeholders holding deeds of grant without reservations very naturally thought they owned the gold. The feeling in this respect found ample support in the statements in the dispatches from the colonial land board to the secretary of state, Lord Russell, in 1840,[a] in Lord Russell's dispatch to the governor of New South Wales in 1840,[b] in the provisions in the land regulations of South Australia and New South Wales of 1840,[c] in the New South Wales land regulations of 1843,[d] and in the dispatch from the secretary of state to the governor of South Australia in 1845;[e] in all of which the opinion is expressed that grants without reservations convey everything.

Under the circumstances the assertion of the common-law right of the government to the precious metals "whether in the lands of Her Majesty or of Her Majesty's subjects," which was made in New South Wales in May, 1851, and repeated in Victoria in August, 1851, following the separation of the latter from the former, did not pass unchallenged. There were bitter denunciations of this "invasion of vested rights," and the battle was largely fought out in Victoria. In this State the point was of more importance than in any other States because of the great value of the gold finds and the fact that here none of the early grants contained reservations of the precious metals; indeed, no such reservation was inserted until after May, 1873. In the first case involving this point (Lane *v.* Hannah) it was decided in February, 1861, that "gold in land alienated from the Crown still belongs to the Crown, and does not pass to the grantee." In 1863 (Miller *v.* Wildish) it was again held "all gold mines belong to the Crown, and though the Crown may have granted the lands containing them to a subject without reservation, the gold under the grantee's land is not his, and neither he nor anyone else has a right as against the Crown to take it." This matter repeatedly presented itself in the courts for

[a] English Parliamentary Papers, Sess. 1840, vol. 33, No. 613, p. 11.
[b] English Parliamentary Papers, Sess. 1840, vol. 33, p. 395.
[c] South Australian Government Gazette of November 14, 1840. New South Wales Government Gazette, December 9, 1840, p. 1327.
[d] New South Wales Government Gazette, March 1, 1843, p. 342.
[e] English Parliamentary Papers, Sess. 1846, vol. 24, No. 706, p. 50.

the next few years, and was always decided by the Victorian courts in the same way, though the New South Wales courts rendered decisions adverse to the Government. In 1876 an appeal (Woolley *v.* Attorney-General of Victoria) was taken to the court of last resort under the English law, the privy council, where the decisions of the Victorian courts were sustained in 1877: "A crown grant does not pass to the grantee royal mines (that is, gold and silver) that may be found under the land included in the grant, unless the intention that such minerals should pass is expressly stated in the grant in apt and precise words;" and the matter was thus finally settled.[a] The court here held, in substance, that the expression of opinion in the several dispatches of the British secretaries of state, and their instructions to the colonial governors were, in the absence of any specific granting clause in the conveyance, not conclusive, neither were the provisions in this respect in the Land Regulations of 1840 and 1843.

In this connection it may be pointed out that no conclusive action has ever been taken in the United States conveying the precious metals to the freeholder. Chief Justice Field, in 1861, in the case of Moore *v.* Smaw (17 Cal., 199), in which this doctrine was not directly involved, for the issue could only be clearly defined by the Government becoming a party to the suit, expressed the opinion that the doctrine was inapplicable to American institutions because the right to the precious metals was "the personal prerogative of the British ruler, and not an incident of sovereignty." This conclusion was, however, questioned in 1873 (Gold Hill Quartz Mining Company *v.* Ish, 5 Oreg., 194) where the court referred to the principle as conceded that "mines of precious metals belong to the eminent domain of the political sovereign." Some time before the American war of independence the English royal family definitely relinquished to the state all public lands and royal mines, and any question which may have remained regarding the exercise by the state (the de facto sovereign under constitutional government) of those functions, which before the existence of constitutional government were vested solely in the King, was forever settled. The right to the precious metals is in Australia to-day clearly exercised as an incident of sovereignty.

One should bear in mind in reading Australian law that the term "Crown" is here but a synonym for "Government" and that the phrases "crown lands," "crown lands acts," and "crown grants" mean exactly the same in every way as the American expressions "public lands," "public land laws," and "government patents." The disposal of the crown or public lands and the revenues derived therefrom are absolutely under the control of the elective legislature or parliament of the country or colony in question. The ownership of all the "crown lands" in Australia is as much a personal prerogative of the English King as the ownership of the minerals, and it is quite as logical to deny the sovereign right of the United States to its public lands on the basis that such lands are in the English colonies called "crown lands" as it is to deny its sovereign right to the precious metals.

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[a] It was doubtless this decision of the privy council which led to the passage of Act No. 88 of 1877 in South Australia, wherein that State reaffirmed its decision that "Grants in fee simple shall be construed to convey to the owner of the fee simple the absolute property in all mines and minerals, including gold and silver, * * * nothing whatever above or below."

Furthermore, the doctrine has long been accepted by the American courts that in civil proceedings the English common law is, in the absence of any specific legislative modification, binding in the United States. On this principle, as well as on the one that the United States singly and collectively is and are the successors in interest to the rights and privileges of the British Government, the precious metals are in the United States the property of the Government. This means that in all States where the Federal Government has never owned the land, and there are 19 such States, the ownership of the precious metals lies with the state government (in several of the older States this has long been recognized), and that in States where the ownership of the land has been vested in the Federal Government the ownership of the precious metals in like manner lies with the nation, and that as against the Government no person has a right to gold and silver in any lands in the United States unless this right has been specifically granted to him in the deed of conveyance.

The enforcement of this right in the United States, if ever undertaken, will doubtless be carried out in much the same way as in Australia, where it is utilized, not as a means of hoarding these minerals and mines for the exclusive use of the Government, but as a means of promoting and permitting development. This prerogative enables the Government to insist on the doctrine as regards all precious metals, that if the owner of the freehold will not work them properly or permit some one else to do so, the Government will exercise its right to promote the welfare of the country by permitting the development of these deposits; always, however, providing for the indemnification of the freeholders for loss or damage caused by mining operations.

MINING ON PRIVATE PROPERTY.

The assertion of the right of the Government to all precious metals, made on the discovery of gold in Victoria, was not intended to open freehold land to general prospecting. Although the Government owned the minerals, it did not have a right to the land, and it could not, without specific legislation, authorize anyone to enter upon such freehold property without the consent of the owner. The first regulations issued in New South Wales on May 23, and in Victoria on August 18, 1851, clearly define the attitude of the Government on this point in the following words:

> With reference to lands alienated in fee simple, the commissioners will not be authorized for the present to issue licenses under these regulations to any persons but the proprietors or persons authorized by them in writing.

The intention of the Crown to insist on license fees for all gold digging on private property, which was suggested in these early regulations, was not carried out in Victoria as it was in New South Wales, and the practice speedily grew of tacitly allowing the freeholder to make such arrangements as he chose, and of protecting those arrangements, the government making no claim to any of the profits. In Ballarat, and other of the gold fields, much difficulty was caused by private holdings. The law previous to the discovery of gold gave to the holders of pastoral leases a preemptive right to select 640 acres anywhere on their leases, and these lessees at once proceeded to select and purchase auriferous ground. Although this practice was prohibited after a short time it was not till very

extensive areas of mineral lands had passed into private hands. Large tracts were thus locked up and unworked as mines, and often not even prospected, and while miners could generally obtain licenses from the freeholders to enter, it was only on payment of unduly heavy compensation. Attempts were made at once to have these lands opened up to development, but, although one or more bills were introduced at almost every session of Parliament from its first meeting under responsible government in 1856–57, no mining on private property act was passed until 1884. In the interim, the privy council had not only sustained the contention of the government, that all gold in lands, whensoever alienated, belonged to the government, but had also included silver. In the mining on private property act of 1884 "gold" is therefore defined as including not only gold and ores of gold, but silver and ores of silver. Private land is defined as land alienated before December 29, 1884, and this date is insisted upon as a division point in subsequent acts, apparently on the supposition that before that date the power to enter and mine for gold on freehold land was not reserved to the government. From this point of view it would seem that there would have been more reason to have selected May 8, 1873, after which date, according to the grant-form book of the lands department, all conveyances contained a reservation of the right to search and mine for gold on payment of compensation.

No specific provisions were made in the lands act of 1869, under which these grants were issued, for such a reservation, but section 110 of this act, which empowers the governor to determine the form of grants, and to provide for the execution of "other matters and things arising under and consistent with this act and not herein expressly provided for," might be held to have furnished, together with the decisions of the courts of this time regarding the ownership of the precious metals, the necessary authority for such an insertion. The next lands act, 1884, contained a provision which was identical with that contained in all grants after 1873.

This act was slightly amended several times between 1884 and 1890, and was then incorporated in the mines act of that date. It has now, with several amendments, been embodied in the mines act of 1897, the provisions of which are still in force. The act of 1897 includes in the definition of private lands: (*a*) Lands alienated prior to December 29, 1884; (*b*) lands alienated on or after that date, or leased or licensed before or after with the right of acquiring the fee simple; (*c*) lands leased under the Mallee or Wattle act, and (*d*) lands vested in the trustees of the agricultural colleges.

Either leases or miner's right claims can be acquired on these lands on payment of compensation for damages, the compensation to be fixed by agreement, or, failing agreement, to be assessed by the local mines department officer, the warder. For gold leases a rental of 6d. per acre per year is collected by the government in the case of lands alienated prior to 1884, and 2s. 6d. for lands alienated since that date. In leases for minerals other than gold, which can be granted only to lands alienated since March 1, 1892, the rental is not exceeding £1 per acre. The reason for the difference in the rental on gold leases as to lands alienated prior to 1884 and subsequent to that date is apparently to be found in the lesser amount of compensation which can be assessed in the latter case.

The provisions for miners' right claims are rather more advanced in this enactment than in the former ones, and a new provision is made which permits prospecting areas for gold on private property. This act, while solemnly proclaiming the ownership of the government to all gold and silver in lands whensoever alienated, makes no provision for mining for silver on lands alienated prior to December 29, 1884. This is clearly due to a clerical error. In the original enactment "gold" was defined as including both gold and silver, and when the section was bodily transposed to the new act and separated from this special definition, it lost some of its original force. This is, however, not a point of much moment in Victoria, because no silver mines of importance have yet been found. Leases on private property are—like leases on crown lands—voidable for nonfulfilment of development and other covenants.

In private arrangements between miner and owner the compensation for surface damages frequently takes the form of royalty, and there has thus developed in the administration of this law the anomaly of the miner paying an acreage rental to the Government, which has no surface rights, and a royalty to the freeholder, who has no claim to the minerals on which the royalty is paid. This unique royalty system in connection with mining on private property was severely criticised by many witnesses before the last Victorian Royal Commission on Gold Mining. In New South Wales the logical course has been followed in the new mines act of 1906 of abolishing the old clause, which permitted the freeholder to collect royalty on that which he did not own, and making such an agreement illegal. The New South Wales act now provides for a rental to the surface owner and a royalty to the Government.

Whatever difficulties may have been experienced in the administration of the mining on private property acts, these have undoubtedly promoted development. The provision that if the owner will not make reasonable terms the warden will do so for him undoubtedly restrains the too-exacting owner, and the officers of the mines department affirm that the majority of leases which are now issued contain greater or less areas of private lands. In its practical workings this law, like the condemnation of land for a public use in the United States, has undoubtedly protected the freeholder by yielding him more than market price, and yet has opened up to development land which could not otherwise have been worked.

DEVELOPMENT OF GOVERNMENT POLICY IN REGARD TO ALIENATION OF MINERALS.

Areas of private lands on the gold fields proved such a hindrance to development that a demand was at once made that tracts supposed to be mineral bearing should not be alienated. In Victoria the first lands act (24 Victoria No. 117, 1860) passed after the discovery of gold contained the prohibitive statement: "No lands known to be auriferous or mineral shall be alienated." In the lands act passed two years later this was changed to the statement: "The governor in council may withdraw from sale as being auriferous or mineral * * * any lands about to be selected, rented, or purchased," and in 1865 this was changed to the rather more effective provision, under efficient administration: "The governor in council, if he shall think

fit, may withhold or may withdraw from sale, selection, or leasing any land or allotment." Under these provisions the practice began of referring all land papers to the officers administering the mines side of the land affairs for indorsement as to whether or not the lands might be needed for mining purposes, the Government refusing to part with lands which the mines officers thought it advisable to hold. This plan has proved successful in Victoria and other Australian States to a degree astonishing to Americans.

Recognizing that, however efficient a corps might be, it could not be omniscient, the lands act of 1869, while continuing these provisions, added another providing for the resumption by the Government for mining purposes of any lands on payment of value, other than auriferous. This appears to have been designed, not only as a means of remedying the injurious effect of any alienation of mineral land which might have inadvertently occurred since the passage of the first land law, but also, and this was the main object, to remedy that which had been done under regulations passed before such a need was appreciated.

As the practical difficulty of entering private property for the purpose of searching or mining for precious metals became more evident, the government took the step, in 1872, of reserving in grants of lands sold at the mining town of Buningyong the right to mine at a depth of not less than 180 feet, and to occupy the surface on payment of damages. On May 8, 1873, a new form of grant was approved which contained the reservation of the right to search and mine for gold on payment of damages. Such a reservation has in one form or another continued to this day. The provisions of this new grant form were included in the next lands act, which was approved December 12, 1884. During this period areas covered by leases and licenses for pastoral purposes were considered as essentially private lands, and in order to obviate the delays and difficulties which were encountered under the provisions of the mining on private property acts, it was provided in the 1890 lands act that there should be "inserted in every lease of a pastoral allotment, and in every lease of a grazing area, the covenant that the lands are demised * * * under the condition that the holder of a miners' right or of a mining lease shall have the right to enter on such areas and search and mine for gold without payment of compensation for surface or other damages."

The question of the advisability of selling lands containing minerals was gone into at length by the last Royal Commission on Gold Mining, and they reported in 1891, as follows:

> The great bulk of the evidence throughout the whole course of the inquiry bears out the opinion that no greater mistake can be made by the state than that of alienating mining lands. There is no necessity whatever for disposing of such areas in fee simple. No use to which the land can be applied requires that it should be sold. On the other hand, experience proves that when land is once alienated it is extremely difficult to enter in and mine upon it. The mining on private property law does not adequately meet the case. Its operation is cumbersome, expensive, and slow, and the only safe course, as it seems to us, is to reserve all mining areas from sale.

As a means to this end the commission recommended that the "geological survey of the colony be completed with all possible expedition, and the survey of the lands yet remaining in the hands of the Crown should be proceeded with first."

One of the immediate results of the recommendations of this commission was the redoubling of the administrative efforts to prevent the alienation of lands supposed to contain minerals, and the incorporation in the lands act of 1891, and the mines act of the same year, of a provision that grants of land would, after March 1, 1892, convey only surface values, that all minerals would be reserved to the Government. The practice is still continued of referring all land applications to the mines department for endorsement of recommendations.

One of the most impressive features of the Victorian mining enactments is the large number of things left to the good judgment of the officers administering them. The mining law, as originally enacted, rested very largely on executive discretion, and in the half century during which it has been in operation there has been no essential change in this respect, although mines acts and mines amendment acts have been very numerous. Among mining men there is a general feeling of satisfaction with the administration of the department. In one or two instances there is a suggestion of a weak minister of mines yielding to the importunities of workmen during a strike, and there is some complaint that certain mineral lands were alienated when they should not have been, but the net result is wonderfully good. One American, who had been engaged in mining in Australia for several years, complained that he had not found "palm oil" effective in Australia, a result which his experience in America had not led him to expect. The Australian mining man's comment on this statement was emphatic:

"Palm salve" will not work here. There may be occasionally an official who is slightly offcolor, but he and the persons treating with him will always take a cropper in very short order.

Perhaps it might be suggested from this, in connection with the Tasmanian case, that a law which leaves things to executive discretion appeals strongly and potently to the Anglo-Saxon's honor. Such a law clearly says, "It's up to you," and may have points of efficiency from a human standpoint which a law lacks that is framed on the supposition that, as no man sufficiently honest can be found to administer it, nothing can be left to executive discretion.

The development of the government policy in regard to the disposal of mineral lands has thus shown the following progressive stages:

From settlement of colony in 1835 to 1873: Lands sold without any reservation of minerals (held by Privy Council in 1877 that gold and silver belong to the government by the common law).

(*a*) 1835 to 1851: The general policy was to sell known mineral lands under the same conditions as other lands.

(*b*) 1851 to 1860: Attempt made to prevent alienation of mineral lands, but ineffectual because of existing preemptive rights.

(*c*) 1860 to 1862: Alienation of known mineral lands forbidden.

(*d*) 1862 to 1873: Alineation of known mineral lands discretionary with the officials. Policy of not selling such lands, in the main, consistently followed.

1873 to 1884: Lands sold with reservation of right to mine gold (held by Privy Council that both gold and silver belong to the government by the common law). Policy of not alienating areas known or supposed to contain minerals continued.

1884 to 1892: Lands sold with reservation of rights to mine for gold and silver. Lands known or supposed to contain minerals not sold.

1892 to date: Lands sold with reservation of all minerals; policy of not alienating areas known or supposed to contain minerals continued in the administration of the land affairs.

TERMS AND CONDITIONS OF LEASES.

The first mineral leases in Victoria were issued in connection with quarries on public reservations. These were for a period of one year, and at rents of not less than £10 per quarry. In 1843–44 application was made to Governor Latrobe for concessions which would permit the working of coal discovered at Cape Patterson. The governor stated that owing to the exclusive provisions of the charter of the Newcastle Coal Company (Australian Agricultural Company) he was unable at that time to grant anything more than annual "quarry licenses," which he would do at the rate of a half-penny a ton royalty, and would further personally guarantee a renewal of the "licenses" at this rate for seven years. Nothing was, however, done in this matter until some years later, when this area was divided into sections and annual licenses sold at public auction at a minimum price of £10 per section of from 188 to 482 acres. Several such licenses were acquired, and operations continued under them until the lands act of 1860 came into force, and the general practice of leasing mineral lands was initiated.

In connection with gold mining, provisions were first made for leasing auriferous lands in October, 1852. The rather excessive demand of the government of that date, which had been exemplified in the attempt to increase the license fee, was again shown here in the offer of annual leases at a rental of £720 per acre. This rate was determined in this way: At this time one man's ground was fixed at the absurdly small area of 12 by 12 feet, and 20 men might take up half an acre. Each of these men paid 30s. per month, therefore it was argued that the correct lease fee for an acre was 2 times 12 times 20 times 30s. It is needless to say that no leases were applied for under such conditions. Subsequent regulations provided for leases at a royalty of 5 per cent, but none were applied for until after the passage of the 1857 act and the proclamation of regulations fixing the rent at £5 per acre per year. Mining leases were at once applied for from all over the gold fields, and the first of these were issued in 1859.

As to minerals other than gold, the first definite legislative authorization of leases is found in the lands act of 1860. The first lease issued under the provisions of this act was for antimony, and bears the date of November 13, 1861. A coal lease was issued in 1862, but was antedated May 22, 1861. Several coal leases were issued at this time in widely separated parts of the country.

Particulars concerning the terms, except as regards labor, fixed at different times for leases are presented in the table following.

Terms under which government mining leases have been granted at different times in Victoria.

	Regulations, October, 1852.[a]	Regulations, April, 1853.[a]	Goldfields act, 1853; regulations, December, 1853.[a]	Special coal leases, November, 1854.[b]	Goldfields act, 1855; regulations, June, 1855.[a]	Goldfields act, 1857.					
						Ballarat regulations, December, 1858.	Castlemaine regulations.		Sandhurst regulations.		Regulations, September, 1861.
							January, 1859.	February, 1860.	January, 1859.	May, 1859.	
Term of years:											
For gold	1	21	(c)	.....	(c)	10	10	10	10	10	10
For minerals other than gold	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Maximum area in acres:											
For gold	10	160	(c)	.....	[d] 40	[d] 50	[d] 20	[d] 20	[d] 20	[a] 20	[d] 30
For coal	.....	.....	.....	[e] 188-482	.....	.....	.....	.....	.....	.....	.....
Maximum length in yards along reef in gold lease	.....	880	1,760	.....	220	800	600	440	440	220	600
Rent per acre per year:											
For gold	[f] £720	.....	.....	.....	[g] £10	[h] £5	£5	[h] £5	[h] £5	[h] £5	£2½
For coal	.....	.....	.....	[e] 5d.-13d.	.....	.....	.....	.....	.....	.....	.....
Royalty on gross output:											
Gold	None.	5%	[i] 5%	.....	5%	(j)	(j)	(j)	(j)	(j)	(j)
Other minerals	.....	.....	.....	None.	.....	.....	.....	.....	.....	.....	.....

	Lands act, 1860; regulations, September, 1861; August, 1862.	Goldfields act, 1862; regulations, October, 1862.	Mining act, 1865; regulations, January, 1870.	Mining act, 1872.	Mining act, 1885.	Mines act, 1890; regulations, July, 1890.	Mines act, 1891; regulations, July, 1896.	Mines act, 1897; regulations, August, 1905.
Term of years:								
For gold	.....	15	15	15	15	15	15	15
For minerals other than gold	30	.....	30	.....	.....	30	15	15
Maximum area in acres:								
For gold	.....	[d] 30	[d] 30	.....	.....	[d] 30	[d] 30	No limit.
For iron	[k] 100	.....	[k] 100	.....	.....	[k] 100	[k] 100	640
For coal	640	.....	640	.....	.....	640	640	
For other minerals	[k] 50	.....	[k] 50	.....	.....	[k] 50	[k] 50	
Maximum length in yards along reef in gold lease	.....	600	600	.....	.....	600	600	No limit.
Rent per acre per year:								
For gold	.....	£2½	£1	10s.	5s.	5s.	5s.	2s. 6d.
For other minerals	[l] 2s	.....	[m] 3d.-2s.	.....	.....	3d.-£5	3d.-£5	1s.-£1
For coal	2s							
Royalty on gross output:								
Gold	.....	(j)	None.	.....	.....	None.	None.	None.
Other minerals	2%	.....	2%	.....	.....	[n] None.		

[a] No leases appear to have been taken out under the provisions of these acts and regulations.
[b] Temporary, pending advices from London.
[c] To be fixed by governor.
[d] No limit fixed by statute and leases were occasionally larger than this figure, which is given as the maximum in the regulations.
[e] In sections ranging from 188 to 482 acres, at £10 per year per section.
[f] Minimum; actual price to be determined by auction.
[g] In reef leases, £1 per yard of reef.
[h] In reef leases, £5 per 100 yards of reef.
[i] Not less than 5 per cent.
[j] From April 20, 1855, until May, 1862, a duty of 2s. 6d. per ounce was collected on all gold exported. This duty was then reduced to 2s., then to 1s. 6d., and finally abolished January 1, 1863.
[k] The statute fixes 640 as the maximum; these lower values were fixed by regulations.
[l] For one mineral; 1s. additional for each additional mineral.
[m] For one mineral; for each additional mineral not exceeding 1s.
[n] All royalties in existing mineral leases were remitted on November 25, 1890.

Area.—One of the noteworthy features of the mining acts of Victoria is the greater liberality of the laws in respect to the working of the only mineral, gold, which has yet proved of much importance. The royalty on gold was abandoned in 1863, but the royalty on other minerals continued until 1890. The acts have never limited the area of a gold lease, but always fixed the maximum of a mineral lease at 640 acres. In general, the regulations have fixed the area of a gold lease at not more than 20 or 30 acres, and usually leases are not issued of a greater size for reef mining. In recent years several very large projects have been undertaken, involving the working of alluvial deposits carrying enormous quantities of water, and deeply buried by basalt. The water problem has proved to be of great magnitude, and to encourage development specially large tracts have been included in one lease. Several leases comprise 2,000 to 4,000 acres, and one 10,000-acre lease is mentioned. Prior to 1897 there was no way of obtaining a mineral lease either initially or by consolidation with an area exceeding 640 acres. The act of 1897 (S. 29) provides for consolidation to any extent found desirable by the governor in council, but no action regarding minerals other than gold has apparently been taken under these provisions, as the chief clerk of the mines department states with great positiveness that it is impossible to procure by consolidation or otherwise government leases for minerals other than gold for more than 640 acres. From this it would appear that none of the coal operators in Victoria have thought it essential to obtain more than 640 acres in any one lease.

Labor conditions.—These have been left entirely to the discretion of the administering officers, except in one early act, which was entirely inoperative, and the plan was early adopted of requiring each applicant to state, among other things:

(1) Minimum number of men to be employed when commencing operations, and subsequently when in full work.

(2) Amount of money proposed to be invested, and in what manner the land is to be worked.

Although the first applicant had a preference right to a lease, an application could be refused if the number of men and proposed development expenditure were considered inadequate. In the last regulation the absolutely discretionary force of this provision is made evident in the following words:

> Leases shall be granted according to priority of application, unless there be reasons for a different course, of which the governor in council shall be the sole judge.

From the statements in the applications, the labor conditions and expenditure covenant inserted in the lease are determined. Thus every lessee is made responsible to some degree for the character of the conditions in his lease. This plan has also the practical advantage of enabling the development condition to be graduated during the early development period of the lease and when the mine is in full operation. Some idea of the usual requirements may be gained from the following examples:

Castlemaine district.—September 5, 1859: Gold lease for ten years; area, 11 acres; sum to be expended, £500 in the first six months and £500 in the second six months; labor of 10 men constantly. April 28, 1860: Gold lease for ten years; area, 5 acres; sum to be expended, £500 in the first six months, £500 in second six months, and labor of 17 men constantly.

Ballarat district.—September 28, 1859: Gold lease for ten years; area, 300 by 100 yards; expenditure, £250 in first three months; £250 in nine months thereafter; machinery to the value of £2,000; labor, 10 men for nine months yearly.

Sandhurst district.—February 6, 1860: Gold lease for ten years; area, 1 acre; sum to be expended, £200 in first six months; £500 in twelve months thereafter; labor, 2 men for six months yearly.

Cape Patterson.—May 22, 1861: Coal lease for thirty years; area, 320 acres; labor first two months 15 men, for remainder of period 50 men. June 22, 1862: Coal lease for thirty years; area, 640 acres; labor first three months 20 men, remainder of term 100 men.

Lal Lal.—June 26, 1863: Lignite lease for ten years; area, 79 acres; labor first six months 10 men, thereafter 25 men; expenditure £1,000.

Although the number of men to be required in any lease lies entirely within the discretion of the department, which does not consider its demands sufficiently fixed to be published in the regulations, the tentative schedules on which it is now operating have not been changed for several years. The present minimum requirements in these unpublished schedules are as follows: In gold leases, for areas less than 24 acres, it averages one man for every 2 acres; for areas of 60 acres, one man for every 3 acres; for 150 acres, one man for about every 4 acres; for 300 acres, one man for every 5 acres; above which area it increases at the rate of 10 men for every additional 100 acres. In mineral leases it ranges from one man for 2½ acres in leases of less than 10 acres to one man for every 16 acres in leases of 640 acres.

Prior to 1897, although the condition of development was always expressed in the lease in men, it was so expressed at the discretion of the governor. The act of 1897 made this practice binding by providing that the lessee must keep actually employed a certain number of men unless prevented by "unavoidable accident or during the execution of repairs." The act does not clearly define the powers of the minister or governor as to granting exemptions for any causes other than those just mentioned. It was under this enactment that the titles of several large companies, which had expended large sums in development, were placed in jeopardy by strikers. The injustice of this was so evident that it led to the passage in other Australian States of saving clauses in the case of strikes, and raised a storm of protest throughout Victoria. The act of 1904 therefore provided for the expression of the development condition in money per year, if the minister deemed it desirable, and for the imposition of a fine in lieu of forfeiture, but, as in Tasmania, made no provision for the reimbursement of the "reasonable expenses of the applicant for forfeiture." In leases where the development condition is expressed in money the act provides for exemption as a right at the rate of one-half year for every full year's excess of expenditure, provided that the total of such exemptions during the term of the lease shall not exceed two years.

This 1904 act also adds a clause in respect to forfeiture which touches a new idea. This clause provides that leases shall be forfeited only when the warden is convinced that the "applicant and persons associated with him (if any) will be able to provide the labor and capital necessary for the efficient working of the land;" the idea being that there is no use taking a piece of land away from one man and giving it to another if there is no prospect of the new holder being able to work it.

Renewals.—No special provisions have ever been made in any of the Victorian acts regarding the renewal of leases such as are found in the acts of other States, but under the administration of the law such renewals have been granted as a matter of course.

Royalty.—No royalty has ever been collected on gold except indirectly in the shape of an export duty between 1855 and 1863, which varied between 1s. 6d. and 2s. 6d. per ounce. A royalty of 2 per cent on the gross value of the output was collected from all other minerals until 1890, apparently for no other reason than that there were not enough people interested in the development of such minerals to insist on its abolition, as had been done in the case of the gold. Victoria on the whole appears to have grudgingly yielded only that which was positively demanded.

MINER'S RIGHTS AND CLAIMS.

The principle that no one could acquire any legal claim to any portion of public lands without special authorization, which was first proposed as a means of assisting in the preservation of order, resulted in a document which was called a "license to mine." Such a license restricted to gold mining was issued on payment of 30s. per month. In 1855 this was renamed a "miner's right" and was issued for twelve months on payment of £1. In the act of 1865 the period was extended to not exceeding fifteen years, and the rate fixed at 5s. per year. In 1897 it was finally appreciated that the distinction which had before that time been made between gold and other minerals, whereby the operation of a miner's right was restricted to gold mining, was quite artificial, and it was provided that a miner's right should cover all minerals, and the fee was reduced to 2s. 6d. per year.

The size of claims, prospecting areas, and other holdings which could be taken up under a miner's right, the number of claims which could be taken up under one miner's right, the number of miners' rights which one person could hold, the conditions of amalgamation, the labor conditions, and the conditions of forfeiture were left entirely in the hands of the local mining boards, and differing practices in regard to these details have been effective in different portions of Victoria. There is no provision in Victoria requiring the holder of a claim to take out a lease, but the conditions of forfeiture and the labor conditions are usually less severe in the leasehold, and companies generally prefer that form of tenure. A great amount of development has, however, been done in Victoria on claims by individuals. In 1891, the last date on which the mines department published statistics of this sort, 42,162 acres were held as claims and only 36,982 as gold leases. Since that time the area held as claims has greatly decreased, while that held under lease has increased. Prior to 1897, as to minerals other than gold, such prospecting as was deemed desirable prior to making application for lease was done under "mineral licenses," which were issued for specified areas not exceeding 640 acres at from £1 to £10 per area per year.

MINING BOARDS.

One of the things demanded by the rapidity of the gold development in California and Australia, and by the absolute want of any comprehensive mining laws, was the formation of local bodies to deal, and deal at once, with the many questions of procedure which were constantly arising with the progress of mining. In California such bodies, in the absence of any law, arose automatically, and

it was from the by-laws and regulations that these self-constituted bodies made that the present American law has been derived. In both Victoria and New South Wales such bodies were created by law.

As first constituted in Victoria in 1855, these local bodies had judicial powers and were called local courts. Each local court was composed of a chairman appointed by the governor and nine holders of miners' rights elected by the miners of the district. In 1857 the judicial powers of these local bodies were turned over to the wardens and the newly established courts of mines, and the bodies were reorganized under the name of mining boards. Under this reorganization they were each composed of 10 members, elected yearly by the miners of the district holding miners' rights. They were empowered to frame by-laws and regulations governing all the details of holdings under miners' rights. In 1865 it was provided that only 4 members of the board should retire each year, and 7 districts were proclaimed, each having a mining board of its own.

In the early formative period, when the industry was developing with great rapidity, and when there was neither law nor precedent, there can be no question of the necessity of such local boards, but after this period there ceased to be any real reason for such organizations, and they became a superfluity which in some cases amounted to a hindrance. In Victoria the mining boards still exist, although they have clearly long outlived their usefulness. Many attempts have been made to abolish them and to codify the separate by-laws, but the political influence exercised by the boards has thus far prevented any effective action. The royal commission on gold mining recommended, in 1891, "that mining and prospecting boards as at present constituted be abolished, and that bodies to be called 'mining councils' be established."

In New South Wales similar boards were created under the same conditions, but they have now been abolished, and in most of the other States the conditions never existed which required such local bodies. The first local mining boards in Victoria were organized under a general mining law, and while they created certain minor details of the law they did not create the law to the same degree as in the United States. Such provisions as they made were of local application only, and while special provisions were made in some cases, these special provisions were abandoned as soon as litigation ensued, and did not become incorporated in the very body of the mining law as did the special provisions of such local bodies in America regarding "extralateral rights."

The extralateral right doctrine which was in force in New South Wales between 1858 and 1866 does not seem to have been adopted in Victoria. Victoria, however, developed another special feature of mining law which in some ways parallels the extralateral right. This "frontage claim system" was originated in Ballarat to solve, in a measure, certain local difficulties which presented themselves. As the auriferous bearing channels deepened and passed beneath flows of basalt great difficulty was experienced in following them, and to save useless expenditure the plan was devised of authorizing claims of a definite length along the supposed course of the "gutter," but of indefinite width. Beginning at the last known point of discovery on the "gutter" arcs of circles were described, so as to include any possible course of the "lead," and with such radii as would give

to each portion between two adjacent arcs a width equal to that allowed for a claim. These rainbow-shaped claims were designated frontage claims, and were held without the usual development requirement until the course of the "lead" was determined. As soon as this was fixed the claims were limited laterally between the bounding arcs. This plan resulted in a stimulating of development for a time, but as work progressed the system became so complicated (for the leads branched, cross leads were encountered, and one set of frontage claims overlapped another) that it led to apparently interminable litigation. The system was therefore abandoned in Ballarat on September 7, 1866. R. Brough Smyth, in summing up the results of this system in 1869, says:

> The rights acquired under this system remain, but the mining companies are striving earnestly to procure large areas under lease from the Crown; and it is not too much to say that, wealthy as Ballarat is, it would have been immensely more prosperous if, instead of the frontage claims, the local bodies had in the first instance granted sufficiently large areas, with well-defined boundaries, to persons willing to incur and able to fulfill reasonable obligations as to the employment of labor and the investment of capital.

ENCOURAGEMENT OF MINING.

Large rewards were offered and paid by Victoria for the discoveries of payable gold fields. A reward of £1,000 was offered for the discovery of a coal field, and was awarded by a parliamentary committee to the first man to prove the coal deposits at Cape Patterson. Special gold prospecting claims of 1 mile square were allowed at distances over 5 miles from the nearest payable ground, and a reward lease of not exceeding 100 acres granted to the discoverer of gold in such areas.

The Government early initiated the plan of assisting development by drilling on the public lands, and while only fragmentary data is at hand showing the magnitude of this work, something of its scope may be gained from the fact that in 1860 tenders were asked for drilling for coal in several widely separated parts of the colony. In the year 1890, a total of 38,138 feet, of which 7,978 was for coal, was drilled at a cost of £27,716, and in 1891, 41,856 feet, of which 14,371 was for coal, at a cost of £23,057. It is the opinion of mining men throughout this country that this drilling has done a great deal to promote development, and in the tracing out of auriferous leads, buried by several hundred feet of basalt, has yielded results which have paid the country many times over.

In 1896 the proceeds of the sale of £140,000 of treasury bonds was voted to be used in "promoting mining enterprise," and the mining-development act of this year outlines the following ways in which this money was to be spent:

(1) Advances to companies.
(2) Construction of roads and trails.
(3) Establishment of government testing works and batteries.
(4) Construction of dams and races.
(5) Advances to miners for prospecting.
(6) Boring for gold and coal.

Additional sums have been voted from time to time, and, without including funds which have been expended out of the regular appropriations of the department, the sum of £298,489 was spent on these lines between 1897 and 1906.

EXTENT OF OPERATIONS UNDER MINING LAW.

It is not possible to obtain recent data regarding the extent of the operations under the Victorian mining law. The mines department has not published since 1891 any data regarding the total area covered by leases in force at any given time or regarding the number of miners' rights in force or the areas held under such miners' rights. On December 31, 1891, there had been issued since the commencement of gold mining in the colony 17,639 gold leases, covering an area of 345,473 acres; 42,162 acres were held as claims; 36,982 acres of gold leases on crown lands were in force, and 36,036 acres of mineral leases, of which 15,899 acres were for coal.

Some idea of the extent of the operations in recent years may be gained from the following table giving the number and area of leases issued during each of the past four years:

Table showing area and number of government mining leases issued in Victoria, 1903 to 1906, inclusive.

	1903.	1904.	1905.	1906.
Gold mining leases:				
Number	659	620	656	680
Area in acres	41,882	31,873	43,043	81,367
Mineral leases:				
Number	16	29	14	35
Area in acres	4,674	6,312	2,710	3,179
Total area in acres	46,556	38,185	45,753	84,546

THE RESULT OF TEST OF GOVERNMENT LEASEHOLD.

Government leasehold, as a method of dealing with minerals, has thus been tried in Victoria for over fifty years, and mining men are a unit in indorsing it as a better method of promoting mining development than freehold. This assertion is based on the statements of the following gentlemen: Mr. Ager Wynne, member of the House of Representatives, a prominent mining lawyer and capitalist of Melbourne, and member of the Victorian Chamber of Mines; Mr. F. G. Hughes, vice-president of the chamber of mines, a gentleman intimately associated with many large mining concerns; Mr. A. H. Merrin, former president of the chamber of mines, consulting mining engineer, and now chief mining inspector of Victoria; Mr. Henry Gore, a prominent mining engineer, and a leading member of the Victorian Chamber of Mines; and on the statements of the following leaders of the different political factions of Australia: Hon. Alfred Deakin, present prime minister of the Commonwealth; Hon. Joseph Cook, leader of the opposition (conservatives and antilabor) in the House of Representatives; Hon. John Christian Watson, labor leader in the House of Representatives, and premier of the Commonwealth from April to August, 1904; Hon. William Hill Irvine, former premier of Victoria, and leader of a section in the House of Representatives, which, while antilabor, does not entirely agree with the opposition. Many of these gentlemen are intimately connected with mining, and all are closely in touch with the sentiment of the country in this matter, and they affirm that the mining interests of Australia unanimously indorse leasehold as a better method of promoting

mining development than freehold. Clearly, the matter of government leasehold is not a party question; indeed, in Australia it is apparently not a "question" at all.

The royal commission on gold mining, appointed in 1899 to inquire, among other things, into the best methods of promoting mining development in Victoria, examined about 500 witnesses and found no man who recommended freehold. This commission, including prominent mining men, capitalists, and members of Parliament, instead of recommending freehold as a means to this end, states:

> The great bulk of evidence throughout the whole course of the inquiry bears out the opinion that no greater mistake can be made by the State than that of alienating mining lands. There is no necessity whatever for disposing of such areas in fee simple. No use to which the land can be applied requires that it should be sold.

This recommendation is made in a country which has entirely repudiated the doctrine of the nationalization of the land in an agricultural sense, and by some of the very men who have been prominent in this repudiation. The attempt has been made in several of the Australian States to initiate a system of not alienating agricultural lands. In some States this has assumed the form of a perpetual lease, but in all the States, including New Zealand, this doctrine, after trial, has been abandoned. The policy of the nonalienation of mineral lands, the practice of reserving to the government all minerals, and of working minerals on state leasehold, which is now binding on all Australian States, and is heartily indorsed, is thus not a socialistic dogma or abstract doctrine of political economy, but an institution founded on actual trial.

CHAPTER VI.

The Development and Practical Workings of the Mining Law of New South Wales.[a]

INTRODUCTION.

New South Wales, with but slightly less than the combined areas of Montana, Wyoming, and Idaho, and a population three times that of all these States, produced in 1905 approximately 50 per cent more lead, about the same amount of gold and coal, one-half the amount of silver, and one-fifteenth the quantity of copper. In addition it produced a million and a quarter dollars worth of tin and a million and a half of zinc.

To the student of the development of mining and mining law in Australia, New South Wales is of interest as the first State in which commercial mines were opened, as the first to export minerals, as the State in which the discovery was made which resulted in the great Victoria and New South Wales gold excitement, which episode, as has been pointed out in a previous report, marks the beginning of present Australian mining law and practice. It was, furthermore, the first to provide by law for the reservation of all minerals in certain grants, but it was the last to fully prevent the alienation of minerals. As the first Australian State in which commercial mines were opened, it was naturally the leader in total mineral production. In this premiership it was replaced about 1844 by South Australia through the opening of the Kapunda and Burra Burra copper mines. On the discovery of gold in 1851 it surpassed South Australia, but was second to Victoria. Regaining the lead in the eighties through the decline of the gold production in Victoria, it was replaced in the early nineties by Western Australia, but in 1906 again became first and has to-day the largest mineral production in Australasia. The most important contributing factors in this result have been the yields of coal and silver-lead.

To the student comparing and contrasting the mining laws of the several Australian States with that of the United States, New South Wales is of interest because it affords a greater number of points of resemblance. These include not only certain details of the laws whose origins are similar, but sordid and unwelcome resemblances in the administration involving transactions which if not of criminal intent were certainly not for the general good of the country. These similarities include the following points:

(1) In both Australia and America the essential features of the present mining law had their origin in large discoveries of gold.

(2) These discoveries found each region without any fixed mineral-land policy and without any mining law.

[a] Australian Mining Law Report No. 5, forwarded to President March 23, 1908.

(3) Laws were then developed based on the fundamental principle which spontaneously asserted itself in each region, that if one man did not develop a mineral property another should be permitted to do so, which is but another way of saying that bona fide development is the essential condition for the retention of right to minerals.

(4) Soon after the opening of the fields the doctrine that the owner of the apex of a reef had a "right" to the reef throughout its extent was adopted both in the United States and New South Wales. This doctrine was promulgated in the New South Wales regulations of 1858, and thus New South Wales was the first country to incorporate the extralateral right doctrine in its national mining law; the United States did not officially recognize it till eight years later, or in the very year and month that New South Wales abandoned it, because it had been found to lead to litigation.

(5) Both New South Wales and the United States provided for the sale of mineral lands after a certain amount of development work. This development work in New South Wales might extend over three years under the original law, and over five years as amended, and must amount to £2 per acre; in the United States it might extend over five years and must amount to approximately $25 per acre for lode claims and $3 for placer claims. The price in New South Wales was £2 per acre, or twice that of ordinary land; in the United States it was $2.50 to $5 per acre, or, generally, from two to four times that of ordinary land. In New South Wales the law provided that ordinary agricultural purchases should contain a reservation of all minerals; in the United States the provision was that "all lands valuable for minerals shall be reserved from sale except under the mineral-land laws."

(6) The administration of this law in the United States has been such that large tracts of valuable mineral lands have been sold under other than the mineral-land laws. In New South Wales, where all gold-bearing lands were to be reserved from sale, such lands were in many cases sold by the Land Office after it had been proved that they contained payable gold, and although it was afterwards sustained at law that the right to the gold did not pass to the purchaser, the gold was at that time considered, in actual practice, as so belonging.

(7) A last point of resemblance lies in the fact that New South Wales has never waived its right to the precious metals, neither has the Government of the United States.

DEVELOPMENT OF MINING AND OF THE GOVERNMENT POLICY IN REGARD TO THE ALIENATION OF MINERALS.

The establishment of a convict colony in January, 1788, marks the beginning of the settlement of New South Wales. As early as September of that year the governor reported that it was supposed that the country contained iron, tin, and silver, but that he gave no encouragement to search for these minerals, as he believed their discovery and development would prove a curse under the then existing conditions. The transportation of convicts to this colony was abandoned in 1840, but the policy of not encouraging the development of metallic minerals was continued, and though small gold discoveries were reported in 1839 and in the early forties, the gov-

ernment in each case requested the suppression of the information because of possible "serious consequences, which, considering the condition and population of the colony, were to be apprehended." While this policy in a measure retarded development, it did not have the overshadowing importance in this respect that is often attributed to it. In Western Australia, where there was no such attempt at suppression, there was a similar slow development, and the principal cause seems to have been the small population and, especially, the lack of persons skilled in mining operations. With the return of miners from California in 1851 and the application to the Australian deposits of the knowledge gained there, gold fields equal in magnitude to those in California were at once discovered and another world-wide gold rush initiated.

On the other hand, the government favored and encouraged the development of coal. Coal had been discovered in 1797 in both the Newcastle and Illawarra districts, and these are to-day the most important coal-producing regions in Australasia. The Newcastle region offering the best harbor facilities and, being nearer Sydney, was at once selected by the government for a branch penal establishment, and experienced men, who had been coal miners in England, being found among the convicts, mines were opened. Coal was first exported in 1801, and the mines continued to be worked by the government with convict labor until 1830.

During this period more than 3,000,000 acres of land was disposed of in the region within the boundaries of the present State of New South Wales. Some of these lands were sold at a low price per acre, but the larger part was given as compensation for the maintenance of prisoners free of expense to the government. As the prisoners were in effect bond servants, this provided an attractive form of grant. Indeed, a company was formed in England in the early twenties under the name of the Australian Agricultural Company to take advantage of this provision. This company was incorporated by the act of Parliament of June 21, 1824, and was promised a grant of 1,000,000 acres, which was issued the following year.

In 1825 the Colonial Office at London made a tentative arrangement with the Australian Agricultural Company to grant a lease of the government coal mines at Newcastle for thirty-one years on payment of a portion of the output, to be fixed at not less than one-twentieth or more than one-fifteenth, at the option of the government. On investigation it was found that the charter of this company did not permit its entering into such a lease, and on July 31, 1828, the British Government agreed to give to the company a free grant of 2,000 acres of coal land, including the Newcastle coal mines, together with the exclusive right to mine coal in New South Wales, for a period of thirty-one years; all this on the sole condition that the company supply the government with coal at cost. After various delays the mines were turned over to the company in 1830 and the conditions outlined in the letter of the governor dated June 25, 1830, included the statements that the government would render all possible assistance in the way of convict labor, and that no land would be granted by the government for thirty-one years without a reservation of all coal and coal mines. The lands regulations of July 1, 1831, therefore contained the statement that in all grants the Crown would reserve to itself "all mines of gold, silver, and coals."

The practice in regard to mineral reservation in deeds of grant was very irregular in the early history of New South Wales. In general no reservations were inserted and while Governor Macquarie (1810–1821) is reported to have caused the insertion of a reservation of all minerals in some grants, in many of his grants there are no reservations. The intention of the government to reserve gold and silver was first announced in the regulations of August 21, 1828. No data are at hand showing what prompted the making of the announcement at this time, though it is suggested that the finding of gold by one of the government land surveyors several years before might have been a contributory factor. On the other hand, it may have been but the foreword of the policy which was then growing in favor in the colonial office in London, and which led to the general insistence in 1831 that all deeds of grant should thereafter contain a reservation of all gold and silver. In the early part of that year instructions were issued on this point to the governor of British North America and the governors of all the colonies then in Australasia—New South Wales, Van Diemen's Land (Tasmania), and Western Australia.

During the next few years a growing tendency was evidenced to change this policy, and when the colony of South Australia was established, in 1836, no attempt was made to enforce this doctrine. This matter was more or less before the colonial office in the next few years, and one of the first questions propounded to the colonial land and emigration commissioners by the secretary of state in 1840 concerned this point of mineral lands. In reply the commissioners announced the doctrine "that deeds of grant should convey to the purchaser everything above and everything below the surface." Neither did they favor any change in the ordinary price merely because lands were "known or supposed to contain valuable minerals," but suggested that the governor might, "if some very remarkable case occurred of decidedly rich mines for which competent parties were willing to offer high terms, deal with the case of such mines specially, and not part with them to the first offer at the ordinary price of common land. The proper course in such instance would be to afford a sufficient opportunity for competition and then dispose of the mines." Lord John Russell therefore announced this doctrine in a dispatch to the governor of New South Wales, dealing with the Port Philip district, which was afterwards made the separate colony of Victoria. This provision thus became applicable at once only to the Port Philip district, but it was made general for the whole colony, which at that time included Queensland as well as Victoria, by the regulations of March 1, 1843.

These regulations, which were the first issued under the imperial waste lands act of 1842, provided that—

> Deeds of grant from the Crown will be issued to the purchasers conveying to them all that is above and all that is beneath the surface, except that coal will be reserved until the year 1862 in the districts to which the privileges of the Australian Agricultural Company extend, but not elsewhere; precious minerals or metals may be also reserved if it be known that they greatly abound in any district but not otherwise. In town allotments coal will always be reserved.

When, on the discovery of valuable mines in South Australia, the colonial office concluded it was desirable to reserve one-fifteenth of all metals and metalliferous ores in all deeds of grant, they referred the matter to the governors of the several colonies. In Western

Australia and South Australia this plan was adopted with the result that it proved immensely unpopular and was abandoned in 1848. The governor and council of New South Wales replied that no mines of metal had been discovered in that colony and that if any should be found to exist the existing regulations would suffice to enable the government to reserve minerals. In 1846, in reporting this result the colonial land commissioners add: "The lands therefore in New South Wales where no valuable minerals have hitherto been discovered continue to be sold with all above and all beneath the surface, in like manner as they were sold in South Australia up to the time that such minerals were found to exist in great abundance."

About this time several attempts were made to work coal in New South Wales by parties other than the Australian Agricultural Company, and when these operations were stopped by the application of this company the matter was at once taken up by the legislative council. In the midst of the investigation of this monopoly in 1847 a dispatch was received from the secretary of state announcing that an arrangement had been entered into between the colonial office and the Australian Agricultural Company, whereby "all existing privileges on the part of the company and the government are to be given up without entailing any charge upon the colonial funds." The existing privileges were interpreted as including, on the part of the company, the exclusive privilege to mine coal until 1862, and, on the part of the government, the right to coal at cost. This left the company with 2,000 acres of the pick of the coal land of the colony for the development of which they had been supplied by the government between 1830 and 1841 with 1,012 convict laborers.

With the abolition of this monopoly numerous coal mines were opened, and applications were soon made for the waiver of the reservation of coal contained in grants after 1830. This request was promptly acceded to, and in 1850 the governor announced:

> Her Majesty, being desirous of promoting the welfare of her subjects, had been graciously pleased to direct that all such reservations and the rights incident thereto shall be abandoned * * * with the exception alone of such land as may be comprised within any city, township, or village.

Had an application been made at this time for the waiver of all rights to precious metals it would doubtless have been granted in much the same way that it had been in South Australia two years before, but at this time only coal was of importance in New South Wales. The following year gold was discovered, and as a necessary expedient for the preservation of law and order Governor Fitzroy on May 22, 1851, asserted by proclamation the common-law right of the government to the gold in all lands, whether alienated or not, and, if alienated, whensoever alienated, and provided for the working of the gold only on payment of a license fee.[a]

This was the first act of gold-field law in Australia, and the present mining law may be said to date from this time. Governor Fitzroy's proclamation and the accompanying regulations were repeated by

[a] The wisdom of this provision has been already pointed out in the report on Victoria. The local attitude on this point of the license fee is shown by the following extract from the report of the select committee on the gold-fields management bill in 1853: "All, however, agree that the licensing system, as a mere measure of police, must be kept up to some extent in order to maintain due supervision over the bad characters at the gold fields and for the safety and protection of the diggers themselves."

the governor of Victoria on August 15, 1851, and the proclamation with somewhat amended regulations by the governor of Tasmania on August 5, 1852. But while New South Wales thus took the lead in the beginning, the much larger and more rapid developments in Victoria soon made its mining law of more importance because based on greater experience; and, although the early acts and regulations of New South Wales differed from those in Victoria and the more rational administration avoided the disturbances that marked the first few years in the latter State, the New South Wales mining act of 1857 was to a very large degree but a copy of the Victorian enactment of 1855.

Under the land laws existing at the time of the discovery of gold the government had no power to exempt auriferous lands from sale; the governor's power of reservation was restricted to lands for "public purposes," and mining was not then defined as a public purpose. The government could, however, partially accomplish the same result by refusing to survey the land in question and by refusing to offer it for sale. In this way all alienation except by means of preemptive selections could be prevented. The preemptive right enjoyed by the pastoralists usually amounted to 640 acres for each "run," and on the discovery of gold these preemptive rights were utilized to procure auriferous lands, though not so extensively as in Victoria.

The power to proclaim gold fields and to subject the land therein to special provisions was not provided for until 1861. The gold fields act of that date empowered the governor to proclaim gold fields, and the lands alienation act, which was the first lands act to be passed after the establishment of responsible government in 1851, further provided that nothing in the act "shall be held to require the sale of any land that may contain auriferous deposits." It further provided for conditional purchases on gold fields, but with the reservation of the right of free search for gold by persons properly authorized and of the right of resumption if the land was found to be auriferous. This provision was the forerunner of the mining on private property acts which followed many years later.

In practice, however, the delay of the land officials in proclaiming gold fields permitted considerable areas of auriferous lands to be taken up under preemptive rights and free selection. This feature called forth the following comment from the gold fields royal commission of inquiry, appointed in 1870:

> Great complaints have been made to your commissioners during the various stages of their investigation upon the subject of the delay which takes place in proclaiming gold fields even after they have been established beyond question as being payably auriferous. The evidence we have received upon this point clearly makes out that not infrequently prospectors have been watched by knowing and designing persons who intended to profit by the discoveries of others, and to invoke the assistance of the free-selection clauses of the lands act in furtherance of their purpose. When, then, the prospectors have succeeded in finding payable gold in a new field, these watchers have at once free-selected the land and have been enabled, in consequence of the delay of the lands office in acting upon the prospector's report, to become possessed of a private gold field. That these selections have not been for bona fide agricultural purposes is only too manifest; indeed, in some instances the selectors have not hesitated to avouch that the gold and not agriculture was their object. So that where the land has really been rich, these easily constituted private proprietors of gold fields have reaped a fine harvest, not of wheat or of any other grain, but of money paid for licenses to mine on their land; while, on the other hand, where the gold yield has soon run out, the deposit has been forfeited and the selection abandoned without the slightest pretense at agriculture.

The suggestion that the lands department would grant lands in a known gold field before it would proclaim the same a gold field finds a parallel in certain transactions of officers of the American Land Office, wherein when a man offered to buy land as coal land at $20 per acre and another offered to buy it as agricultural land at $2.50 per acre, the land officials accepted the application of the agricultural claimant. Truly the administration of the lands office in New South Wales has approached the American rather than the Tasmanian standard of public efficiency.

The mining act of 1874, which was to a large degree based on the report of this commission, partially remedied this by providing that a "free selection" made not more than three months before the proclamation of a gold field should be subject to the same reservations as if it were a conditional selection on a gold field. The mining amendment act of 1884 finally defined "mining purposes generally" and "mining for any mineral" a "public purpose," and thus empowered the governor to make absolute reservations of such lands. This provision was incorporated in the lands act of 1884 (s. 101) and is still in force.

As to lands containing minerals other than gold, they were, until 1861, generally sold in much the same way as other lands. By the imperial order in council of March 9, 1847, the governor was empowered to have land assessed by valuers if it "possesses peculiar advantages * * * which would make it fit that a higher price should be paid," but this provision does not appear to have been utilized to any great extent in connection with minerals. The crown lands alienation act of 1861 provided for the sale of land for the "purpose of mining other than gold mining" at £2 per acre on condition that a like amount be expended in mining development. Ordinary conditional purchases carried with them conditions of residence and development; the price charged was only £1 per acre, but such grants contained a reservation of all minerals. While the intent of the American laws of this period was clearly the same, the wording under the rulings and administration of the land office, opened the door to the acquisition of large areas of valuable mineral land under the agricultural land laws. The wording of the New South Wales law avoided a possibility of this sort of mineral land fraud, but the lands department at once undertook the "liberalization" of the law. The first regulations provided for the conversion of a mineral lease into a mineral conditional purchase, and the regulations of October 13, 1865, for the conversion of an ordinary conditional purchase into a mineral conditional purchase.

In 1884 the people finally recognized that there was no essential difference between gold mining and other mining, so far as the interests of the State were concerned, and concluded that, if the interests of the people could be better protected by the state control of gold mining, which had been demonstrated by over thirty years' trial, they would be conserved to a greater degree by the control of all minerals. The lands act of 1884, therefore, contained the provision: "All grants of land issued under the authority of this act shall contain a reservation of all minerals in such lands." This simple regulation was, however, curtailed by the addition of a proviso, whose origin is evident, to the effect that the "right" of any holder of an ordinary conditional purchase under the act of 1861, which was

repealed by the act of 1884, to convert the same into a mineral conditional purchase should not be affected. No such right ever existed at law, and when this became evident, as it did in the next few years, there resulted the crown lands titles and reservations validation act of 1886 and the conversion into mining conditional purchases validation act of 1888. These acts gave those holding land acquired by conditional purchase prior to 1884 the right, for an indefinite period, to convert to mineral holdings and to relieve the situation of this time-uncertainty it was provided in the mining act of 1906 that as to minerals other than coal this right of conversion should absolutely lapse on December 31, 1909, and as to coal on December 31, 1913. The "right" of a mineral lessee to convert his holding into a mineral conditional purchase received no consideration in this connection and there is no good reason why one should have fared better than the other. It looks very much as if the legislators said, in effect: "This principle of reserving minerals is excellent; it is just what is needed for the good of the country; but we and our friends own certain lands and we will therefore pass a law which, while asserting the desired principle, will enable us to make good on this point."

There have thus been shown in the development of the government policy in regard to the alienation of minerals the following stages:

From settlement of colony in 1788 to 1861.—In sale of lands, no distinction made between mineral and nonmineral lands, except that after 1847 the government had power to have lands specially assessed if possessed of "peculiar advantages."

From 1788 to 1828.—Generally no reservations. Governor Macquarie (1810–1821) is reported to have inserted a reservation of all minerals in some grants, but in many of his grants there are no reservations.

From 1828 to 1830.—Reservation of gold and silver.

From 1830 to 1843.—Reservation of gold, silver, and coal.

From 1843 to 1847.—Reservation of coal only; grants with this exception held to convey everything above and below the surface.

In 1850.—All former reservations of coal abrogated.

In 1851.—Government asserts ownership of gold in all lands, whether alienated or not.

From 1861 to 1884.—Lands containing minerals other than gold sold for £2 per acre with conditions of development. Ordinary conditional purchase grants contained a reservation of all minerals, but by regulations of 1865 a conversion to mineral purchase was permitted. Mineral lessees could in like manner for a time convert their holdings to mineral purchases.

From 1884 to date.—All new grants contain a reservation of all minerals; but the conversion of conditional purchases made prior to 1884 to mineral conditional purchases is permitted until December 31, 1909, as to minerals other than coal, and until December 31, 1913, as to coal.

TERMS AND CONDITIONS OF LEASES.

In New South Wales the gold digger's license and miner's claim were initially regarded as, at most, but a make-shift arrangement to cover the necessities of alluvial gold digging, where persons without expensive tools or equipment could recover the gold, where it was impossible to supervise the work, and where one person could often work to as much advantage by himself or with a few chosen mates as in conjunction with others. The first gold claims in the American fields were based on much the same idea, and traces of this origin are visible in the present American mining law. Rock or quartz mining, however, was held to be an entirely different thing, since it involved the formation of companies with sufficient capital to purchase the necessary machinery for mining and reduction and hence

required larger areas. The regulations of August 5 and October 7, 1851, which were the first comprehensive mining regulations promulgated in Australia, therefore provided that gold-digging licenses and the claims thereunder should be restricted to alluvial mining, and, while fixing the area of alluvial claims at not exceeding 20 by 20 feet for one man, provided for holdings of slightly over 18 acres for reef mining. Those undertaking to work reef deposits were required to file bond for £2,000 to guarantee the payment of the royalty, which was fixed at 10 per cent if the area involved was government land, and 5 per cent if private land. The area allowed was increased in November, 1851, to 160 acres and the royalty was reduced in 1853 to 3 per cent. The influence of these enactments are shown in the Victorian Regulations of 1853 in which the area allowed is 160 acres and the royalty is fixed at 5 per cent. In 1857 New South Wales fixed the rental on gold leases at £5 per acre per year and in December, 1858, Victoria followed this lead. After this time New South Wales ceased for many years to be a leader in mineral land legislation and borrowed from the acts and regulations of other states. Indeed, the mining policy of the Government between 1857 and the establishment of the Mines Department in 1874 was without very much stability. The drafting of the regulations and the administration of mining matters in general appear to have fallen into the hands of people in no way competent to deal with the matters involved. The Gold Fields Royal Commission of Inquiry reported as follows on this point in 1871:

> With regard to the regulations in existence at the time your commissioners were engaged in taking evidence, it is a fact deduced in evidence before us that not one of the officials, either in the office in Sydney or on the gold fields, knew at all from what source those regulations emanated. The three gold commissioners themselves not only declined to be in any way responsible for them, but have expressed their disapproval of them; while Mr. Rich, whom we examined as being the gentleman in the Sydney office who had had most to do with gold-mining departmental affairs for some years, also stated that he knew nothing whatever of the origin of the regulations. It is not to be wondered at that a code of regulations framed under such auspices—without a parent bold enough to acknowledge his offspring—should fail to meet the adequate requirements of an interest such as gold mining. Nominally and theoretically, no doubt, the minister for lands is the framer of the regulations; but it is not to be supposed that, under a system such as ours, a minister for lands should possess the technical knowledge required.

As to minerals other than gold, the first leasing provisions were issued in May, 1855, and dealt with coal leases in the region of Newcastle. These were almost immediately replaced by an imperial order in council based on the South Australian mineral regulations of 1851. These, originally prepared by the executive council of South Australia without authority at law, had been submitted to the Home Government for approval. The Home Government after approving them for South Australia considered them so satisfactory that it passed them on to the neighboring colony in the form of an order in council. What leases were issued under these regulations and under the gold-field regulations of the same period is not known, but the record of leases granted under the 1861 acts, which were framed on the same lines, and the leases granted during the same period in South Australia and Victoria under the same conditions indicate that a number of leases were probably issued.

Under the gold-fields act of 1861, 102 gold leases were issued within the first year after the act became operative; the first lease bearing

the date January 4, 1862. Under the mineral-leases section of the crown-lands occupation act of 1861, 54 leases were taken out in the first year, and of these 38 were for coal covering a total area of 10,308 acres. Much coal land was purchased, but the fact that persons took out mineral leases when they could have purchased the freehold at a nominal price suggests the similar demonstration in South Australia. This is a significant feature of the mineral-land history of Australia, clearly demonstrating, as it does, a demand among mining interests for mineral leasehold, and finds an analogy in the United States in the large percentage of development that is undertaken on leases granted by private interests. In New South Wales it was for a time provided that the holder of a mineral lease could convert his holding into a mineral purchase, but while after a time this privilege was withdrawn the change in no way affected the demand for mineral leases, even though it was until 1884 possible to purchase the freehold initially.

The official records show that there are now in force 4 coal leases, for 320 acres each, under the crown-lands occupation act of 1861. This means that these lands have been held all this time at a rental of 5s. per acre per year and with a fine on renewal of not less than £2 10s. per acre every fourteen years, and must be considered as a very extreme indorsement of government leasehold, since the freehold could have been purchased at the time these leases were first issued at £2 per acre. A still more striking example is found in the famous Broken Hill mines which have distributed in dividends over £14,000,000. These properties are held under government lease and are now paying to the Government from 1 to 1½ per cent on their net profits in addition to the nominal annual rental of 5s. per acre. These leases were procured at a time when the freehold of the property could have been purchased for £2 per acre. Certainly this does not lend weight to the suggestion that government mineral leasehold retards development or that mining interests necessarily demand freehold.

The terms and conditions under which mining leases have been granted at different times in New South Wales are summarized in the following table:

Terms under which government mining leases have been granted at different times in New South Wales.

	Regulations Aug. 4, 1851; Oct. 7, 1851.	Regulations Nov. 25, 1851.	Gold fields act, 1852.	Gold fields act, 1853.	Newcastle coal lease regulations May, 1855.	Orders in council 1855 (mineral leases).	Gold fields act, 1857; regulations Aug. 5, 1858.	Special gold leases, acts 1857, 1861; regulations Aug., 1858, Feb., 1862.
Term of years:								
Gold	3	3	21	21			2	21.
Minerals other than gold					21	14		
Period for which renewable:								
Minerals other than gold						None[a]		
Maximum area in acres:								
Gold—								
Alluvial	None	None	None	None			8 acres	No limit.
Reef	18	160	160	160			400 yds.	
River bed	None	None	None	None			500 yds.	
Minerals other than gold and coal.						As fixed by governor.		
Coal					(b)			
Rent per acre per year:								
Gold	None	None	None	None			£5[c]	None.
Minerals other than gold and coal.						Not less than 10s.		
Coal					5s			
Royalty on gross output:								
Gold	10 per cent.*	10 per cent.	10 per cent.[d]	3 per cent.*			(e)	Not less than 1 per ct.[e]
Minerals other than gold and coal.						None		
Coal					Not less than 6d. per ton.[f]	None		
Development conditions expressed in men per acre per year:								
Gold	1	(g)	(g)	(g)			(h)	(h)
Minerals other than gold and coal.						None		
Coal					(i)	None		
Development conditions expressed in money per acre per year.								
Gold	None	None	None	None			(h)	(h)
Minerals other than gold and coal.						None		
Coal					(i)	None		
Equivalent in value of 1 horse-power or 1 horse in computing labor conditions.		7						

* One-half this royalty on private property.

[a] Land sold at public auction at termination of lease.

[b] Upset price fixed by government before offering at auction.

[c] Per acre and per 100 yards.

[d] 5 per cent on private property and 20 per cent if lessee be an alien.

[e] After Feb. 12, 1857, a duty of 2s. 6d. (about 4 per cent) was levied on each ounce of gold exported and a duty of 2s. 3d. on each ounce of gold received at the Sydney mint. This was reduced in 1862 to 1s. 6d. for export and 1s. 3d. for mint, and was finally abandoned in 1879 (43 Vict., No. 5).

[f] Fixed by auction, subject to increase of 50 per cent at end of 7 years and of 100 per cent at end of 14 years.

[g] Fixed by local gold commissioner.

[h] Fixed in each case on applicant's statement.

[i] Amount of coal raised must not be less than 10,000 tons every 2 years.

Terms under which government mining leases have been granted at different times in New South Wales—Continued.

	Crown lands occupation act, Nov. 1, 1861; regulations Sept. 13, 1872.	Gold fields acts, 1861, 1866.				Mining act, 1874.	
		Regulations Feb. 9, 1862.	Regulations July 31, 1866, Sept. 24, 1869.	Regulations Feb. 17, 1870.	Regulations Mar. 21, 1872.	Mineral regulations June 22, 1874; gold regulations July 31, 1874.	Mineral regulation Feb. 27, 1885.
Term of years:							
Gold	.....	5.....	15.....	5.....	15.....	15.....	
Minerals other than gold	14.....	.....	.....	.....	.....	20.....	20.
Period for which renewable:							
Gold	.....	.....	.....	.....	.....	15[a].....	
Minerals other than gold	14[b].....	.....	.....	.....	.....	20[b].....	20.[b]
Maximum area in acres:							
Gold—							
Alluvial	.....	8 acres.	50 acres...	25 acres [c].	25 acres..	}	
Reef	.....	500 yds[d]	50 acres..	25 acres [c].	25 acres..	25[e].....	
River bed	.....	500 yds.	1,000 yds.	1,000 yds.	1,000 yds.	}	
Minerals other than gold and coal.	80.....	.....	.....	.....	.....	80.....	80.
Coal	320.....	.....	.....	.....	.....	640.....	640.
Rent per acre per year:							
Gold	.....	£5 [f].....	£2 [f].....	£2 [f].....	£1 [f].....	£1.....	
Minerals other than gold and coal.	5s.....	.....	.....	.....	.....	5s.....	5s.
Coal	5s.....	.....	.....	.....	.....	5s.....	5s.
Royalty on gross output:							
Gold	5 per cent.[g]	([h])	([h])	([h])	None.....	None...	None.
Minerals other than gold and coal.	None...	.....	.....	.....	.....	None...	None.
Coal	None...	.....	.....	.....	.....	None...	6d. per ton.[i]
Development conditions expressed in men per acre per year:							
Gold	.....	([j])	2[k]	2.....	½.....	([j])	
Minerals other than gold and coal.	None...	.....	.....	.....	.....	([j])	([j])
Coal	None...	.....	.....	.....	.....	([j])	([j])
Development conditions expressed in money per acre per year:							
Gold	.....	([j])	£100.....	£100.....	None.....	([j])	
Minerals other than gold and coal.	£1 2s.3d[l]	.....	.....	.....	.....	£1 2s.3d[l]	£1 2s.3d[l]
Coal	£1 2s.3d[l]	.....	.....	.....	.....	£1 2s.3d[l]	£1 2s.3d[l]
Equivalent in value of 1 horse-power or 1 horse in computing labor conditions.	.....	.....	4.....	2.....	None.....	None...	None.

[a] Under the regulations in force at the time of such renewal.
[b] On payment of a fine of not less than £2 10s. per acre.
[c] Only for old or abandoned ground. New ground granted only under exceptional conditions, and then only for not exceeding 10 acres.
[d] Including extralateral right.
[e] In quartz veins shall not exceed 600 by 200 yards.
[f] Per acre and per 100 yards.
[g] For gold found in connection with minerals worked on a mineral lease.
[h] After Feb. 12, 1857, a duty of 2s. 6d. (about 4 per cent) was levied on each ounce of gold exported and a duty of 2s. 3d. on each ounce of gold received at the Sydney mint. This was reduced in 1862 to 1s. 6d. for export and 1s. 3d. for mint, and was finally abandoned in 1879 (43 Vict., No. 5).
[i] This royalty was imposed by crown lands act, 1884, sec. 91. In 1886 the royalty on small coal was fixed at 3d. by ministerial authority.
[j] Fixed in each case on applicant's statement.
[k] Four men for first acre or less.
[l] For 3 years. Labor conditions must also be fulfilled.

Terms under which government mining leases have been granted at different times in New South Wales—Continued.

	Mining amended act, 1884, public reserves.	Crown land act, 1884, reserved minerals on private lands.	Mining on private property acts, 1894, 1896.	Dredging act, 1899.	Dredging act, 1902.	Mining act, 1906.		
						Public lands.	Reserved minerals on private lands.	Dredging.
Term of years:								
Gold	20	Indefinite.	20	15	15	20	20	20.
Minerals other than gold	20		20	15	15	20	20	20.
Period for which renewable:								
Gold	20 *a*			15 *b*	15 *b*	20 *c*	20 *c*	20. *c*
Minerals other than gold	20 *a*							
Maximum area in acres:								
Gold—								
Alluvial	100	No limit.	20	100	100	25	25	100.
Reef			40					
River bed								
Minerals other than gold and coal.	No limit.	No limit.	80	100	100	80	80	100.
Coal						640		
Rent per acre per year:								
Gold	£1	None	£1 *d*	£1	2s. 6d.	5s.	£1	2s. 6d.
Minerals other than gold and coal.	5s. 2s. 6d. 1s. 6d.	None	£1 *d*	5s.	2s. 6d.	5s.	£1	2s. 6d.
Coal	2s. 1s. 6d. 1s.	None				1s.		
Royalty on gross output:								
Gold	None	2½ per cent.	None	None	1 per cent.	None	1 per cent.*	1 per cent.*
Minerals other than gold and coal.	None	2½ per cent.	None	None	1 per cent.	None	1 per cent.*	1 per cent.*
Coal	6d. per ton.	6d. per ton.				3d.–6d. per ton.		
Development conditions expressed in men per acre per year:								
Gold	(*e*)	None	1/5	1/10	1/10	1/2 *f*	1/2 *f*	7/100.
Minerals other than gold and coal.	(*e*)	None	1/20	1/10	1/10	1/10 *g*	1/10 *g*	7/100.
Coal	(*e*)	None				1/160	1/160	
Development conditions expressed in money per acre per year:								
Gold		None				None	None	£10.†
Minerals other than gold and coal.	£1 2s. 3d. *h*	None				None	None	£10.†
Coal	£1 2s. 3d. *h*	None				None	None	
Equivalent in value of 1 horsepower or 1 horse in computing labor conditions.	None	None	None	None	None	None	None	None.

* Less amount paid by way of rent.
† Labor conditions must also be fulfilled.
a At such rent and royalty, not exceeding 50 per cent increase, as may be determined.
b On payment of fine.
c Under the regulations in force at the time of such renewal.
d Paid to owner of land.
e Fixed in each case on applicant's statement.
f First year only 1 man for every 5 acres.
g First year only 1 man for every 20 acres.
h For 3 years. Labor conditions must also be fulfilled.

Area.—The maximum area allowed under ordinary conditions in any lease is, as shown by the foregoing table, about that adopted by other Australian States. Indeed the New South Wales mining act, 1906, may be regarded as in many ways the conservative summing up of the past experience of Australasia in mining legislation. The adequacy of the areas provided by this law is shown in a striking way by

information that may be gleaned from the list published by the mines department showing the leases in force during the half year ending June 30, 1907. The 1,070 regular gold leases in force during this period under the 1874 act are here shown to be composed of the following areas:

Areas of gold leases under the mining act, 1874, in force half year ending June 30, 1907.

	No. of leases.
Not more than 1 acre	117
More than 1 acre and not more than 5	656
More than 5 acres and not more than 10	226
More than 10 acres and not more than 15	39
More than 15 acres and not more than 20	17
More than 20 acres and not more than 25	15
Total	1,070

Only 2 leases out of this total of 1,070 were for the maximum of 25 acres; that is to say, in only one-fifth of 1 per cent of all the cases did the area amount to the maximum allowed by law. On the other hand, 61 per cent of the leases were for areas varying from one-twenty-fifth to one-fifth of the maximum allowed and 93 per cent were for less than one-half the maximum area.

As to minerals other than gold it is not possible to present perfectly accurate figures, because in the list of mineral leases it is not possible to separate the coal and shale leases, in which the maximum is 640 acres, from the leases for minerals other than gold and coal, in which the maximum is 80 acres, but taking in the list of mineral leases all leases of 80 acres or less the following results are obtained:

Areas of mineral leases of 80 acres or less in force under the mining act, 1874, for half year ending June 30, 1907.

	No. of leases.
Not more than 10 acres	89
More than 10 acres and not more than 20	235
More than 20 acres and not more than 40	460
More than 40 acres and not more than 60	41
More than 60 acres and not more than 80	83
Total	908

Here, again, the great bulk of the leases are well below the maximum. Only 7 per cent of the total are for the maximum of 80 acres, while over 87 per cent are for areas of not more than one-half the maximum.

While even approximate figures are not available as to coal leases because of the difficulty above outlined, it may be pointed out that there are many coal leases for less than the maximum area and that the average area of the 218 coal leases in force in 1906 was 331 acres, or less than one-half of the maximum. None of the coal operators interviewed expressed any dissatisfaction with the maximum area prescribed. One operator stated that he had no criticism to make of the limitation of the area, but that he believed the term of leases should be increased.

Special leases and amalgamation of leases.—From the foregoing data it would seem that the maximum areas fixed by law were more than adequate to meet ordinary demands, but to provide for any

emergencies which might arise the mining acts since 1884 have authorized special leases of any area except as to coal and shale where the usual maximum of 640 acres is insisted upon. The conservative way in which this provision has been administered is shown by the fact that out of the 1,076 gold leases under the mining act of 1874 that were in force on June 30, 1907, only 6 exceed the maximum of 25 acres. The areas involved are 33, 36, 40, 40, 40, and 156 acres, and these unusually large holdings originated, not in the clauses authorizing special leases, but under the provisions which state that on the discovery of gold on leases for other minerals the holder must, at the option of the minister, either pay a royalty of 5 per cent on all gold recovered or take out a gold lease for the area involved. There are no mineral leases other than gold for more than the maximum, and out of 365 leases under the mining on private property acts only 6 exceed the usual limit. Three of these, involving areas of 120, 1,160, and 600 acres, were issued under the clause which protected arrangements between the freeholders and mining companies existing at the time the act became effective. The remaining three, involving areas of 880, 281, and 102 acres, have been issued under the special-lease provisions.

The necessity and desirability of temporarily combining properties and of satisfying the labor conditions on one of a group of adjoining leases during the development stages is recognized in the provisions for amalgamation. Such an amalgamation means not a consolidation of leases and the issuance of a new lease for the whole area, but merely permission from the mines department to concentrate the development conditions on one of a group of adjoining leases or claims. Provision for such an amalgamation of gold claims was made in the regulations as early as 1869. This privilege was extended to leases for minerals other than gold in 1874 and to leases for gold in 1884. The mining act of 1906 provides for the amalgamation of any number of leases of any sort on the minister "being satisfied that the lands comprised in such leases can be more effectively worked," and for the cancellation of such amalgamation on report from the warden. It was because of this provision that it was not deemed necessary to allow an area of more than 640 acres for coal leases. By this arrangement a much closer check can be kept on speculation than by permitting consolidation, and yet the interests of the bona fide developer can generally be fully protected.

No provision is made in the New South Wales law for the consolidation of leases, but any necessity of this sort could be met, except in the case of a coal or shale lease, under the provisions for special leases. Victoria provides only for consolidation, Western Australia only for amalgamation, while Tasmania recognizes both amalgamation and consolidation. It would seem that there might be a need for both provisions.

Renewals.—The early regulations made no specific provisions for the renewal of leases. In the regulations of 1861, regarding mineral lands, there is incorporated the South Australian policy of charging a fine on renewal. The regulations under the mining act of 1874 adopted for gold leases the Victorian custom of allowing renewal under the terms fixed by the acts and regulations in force at the time of such renewal, but applied to other leases the South Australian practice of charging a fine on renewal. Victoria was at this time the principal

gold-producing colony and South Australia was perhaps the most important as to minerals other than gold, but the combination of the two plans in one law is rather illogical and somewhat surprising. In 1884 the Tasmanian policy of providing that the rental on renewal should not exceed a definite multiple of the original rental was adopted as to leases on public reserves which had before that time been exempt from mining. The mining act of 1906 provides in all cases for indefinite renewal under the regulations in force at the time of such renewal.

The fine for the renewal of mineral leases between 1861 and 1902 was fixed at not less than £2 10s. per acre. The leases of the very rich ground at Broken Hill were issued in 1883 for a period of twenty years. When the end of this term approached, the companies fearing exorbitant fines, agitated a change, and the mining laws amendment act of 1901 resulted. In this act the renewal of mineral leases other than leases for coal and shale is provided for subject "to the annual rent prescribed by the acts and regulations then in force in respect to such lease, and to a further annual payment * * * amounting to one per centum upon the net annual profits of working the mine or mines on the land comprised in such lease, and, in addition thereto, one-half per centum upon the amount of such profits exceeding £200,000 * * *. Provided that no such payment shall be required in respect of any mine the net annual profits of which do not exceed £500." Under this act the Broken Hill companies and several others throughout the state are paying the Government very considerable sums every year.

Labor conditions.—New South Wales early adopted the Victorian plan of fixing the labor and development conditions in leases from the statements of the applicants. In 1894 under the mining on private property act it first showed a desire to fix definitely by regulation the number of men required, and this plan is adopted in the regulations under the 1906 act. The labor conditions thus lie wholly at the discretion of the minister. Under the existing regulations the necessity of lighter labor conditions when commencing work is officially recognized by the fixing of the number of men required for the first year at one-half that required in succeeding years. The usual exemption at the discretion of the minister after hearing in open court (warden's court) is allowed, but exemption as a right is provided for only at the rate of one month for each six months' excess of labor, and then not for a cumulative period exceeding six months at one time. There is no provision for exemption during strikes or on account of money expenditure, and both these omissions must be considered among the most serious defects of the law. It was reported that during the recent coal strike at Newcastle the labor conditions in the leases were used by the premier to force the coal companies to agree to his proposals, a procedure which was resented by some of the coal operators at that place.

Forfeiture.—Forfeiture is effected by the publication of a notice in the Government Gazette and is generally based on a report from the warden. According to the plan at present in vogue in the mines department, the officers of this service make no special efforts to see that the labor conditions are fulfilled. Anyone may report the nonfulfillment of labor conditions at any mine, and if on investigation this report is substantiated the lease may be canceled. If cancel-

lation is determined upon the complainant receives "beforehand" notice of the day and hour upon which such cancellation will take effect. He is thus enabled to become the first applicant for a new lease. It is held by the department that "if no person reports a breach of labor conditions it is evidence that no one is desirous of obtaining the mine, and as the lessees pay rent, even though they may not be fulfilling their labor covenants, the revenue benefits to that extent and nothing would be gained by cancellation."

This doctrine resembles that announced in the Victorian mining act of 1904, which provides that leases shall be forfeited only when the warden is satisfied that the persons applying for forfeiture can command the labor and capital necessary to develop the lease. The desirability of this policy depends somewhat on the importance attached to the item of revenue. An unworked lease undoubtedly is a hindrance to development for the reason that if it were unoccupied the chances are greater that it would be taken up as a claim or lease by a prospector. Many prospectors not only object to turning "informer," but can not afford to go to the expense and trouble of applying for forfeiture. It is, after all, this poor prospector who generally discovers minerals, and he is the person who should receive the greatest encouragement. He is the very person for whom the land should be open, if it is not already being actually developed. From this standpoint it would seem that more weighty reasons for not forfeiting a lease would be required than the simple fact that rent was being paid and that no informer reported noncompliance with conditions.

Royalty.—The royalty method of collecting a revenue or rent from mining leases was the one first adopted in New South Wales. The early regulations regarding gold leases fixed the royalty at 10 per cent, which was reduced to 3 per cent in 1853 and to 1 per cent in 1857. The special coal lease regulations of May, 1855, imposed both a ground rental of 5s. per acre and a royalty of not less than 6d. per ton. This provision, almost immediately abandoned, bears a striking resemblance to that which has been in force since 1885.

In 1855 an imperial order in council fixed only an acreage rent for mineral leases, and in 1857 gold leases for small areas and short terms were provided for at an annual rental. From this time royalty entirely disappears until 1884, except in connection with the recovery of gold in mineral leases, where a royalty of 5 per cent was required or the holder forced to take out a gold lease for the area involved. Since 1884 royalty has been introduced at many points. Following the example of New Zealand, the crown lands act of 1884 provided for a royalty of 6 pence per ton on all coal, the rent to be a credit on the royalty, and empowered the governor to grant permits to freeholders to work the reserved minerals in their lands on payment of such royalty as might be required. This royalty was fixed at 2½ per cent. Very few permits were issued, and this provision was practically suspended by the extension of the mining on private property acts to include practically all minerals.

In 1886 the royalty on "small coal" (i. e., coal which will pass through a screen the bars of which are not more than three-quarters of an inch apart) was reduced to 3d. by "ministerial authority," and in a like manner, for the purpose of calculating the royalty, three-fourths of the total output was fixed as consisting of large coal.

The authority at law for this provision is not evident, but as the mining act 1906 legalizes this dictum it may be passed by as ancient history.

The dredging act of 1902 provided for a royalty of 1 per cent, and the mining act of 1906, in addition to the royalty on coal, has imposed a royalty of 1 per cent in leases for reserved minerals on private lands and in dredging leases. In all these cases the rental is a credit on the royalty.

This gradual development seems to suggest the final introduction of a system of royalty in all cases. Indeed, the mines department officials are as heartily in favor of a royalty system as the South Australian officials are opposed to it.

OWNERSHIP OF THE PRECIOUS METALS.

The proclamation of Governor Fitzroy in 1851, asserting the common-law right of the government to the gold in all lands whether alienated or not, was in direct contradiction to the principle announced in the lands regulations several years before that grants should be held to convey everything above and below the surface and naturally did not pass without a legal trial of the matters involved. The question was first brought before the courts of Victoria because of the greater importance of the developments there and these decisions naturally affected the thought in New South Wales. Many lawyers, however, held, as they do in the United States to-day, that the precious metals for all practical purposes belonged to the freeholder, and in 1874 the Supreme Court of New South Wales held (Reg. *v.* Wilson) that "by giving the owners of private lands the power to authorize persons to mine or search for gold, and by confining the operations of the 'miner's right' to crown lands the legislature, in the gold fields act of 1852, clearly waived the crown right to the gold that might be found in private land." The Privy Council decision of 1877, which has been alluded to in the Victorian report, that the right to the precious metals did not pass unless specifically named in the deed of conveyance put an end to all this discussion, and the several mining on private property acts passed in recent years are based on the doctrine that all the gold in New South Wales belongs to the government.

Silver is in the same manner the property of the government, but the fact that mineral conditional purchases included all minerals except gold,[a] has led to the provision in the last mining act that silver is to be treated as so belonging only when it is specifically reserved. The rights of the government and of the public at large would perhaps be more fully conserved by the provision that the silver belongs to the government in all lands except those acquired by mineral conditional purchase.

The ownership of the gold in a mineral conditional purchase was in 1900 the subject of litigation between the state and the Great Cobar Copper Company. In 1877 the property involved was purchased from the government as a mineral conditional purchase

[a] Gold is defined in the Victorian Mining on Private Property Act of 1884 as including gold and silver and all ores and minerals containing the same, and a similar definition is found in the New Zealand mining acts since 1886.

because of its value for copper. After development, it was found that the copper contained a percentage of gold which could be economically recovered. The government contention was that it had a right to all the gold won, but was content to sue for a royalty of 10s. per ounce. The company held that the gold was a small by-product and that under act 1 William and Mary, c. 30, and act 5 William and Mary, c. 6, it was not within the meaning of the reservation in their grant. The court decided in favor of the state and awarded royalty at the rate of 2s. per ounce, the amount of the award being based on the fact that the regulations under the lands act 1884 fixed the royalty payable by an owner with respect to the minerals of which the ownership was vested in the government at 2½ per cent. As a result of this suit the company at once took out a mining on private property lease which at that time was granted without the payment of any royalty or rent to the government. This fact may have been responsible for provision in the mining act of 1906 that all leases of the reserved minerals on private property should contain a reservation to the government of a royalty of 1 per cent.

MINING ON PRIVATE PROPERTY.

That the assertion of the right of the government to gold in 1851 was not intended to open private lands to indiscriminate prosecting is shown by the statement in the first regulations that "with reference to lands alienated in fee simple the commissioners will not be authorized for the present to issue licenses * * * to any persons but the proprietors or persons authorized by them in writing." As to reef gold the regulations of August 4, 1851, provided that "no person will be allowed to work matrix gold on private lands except the proprietors or persons they may authorize in that behalf." The succeeding regulations fixed the royalty chargeable on permits or leases to work gold on private lands at one-half that charged in other cases, and continued the policy of only issuing such documents on authorization from the owner.

The right of the government to gold in private lands continued to be enforced during the period when any considerable amount of revenue was derived from a direct charge on the miners, but was practically abandoned in 1853 or 1854. There then grew up the policy of allowing the freeholder to do as he liked with the gold, and there resulted a system of private gold leasing and licensing which made the acquisition of the freehold title to auriferous lands desirable and led to the transactions above outlined.

This matter was naturally considered by the Gold Fields Royal Commission of Inquiry in 1870, and resulted in a division of the commission on the point of the desirability of the government asserting its right in this respect. The majority, three members, favored mining on private property with full compensation for damages; the other two members were absolutely opposed to such a policy, as they considered it an invasion of vested rights.

In respect to lands on proclaimed gold fields, the policy was early adopted (25 Vict., No. 1, s. 14–1861) of providing that all alienations should be subject to a reservation of the right to search by duly authorized persons and for resumption on payment of

compensation for all values other than gold. The lands act of 1884 provided for the reservation of all minerals and for their working by the owner of the freehold on payment of a royalty of 2½ per cent. No other persons had any right to work the reserved minerals until 1889, when an amending act provided that as to lands alienated after that time the governor could authorize prospecting on payment of compensation for damages, and that on discovery of minerals the land could be resumed by the government on payment of value other than mineral.

It was, however, not until 1894 that real effect was given to the claim of the government to the gold in all lands. This act empowered the wardens to grant prospecting permits for gold on private property, and empowered the governor to grant leases to any person for the purpose of mining for gold on such land, due provisions being made for compensation for damages. This act is noteworthy because it avoided certain difficulties which beset similar legislation in adjoining states. While protecting agreements made by the owners prior to that time, it allowed them to take out leases only on the same conditions as any one else; and it specifically provided that they should have no preference rights after a period of two months from the passage of the act. The act further provided not only for compensation for damages, but arranged for a yearly rental to be paid to the owner of the freehold. This rent was fixed at a sum more than that on the Crown lands, and therefore placed a premium on the development of government lands. In Victoria an opposite policy prevails, and the rent is payable to the government, not the owner. Under the 1894 act nothing was paid to the government, but in the mining act of 1906 it was provided that a royalty of 1 per cent should be paid to the government, and that all sums paid by way of rent to the owner should be deducted from the sum payable as royalty. This act followed the matter out to its logical conclusion by making the payment of any royalty to the freeholder illegal.

MINING A PUBLIC USE.

The whole tendency of legislation in Australia has been to declare mining a public use. In New South Wales this found expression in the early acts in the power of resumption in certain cases. In 1884 it was finally declared that mining was a public purpose and the governor was therefore authorized to create mining reserves. The doctrine next found expression in the mining on private property acts, and the acts now in force provide for the resumption of any and all lands for mining purposes and for the mining for minerals belonging to the government on alienated lands.

MINING BOARDS.

The local bodies which were found necessary to frame regulations in Victoria and California were never really needed in New South Wales. Borrowing from Victoria, the mining act of 1857, provided for the creation of local courts on the application of 100 persons holding miners' rights. The local courts were composed of 10 members, a chairman appointed by the governor, and 9 members chosen by the holders of miners' rights in that district. Only two gold fields adopted

local courts—Araleun and Adelong. These made regulations in 1859 and 1860. In the act of 1861 local courts were again provided for, but their judicial feature was abolished and the chairman was elected by the members of the court. The power of securing local legislation by the formation of local courts was embraced under this act by but three places—Kiandra, Burrangong, and Lachlan.

The mining act of 1874 abolished local courts but provided for a general mining board to be called together at such times as the governor might think fit, and consisting of 11 members, 2 appointed by the governor and 9 elected by the holders of miners' rights—3 from each of the districts defined under this act. This board seems to have met only a few times in 1874 and 1875, and to have promulgated two sets of regulations. No need for such a body having developed in the thirty years between this time and the passage of the act of 1906, there was naturally no provision made for such a body. Mining boards now exist only in Victoria, where their day of usefulness has long since passed.

EXTRALATERAL RIGHTS AND FRONTAGE CLAIMS.

In the early years of the gold discoveries the amount of lode or reef to be allowed to each miner was naturally thought to be best determined by measurement along the outcrop. As such a holding had length without any width it was necessary to determine how far the right to this lode should extend and, as it was not evident that such a doctrine could lead to the infringement of anyone else's right, it was natural to assert that the holder should have the right to follow the lode indefinitely. The regulations of August 5, 1858, under the gold fields act of 1857, which were the first to allow quartz or matrix claims, therefore provided that:

> Miners occupying any portion of a quartz reef or vein shall be entitled to follow and work it in any direction that such reef or vein may take: * * * Provided * * * that when any reef, vein, or bed of quartz shall lie nearly horizontally, or at a less angle with the horizon than 20 degrees, the holder of any claim shall be only entitled to follow such reef, vein, or bed of quartz in the direction of the dip, for a distance not exceeding 50 yards from the point where they commenced to sink in search of any such reef, vein, or bed of quartz.

Whether this provision and the accompanying ones, to be discussed presently, were of local origin, or whether they were borrowed from Californian local customs, does not appear. However this may be, the official promulgation of this doctrine in New South Wales antedates by eight years its incorporation in the United States mining law.

Other paragraphs in the regulations of the same date suggest other points either in the American law or in the legal contests thereunder. Thus a forerunner of the American tunnel rights is found in the provision that "when any miner shall make a drive or adit into any unoccupied hill or range in search of any quartz reef or vein he may take up and hold any reef or vein that he may select." Provisions were also made for the determination of ownership when two veins were found to coalesce in descending and where a vein was found to divide in descending. The boundaries of such claims were fixed in the following manner:

> When, in order to determine any dispute, it shall be found necessary to lay down the boundary of a quartz reef claim, the general plane of which reef descends at an angle with the horizon of less than 90 degrees, or when the plane of the reef is not per-

pendicular, the boundary line shall, in all cases, be a line laid off at right angles with another line passing through the surface peg, marking the boundary of the claim at the end in dispute, and another point visible, and as distant as possible on the known line of the reef; and, in all cases where the general direction of the reef is not known with certainty, it shall be competent for the commissioner, previously to any measurement made below, to fix upon some distant point which shall be taken to mark the direction of the reef for the purpose of deciding the particular dispute then before him.

These regulations were replaced in 1862 by a new set, in which it was provided that instead of the line of the reef being the measure of the surface claim that it should have a width of 100 yards, and instead of owning only one reef that the holder should "be entitled to work all reefs or veins within that width, and also to follow beyond his boundary into unoccupied ground the dip of any reef on which he may be actually at work." This again finds a parallel in America in the stage in which the theoretical line of reef was abandoned and the theory of surface claims with "end lines" became prominent. This doctrine was finally abandoned in New South Wales on July 31, 1866, or five days after the United States officially recognized it, and the principle of claims bounded by vertical planes initiated.

Referring to this matter in 1871, the royal commission said:

At one time the regulations allowed the quartz claim holder to follow the reef down the dip, wherever that might strike, but as this was found to lead to disputes it was altered to a fixed width.

It has truly been "found to lead to disputes" in the United States, where it ranks with the most harmful and economically indefensible provisions to be found in the American statutes.

In 1862 New South Wales adopted in a modified form the frontage system, which had originated in Victoria a few years before. It was, like the extralateral right, a variation which led to litigation. In New South Wales the regulations were repeatedly amended, and the system became operative only when deemed desirable by the resident gold commissioner. In practice it was not utilized to any great degree and has now been abandoned.

ALLUVIAL GOLD MINING.

While New South Wales has not gone to the extent of providing that no lands in a gold field should be leased until after a stated period from its proclamation, and has not, except for a very limited period permitted the alluvial miner to work on land held as a quartz claim or lease, it has always recognized ordinary alluvial deposits as preeminently the field of the individual miner. During the first few years of the gold excitement no leases of alluvial ground were granted, and while such leases were authorized in the regulations of 1858 they were in 1870 restricted to old or abandoned ground, and the mining act of 1874 provided that all alluvial ground should be exempted from lease "except such as, in the opinion of the secretary for mines, may have been worked and abandoned, or such as he may deem suitable to be leased by reason of its great depth or wetness, or on account of the costly appliances required for its development." This clause has been repeated in substance in the act of 1906.

MINERS' RIGHTS AND CLAIMS—PROSPECTING AREAS.

The gold-digger's license was first issued at a charge of 30s. per month; this was reduced in 1853 to 10s. per month, and in 1857 to 10s. per year, when the document was renamed a "miner's right." Under the act of 1861 all miner's rights terminated on December 31 of each year. In 1874 the term was extended to not exceeding fifteen years. In 1896 the fee was reduced to 5s. and the term to one year.

Mineral licenses which gave the holder the same rights as to minerals other than gold that a miner's right did for gold, were first provided for in the act of 1874 for twelve months at a fee of 20s. This was reduced to 5s. in 1896, when it was also provided that a miner's right should cover all minerals. In the last act the miner's right covers all minerals, is good for not exceeding twenty years, and the fee charged is at the rate of 5s. per year. Under this act any person can hold any number of miner's rights, and "for the purpose of taking possession of more than one tenement of any specific class, the person so taking possession must hold an additional miner's right for each additional tenement after the first of the same class."

The prospecting and protection areas allowed have always been with relation to claims only. The need for prospecting areas to determine whether or not a piece of country is desirable ground to lease has never found expression in the New South Wales enactments. The maximum amount of land allowed as a mineral prospecting area is 40 acres, which is but half that allowed under lease for minerals other than gold and coal and the allowance is clearly of use only to the man who wants to determine where to peg out a claim or a very small lease. If a man wants to test a large piece of ground he must perforce take out a lease, and while the law provides that the lease may be surrendered with the consent of the governor, if such consent were refused the lease is a binding contract and the same revenue policy which was exhibited in the suit against the Great Cobar Copper Company (at a time when no royalty was being charged by the government in leases involving the precious minerals on private property) might induce a government to hold the lessee to the rental for the term of the lease. If an exclusive prospecting area is allowed to the prospective claim holder, it might be argued that an exclusive prospecting area several times the size of a lease should be allowed a prospective lessee.

The present policy in regard to the survey and registration of claims and other holdings under miners' rights is somewhat irregular. Registration is required in all cases except prospecting areas, mineral claims and tunnel sites. Survey is required for gold claims, business areas, and machinery areas. Some opal claims are more valuable than gold claims and why registration and survey should be made optional in one case and mandatory in another is not very evident.

ENCOURAGEMENT OF MINING.

New South Wales, in common with the other States, has offered and paid at various times considerable sums for the discovery of valuable mineral deposits. As early as 1858 the plan was adopted of allowing an extra large area or "reward claim" to the discoverer of new gold deposits. This policy is still continued, but, as has been pointed out,

no attempt has ever been made to encourage development by means of special prospecting areas. Much has been done in the way of prospecting at government expense, including diamond drilling, and this phase of the subject is summarized in the Yearbook for 1905–6 as follows:

The government has for many years past devoted a sum annually to encouraging prospecting for gold, and in 1889 the conditions of the vote were so amended as to embrace all minerals. The amount set apart each year was originally £20,000. For the year 1892, however, it was fixed at twice that sum; and during each of the subsequent years up to 1901–2 the sum of £25,000 has been available. For the year 1902–3 the amount voted was reduced to £20,000, and this was further decreased to £15,000 for each of the following years. During the last few years it has been noticed that, with the exception of the Cobar district, where operations were most active, prospecting has not been so vigorously followed as previously. This is accounted for by the demand for competent miners at the established mines and to the steady employment offering in connection with the agricultural and pastoral industries. It can not be claimed that the discovery of a large payable field has so far been made by means of the prospecting vote, but at the same time it may be said that some rich mines have been opened up with the aid granted, notably the Mount Boppy mine, which is now the premier gold mine of the state, having produced gold to the value of £456,571 during the last six years. The Queen Bee copper mine owes its present successful position to the aid granted, and the Crowl Creel mine at Shuttleton was opened up indirectly as the result of assistance from the same source. In addition to the employment of labor, the proving of a lode or reef to be payable invariably leads to the taking up of large areas of adjoining lands under the mining act, from which increased revenue is derived by the state. From the year 1888 to the end of December, 1906, the amount expended in prospecting work was £372,738.

Miners desiring a grant from the vote have to satisfy the prospecting board that the locality proposed to be prospected is one likely to yield the minerals sought for and that the mode of operations is suitable for discovery. Aid is given in deserving cases up to 50 per cent of the value of the work done and of the necessary implements and materials. The granting of assistance for sinking from the surface is not favored and applicants are generally required to prove their bona fides by carrying out a certain amount of work unassisted. Miners who have been assisted from the vote are not entitled to claim any reward that may be offered for the discovery of any new gold or mineral field.

A new clause in the prospecting regulations provides that the amount advanced from the vote shall be refunded in the event of the discovery of payable mineral by means of the aid granted.

The use of the diamond drill in searching for minerals dates only from 1881, and boring by the department of mines commenced much later. The drills now in use belong for the most part to the state, and are lent to private persons on terms fixed by egulations.

EXTENT OF OPERATIONS.

The following table showing extent of area held under the mining acts has been prepared in part from data furnished by the mines department and in part from that department's annual reports. The totals obtained by this combination differ slightly from those given in the annuals, the difference in no case being greater than 300 acres. The areas held under the mining board regulations (gold claims and associated tenements) and the mineral license regulations (mineral claims and associated tenements) are not derived from actual record, but are based on the estimates of the mining registrars; it is not compulsory in some instances for the holders of such areas to register them, hence the necessity of estimate.

Table showing areas held under the mining acts in New South Wales, 1902 to 1906, inclusive.

[Areas are given in acres.]

	1902.	1903.	1904.	1905.	1906.
Government lands.					
For gold:					
Leases in force, number of	1,094	1,115	1,132	1,046	1,128
Leases in force, area of	6,471	6,448	6,311	5,753	5,963
Claims; area held under mining board regulations (approximate)	9,519	11,935	9,432	11,968	17,242
For minerals other than gold and coal:					
Leases in force, number of	621	474	424	442	722
Leases in force, area of	21,546	16,288	14,679	15,435	23,895
Claims; area held under mining license regulations (approximate)	6,165	7,371	5,857	26,473	24,130
For coal:					
Leases in force, number of	159	167	180	222	218
Leases in force, area of	62,334	65,737	70,599	93,700	72,408
For dredging (principally gold and tin):					
Leases in force, area of	10,166	7,232	8,045	8,218	8,991
Reserves.					
Area covered by authority to mine on (gold and other minerals) [a]	41,052	38,959	33,144	33,219	32,223
Private lands (reserved minerals).					
Area covered by authority to freeholders to mine (gold and other minerals)	.....	.....	16,301	14,511	12,621
Area covered by authority to search on land alienated since 1889 (gold and other minerals)	3,414	75	75	75	75
Area covered by authority to enter on (gold)	5,643	7,841	6,224	7,810	13,015
Area covered by agreements made by owners and protected by government (gold and other minerals)	5,673	6,610	5,461	6,330	31,912
Area covered by government leases (gold and other minerals)	16,024	15,802	10,202	8,502	8,004
Applications pending.					
Held under application for all kinds of leases	7,926	11,477	66,591	36,387	92,908
Total area	195,933	195,755	252,921	268,381	343,387

[a] Largely coal.

CONCLUSION.

New South Wales, after fifty years of indiscriminate disposal of minerals and thirty years of a system in which mineral alienation and government leasehold were tried side by side, and in which mining men showed a marked desire for a leasehold tenure, adopted government leasehold as the most satisfactory method of dealing with minerals. This last policy has been tried exclusively for almost twenty-five years and has been found to be so satisfactory that there is not even a remote possibility of the plan being changed.

Men who are opposed to "government ownership" because they regard it as an invasion of the legitimate domain of private enterprise, and because they hold that large businesses can be conducted more economically and efficiently by private interests, heartily indorse the policy of government leasehold of minerals. They point out that this is not "government ownership" in the sense that is objectionable to them; that in this case the government does not come into competition with legitimate private enterprise; that this policy does not involve the working of the mines by the government; the government merely guarantees to the country and to the investor that no man can have a shadow of title to minerals without reasonably continuous development, and that if a deposit is not already being worked it will

be open, on reasonable terms, to any private concern with the necessary enterprise. Such a guarantee is not possible under private ownership of minerals.

In New South Wales a greater proportion of the mineral values are held by private interests than in any other Australian State. There was until 1884 absolutely no restriction on the alienation of minerals except gold, and yet, omitting gold from the calculation, in 1906 approximately 64 per cent of the total mineral production was derived from properties held under lease from the government, and it is estimated that in 1907 the amount will be at least 70 per cent. Including gold the percentages become 68 and 74. The premier position of New South Wales as a mineral-producing State is thus not due to the development of minerals on freehold property. Indeed, it is stated that far from government leasehold retarding development it has in fact promoted it, not only directly but indirectly, since in many cases the development on government land has stimulated the development of adjoining freeholds.

CHAPTER VII.

THE DEVELOPMENT AND PRACTICAL WORKINGS OF THE MINING LAW OF NEW ZEALAND.[a]

INTRODUCTION: A CONTRAST.

The United States in dealing with its national domain early endeavored to separate mineral from nonmineral lands. At first this was accomplished by the automatic means of reserving in all grants and patents the minerals which were then considered of importance. Under this practice it was impossible for any deposit of gold, silver, copper, or lead to be wholly alienated. This plan was soon abandoned for one in which the separation rested wholly with the officials. They had the power to absolutely reserve from sale under the ordinary land laws any lands which were known or supposed to contain minerals and to lease the same, but such reserved mineral lands could be sold only by special act of Congress. If land was not specifically reserved in this way it could be acquired under the ordinary land laws and the grants or patent in such cases contained no reservations.

This plan was practically abandoned in the forties and there developed the present more drastic one which absolutely prohibits the sale of any mineral lands except under specific acts. These mineral laws provide for the sale of mineral lands under certain special conditions and at a higher price than that charged for nonmineral lands. No provision was made for leasing or for the insertion of mineral reservations in grants. In the administration of the laws in this third period the government officials no longer took the initiative of making definite mineral-land reserves analogous to the lead and copper reserves of the preceding period.

The policy of the land office during this third period was essentially a passive one. In the beginning of the period the difficulty of determining by field examination and classification what were and what were not mineral lands resulted in the initiation of a plan which endeavored to throw on the purchaser the responsibility of making this determination, and which has persisted more or less unchanged to this day. Under this plan the land office has required the agricultural claimant to assert under oath that the land was not mineral land and that he was acquiring it not for its mineral value, but only for the purposes of settlement and cultivation. Until recently the land office as a general rule has accepted such a declaration as entirely conclusive, and the administration, decisions, and rulings of the land office during the earlier period did much to make this declaration a mere form and to afford plausible excuses to persons desiring such conscience salves. As a result large areas containing valuable minerals are claimed at present under agricultural patents.

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[a] Australian Mining Law Report No. 6, not formally transmitted to the President.

In this plan of shifting the responsibility from the land office to the purchaser, and in the fact that a higher price was charged for mineral than nonmineral land is found a most hopeful possibility of remedial action, a possibility of recovering to the nation all mineral values except those disposed of under the mineral-land laws.

If Congress should enact at this time that in every case, both in the past and future, where the purchaser of land from the Government made a nonmineral affidavit, that all minerals belong to the Government, it would leave each man with exactly what he swore he was getting and exactly what he paid for. Such an act would be eminently just. In individual cases it would be less severe than the attempt that is now being made in the Western States to recover to the Government by lawsuits mineral lands acquired under the agricultural-land laws. In these cases the Government seeks not only the mineral values but the surface values as well. It endeavors to take from the patentee everything; it asserts that the patentee has been a perjurer and has defrauded the Government.

Under the plan here suggested all such points of difference and all such charges vanish. The oath is regarded not as a perjured statement, but as an honest indication of intent and desire. The claimant's statement that he was acquiring the land only for agricultural purposes is made binding on him. The charge of fraud likewise falls; the Government has under this solution not been defrauded; it has sold the agricultural values and received the usual price therefor. The patentee retains what he bought; the Government what it did not sell. This is a solution of the matter of western "mineral-land frauds," which can but appeal to all men as entirely fair.

On the point of legality of such enactment the question, if any, to be decided is not, Would a court of law sustain such a contention if made under existing practice and ruling without specific enactment? but, Has Congress the power to pass a law which but confirms to the Government the ownership of certain things which it has never sold and which at the same time leaves to every patentee from the Government exactly what he swore he was getting and exactly what he paid for; no less, no more? Eminent lawyers have stated that they believe the Supreme Court would view the matter from a very broad standpoint of public good, and hold such an act constitutional.

New Zealand from almost the very beginning has shown a like desire to separate mineral from nonmineral lands; its laws have always authorized the sale of known mineral lands and do to-day; there has been no general enforcement of the common law right of the government to the precious minerals. They are to-day, as in the United States, controlled by the owner of the freehold. There are no mining-on-private-property acts, and while some lands are under certain conditions subject to resumption without payment for gold or silver values, it may be said that for most purposes deeds, as in the United States, are now held to convey all minerals. In some respects the New Zealand laws may be regarded as more liberal than those of the United States. New Zealand has never declared that "in all cases land valuable for minerals shall be reserved from sale except as otherwise expressly directed by law." The lands department has never required of any purchaser a declaration that he is not acquiring the land for its mineral value, and thus by his own declaration practically estopping him in equity, though not in present

practice, from claiming the mineral values which may be in the lands purchased.

The New Zealand land laws have, however, incorporated several discretionary features not found in the American laws; they have empowered their officials to grant mining leases; to make reserves for public purposes; to refuse to sell any land, and to fix the sale price of all lands. These discretionary features have made possible a degree of efficient and intelligent business administration which is surprising to an American.

The result is that while the United States has disposed of its mineral lands without let or hindrance, New Zealand has disposed of practically no mineral lands as such. A search through the old government and provincial gazettes during the early period when the provisions for sale were most explicit, and when notifications of such sales were required in the gazettes, failed to reveal a single notice of this kind. The mines department reports that no known mineral lands have ever been sold by the government. Among mining men not one knew of the government sale of a single piece of land as mineral land, and several stated quite positively that such a sale would not only not be tolerated but would be illegal, which certainly indicates that the custom of not selling mineral lands has been followed so consistently that it has generally come to have the force of law. Some lands containing minerals have been sold, but the freehold lands which are now known to contain commercial minerals are restricted almost wholly to areas containing lignite or brown coal, which were disposed of very early in the history of the colony. It is estimated that in 1906 the coal derived from private property in New Zealand did not exceed 30 per cent of the total tonnage, and represented a much smaller percentage of the total value. The value of all minerals, including coal, derived from freehold land did not in that year exceed 10 per cent of the total; indeed, Mr. Charles Rhodes, secretary of the Waihi gold mine, and one of the leading mining men of New Zealand, estimates the amount at a much less figure.

The net result of the administration of the minerals contained in the public domain of the United States and New Zealand for the past sixty years is that, while both have provided for the sale of mineral lands and neither has reserved minerals in patents or grants, in the United States all the mineral production is either derived from freehold land or land that is in process of becoming freehold, while in New Zealand 90 per cent of the whole mineral production comes from areas held under lease from the government. Truly, this result but corroborates the statement called forth by the investigation in Tasmania that the patriotic and efficient administration of the land affairs of a country is not a human impossibility.

The country in which these results have been attained is one of no mean mineral wealth and is one in which the mining industry is in a very healthy and progressive condition. It contains, in the Waihi gold mine, the most productive gold mine in Australasia and the third or fourth in the world. It has the third most productive colliery company in Australasia and is second only to New South Wales in its total coal production. It has been the center of several gold rushes, which, following those in California and Victoria, to some degree depopulated the Victorian fields and attracted many from California. It has produced in a little over fifty years more than $350,000,000

worth of gold, and, with but little over one-sixth the area of Alaska, produced in 1905 three-fourths as much gold, five times as much silver, and many times as much coal. It has one-third more area and about three times the population of Utah, and in 1905 produced one-quarter more coal, about twice the amount of gold, and one-eleventh the quantity of silver.

DEVELOPMENT OF MINING AND MINING LAW.

New Zealand was formally made a portion of the British Empire in 1840, and in the same year the settlements at Wellington and Auckland were established. This colony was thus founded at a time when those in control of the colonial office in London were not in favor of reserving in deeds of grant any minerals, and this policy has been followed to this day.

While it was separated in 1841 from New South Wales, of which it was initially made a dependency, the land laws and regulations in force in that State, including the imperial lands sale act of 1842, continued in force until 1846, when a new charter was issued. In the instructions under the first charter it was provided that (1) lands should be separated into "such as are supposed and such as are not supposed to contain valuable minerals;" (2) that mineral lands might be sold at auction, after due notice, at any price exceeding the minimum fixed for ordinary lands; and (3) that any land supposed to contain minerals might be leased for any term of years not exceeding twenty-one at a royalty of 15 per cent. This sounded the keynote of the mineral-land policy which has been followed by New Zealand to this day. The administration has always endeavored to separate mineral from nonmineral lands, and the laws have always authorized the sale and leasing of such lands. The royalty was reduced in 1848 to one-fifteenth, and in 1850 the first separate mineral lease regulations were issued in the New Ulster Gazette, November 15, 1850, page 141. New Zealand was under the charter of 1846 divided into two provinces—each with its own lieutenant-governor and assembly, composed of legislative council and a house of representatives. All the North Island, except a small area about Wellington, was included in the province of New Ulster, and all the remainder in the province of New Munster; the two cities, Auckland and Wellington, were naturally the seats of government of the two provinces; in addition there was a general assembly for the whole colony. The mineral regulations of 1850, although appearing in the New Ulster Gazette, were apparently applicable to the whole colony, and while a waste lands occupation act was passed in 1849 for the province of New Ulster, the land regulations were generally the same for the whole colony.

At this time coal and copper were known in several parts of the colony. A copper mine had been opened on Kawau Island on freehold land, acquired in the period previous to 1847, when no distinction was made between mineral and nonmineral lands, and a coal mine, which, like the Kawau mine, never proved of any value, had been opened at Nelson as early as 1842. How soon government leases were issued under the instructions and regulations can not be determined, as most of the early government records were lost when the capitol was transferred from Auckland to Wellington. It appears, however, that leases were issued in 1852 for coal and copper in the vicinity of Nelson, presumably under the 1850 regulations.

In the same year alluvial gold was discovered near Coromandel Harbor, and provisional regulations were at once issued. These, like the first Victorian and New South Wales regulations, related only to the digging of alluvial gold, and fixed the same fee of 30s. per month. The lands involved were native lands and were entered under special agreement with the natives; the government, in addition to paying a fixed sum to the natives, based on the number of miners, agreed to give to the natives 2s. from the amount received for each miner's license. This gold field did not prove of much importance and was for a time abandoned; the necessity for special gold mining laws, therefore, did not arise until some years later. Gold was found in Nelson in 1857 in sufficient quantities to cause some excitement, and as the field showed some evidence of permanency there resulted the gold-field act of 1858. This was largely based, as were succeeding gold-field enactments, on the Victorian statutes. However, it was not until 1861 that finds of sufficient importance to attract more than local attention were made. In that year large discoveries were made in Otago, and the first gold rush which affected people beyond the colony begun. In 1861 $3,750,000 worth of gold was produced in the field, and this rose to $7,500,000 the succeeding year, and to almost $12,000,000 in 1863. The excitement here had hardly begun to subside when considerable finds were made in Marlborough, and in 1865 the famous West Coast gold fields were discovered. About this time rich lodes were found in the Coromandel fields and the importance of New Zealand as a gold-producing region firmly established. At first the work was conducted wholly on the basis of miners' rights and claims, but in October, 1859, an application was made for a gold mining lease in Nelson, and in 1860 numerous applications were filed. As the early period of alluvial digging passed, more and more developments were undertaken on leases and the miners' right claim was gradually restricted until to-day only alluvial ground can be held under this form of tenure; all reef or lode development must be undertaken under license or lease.

In 1859 the coal field near the Clutha River, in Otago, was reserved and mining leases issued. In 1862 reserves were made in Nelson covering the high-grade bituminous coals of that region. Coal leases were at once issued and the development of this, the most important coal field in the colony, was begun. Coal was not exported in any quantities until 1867. Mines have been opened gradually in many parts of the State, but except in the West Coast coal field the coal is of a subbituminous or lignitic character.

The developments of minerals other than gold and coal have thus far not proved of much importance, with the exception of the fossil resin, Kauri gum. This substance was first dug in quantities in 1853, and the total production to December 31, 1906, had a value of £13,443,017.

The mining law for coal and minerals other than gold was for many years interwoven with the land regulations of the provinces. Under the constitution act of 1852 New Zealand was in 1853 divided into six provinces; the two old provinces of New Munster and New Ulster were abolished and the new provinces were named Auckland, New Plymouth, Wellington, Nelson, Canterbury, and Otago. This num-

ber was afterwards increased to 10 by the formation of the provinces of Hawkes Bay, Marlborough, Southland, and Westland, and the province of New Plymouth was reorganized and renamed Taranaki. Each of these provinces had a superintendent and a provincial council, and there was a governor and general assembly for the whole colony. Each province had its own land laws, and the administration of these laws rested wholly with the local officials. Although these provinces were abolished in 1875 and a central land office created in 1877, the local administration by land boards has continued to this day, and until 1892 separate provisions were made under the lands act for several of the old provincial areas which had been renamed land districts. In 1892 the lands acts were made uniform for the whole colony. The local land boards are still, for the most part, charged with the classification of the lands; in this they are assisted by a trained permanent corps of land surveyors, appointed only after rigid examinations. This force is under one surveyor-general, who is a highly trained officer, comparable to the head of the Coast and Geodetic Survey of the United States. The New Zealand land office is strong just where the American land office is weakest.

It may be noted in passing that the striking retention of the mineral lands, which was touched upon in the introduction, has been effected not by a single department but (for almost twenty-five years, or during the time of the provincial administration) by 10 entirely independent bodies. That they all adopted the same policy but adds to the impressive character of the results and clearly indicates a strong and general public feeling. All this happened long before any Labor or Progressive party was even thought of in New Zealand, and the matter is to be regarded not as a socialistic propaganda but as a simple business judgment. There was throughout this period always the provision for sale, and that practically no known mineral land was sold is clearly a most convincing indorsement of the success and practicability of government mineral leasehold. Had it been found desirable or necessary to sell the freehold of mines in order to promote mining industry and the general welfare of the region there can be no question but that the minerals would have been sold.

In some cases these provincial regulations also touched gold mining. In several of the early gold-fields acts no rental was fixed, and this rental was determined in each province. The Nelson waste-lands act of 1863 provided that gold leases should be issued at a rental of 10 per cent of the value of the land involved, but that no land should be valued at less than £10 per acre. It further provided that "before a lease is granted the land may be offered for sale at public auction at the upset price on which the rent is charged." This is the only specific provision which has ever been made in Australasia for the sale of known auriferous lands.

Although a general mining act was passed in 1877, provisions regarding mineral leases continued to be incorporated in the lands acts for several years. Special acts were from time to time passed with reference to certain coal fields, and in 1886 the coal-mining law was entirely separated from the other mining law. Scarcely a session of parliament has passed without the enactment of an amending mining bill, so that taken all in all the number of acts which have been passed in New Zealand containing provisions regarding mining is very large. The existing law as to minerals other than coal and

Kauri gum is found in the mining act of 1905. This is a compilation of the acts in force at that time and is in many respects the most ill-organized, inexplicit, incomprehensible mining law to be found in Australasia. It is simply a patch work of the different acts without any attempt at elucidation or coordination. A New Zealand mining man explained this result in this way:

> We are very well satisfied with the working of certain features of the old laws; no one knows what they meant and we would certainly not have gained anything by a discussion of the points involved; the law, therefore, is nothing more than a haphazard pasting together of the then existing acts.

RIGHT OF A MINERAL LESSEE TO PURCHASE FREEHOLD OF LAND AND MINERALS COVERED BY HIS LEASE.

The first mineral land regulations of 1850, in addition to stating that leases of "so much land as may be necessary for the efficient conduct of mining operations" would be granted for a period of twenty-one years on payment of a royalty of one-fifteenth, gave to the mineral lessee the right to demand, after he had worked the property three years, that it be put up at public auction and sold at an upset price of not less than 21s. per acre. The minimum price for ordinary land was then 20s. per acre. This provision, which gave to the mineral lessee the right to acquire the freehold of mineral lands on the fairest basis to the government that has yet been devised, continued in force until the creation of the provinces in 1853, when it was incorporated in the regulations of the provinces of Auckland, Nelson, and Otago, which were then the only provinces known to contain mineral of value. In Auckland and Nelson the lessee could demand that the land be put up at auction, but in Otago it was left with the officials, the law providing that "the land comprised in any mineral lease may, at the request of the lessee, * * * be put up for sale at public auction." Nelson withdrew this privilege in 1861, Auckland in 1867, and Otago in 1872. A provision similar to that in Otago was adopted for Southland in 1867 and abandoned in 1877, and for Westland in 1877 and abandoned in 1892. For seventeen years in the most important mineral-producing region of the state a mineral lessee thus had the right to demand the sale of mineral land at public auction after three years' development work at an upset price varying from 10s. to 21s. per acre, and such a sale of land held was authorized in one part of the colony or another for forty-two years; yet a record could be found of the sale of only 150 acres in this way.[a]

The conclusion that forces itself is that a leasehold under fair conditions is more satisfactory than the expenditure of capital in purchasing the property at its true value. Tasmania, between 1863 and

[a] The mines department reports that no land was ever sold in this way, and the government geologist, Alexander McKay, who perhaps knows more of the mining history of the colony than any other man, reports that he knew of no such sale, although he did know of land which had been sold when it should not, which may account for a part of the 10 per cent of the mineral production which comes from freehold lands. The case here cited is of a lease issued in 1875 to the Graymouth Coal Company for 1,000 acres, which gave the lessees the option of purchasing the freehold of the land, and 150 acres of the lease was finally sold at £5 per acre. (Report royal commission on workings of coal mines of New Zealand, Parliamentary Paper C–4, 1901, p. 17.) From the statement of Mr. McKay and other mining men, this is to be regarded as the exception that proves the rule.

1870, adopted this general plan, but with the exception that the price to be paid was fixed by arbitration instead of by public auction; and in the report on that State, in explaining why no lands were sold in this way, it was suggested that it was due to the fact that no mineral leases were issued during this period; but this is clearly not the explanation in the New Zealand case. It but shows the operation of the same tendency which was noticed in South Australia and New South Wales, where mineral leases were taken out when the freehold could have been purchased at a very low price, and conclusively proves a distinct natural economic demand for leasehold tenure in the development of minerals.

Although this plan was generally tried without government intervention, the "canny Scotch" of Otago Province as early as 1859 decided it was not a good business policy to let the lessee buy the freehold of the mineral land, even if he so desired. The select committee of the provincial council (New Zealand was then divided into six provinces, each with a local government of its own comparable to our own state governments), which was appointed in this year to report on an application for a lease in the Clutha coal field, pointed out that the land regulations provided that lands held under mineral lease might be put up at public auction and that a lease was "therefore an implied promise to sell the mine." The committee concluded that it was not advisable to part with the freehold and therefore no lease should be granted. In order to permit the development of the land and at the same time to prevent its alienation, the committee recommended that an area of 7,000 acres be purchased by the provincial government. Such a provincial estate, they pointed out, would not be subject to the general land regulations, and leases could therefore be issued without any implied promise to sell the land. The land was therefore purchased by the provincial government, money was advanced for the construction of a tramway, and a lease issued at a rental sufficient to cover the interest on the money advanced.

CREATION OF MINING RESERVES AND MINING DISTRICTS.

Lands have at different times, to a greater or less degree, been specifically reserved from the operations of the ordinary land laws by the following means:

(1) By the creation of special mineral reserves;
(2) By the proclamation of gold fields; and
(3) By the formation of mining districts.

Although the early land laws and regulations gave the governor power to make reserves for public purposes, they did not define mining as a public purpose, but when mining reserves were desired there was apparently little hesitation in deciding that mining was a public purpose. To Governor Gray's decision on this point New Zealand owes the present Buller, Nelson-Gray, and Westend-Gray coal field reserves, which were created in 1862 for "mining and other public purposes." These include some of the most valuable bituminous coal fields in the colony, and the whole area covered by these reserves has been the subject of considerable legislation under the designation of the Westland and Nelson coal fields.

The proclamation of gold fields was authorized by the mining act of 1858, and the act of 1860 declared that gold fields should not be

subject to the waste lands acts or the lands regulations. In 1863, however, Otago declared that lands in gold fields might be bought under the provisions of the waste lands act and Southland in the same year declared all gold fields subject to the land laws. This robbed gold fields to some extent of any significance, and in 1871, without the repeal of the existing gold fields law, a gold mining districts act was passed, which authorized under this name the reservation of specified areas for gold mining purposes. The 1877 mining act authorized the creation of mining districts for all minerals, declared all gold fields to be mining districts, and exempted such areas from the operations of the lands acts. This is essentially the condition to-day. All areas containing minerals of importance are included in mining districts. In such areas land is disposed of only by means of leases. Leases for purposes other than mining are subject to cancellation at any time upon payment of compensation for improvements. As to areas outside of mining districts, mining leases may be granted by the commissioners of crown lands in the same way as leases for other purposes. For a short period, about 1898, only the wardens were authorized to grant mining leases, but as this led to some delay and trouble outside of the mining districts, the old plan of giving the land commissioners power to issue such leases was readopted.

RESERVATION OF MINERALS IN GRANTS AND LEASES.

In considering a request for the sale of the surface of a small area in the Clutha coal field a select committee of the Otago provincial council in 1859 reported that "the proposition as to the sale of the surface can not be complied with, as every sale of land must be absolute and entire." This principle has been the guiding one in New Zealand to this day; no deeds of grant in fee simple contain any reservation of minerals, although such a reservation is in part suggested by the provision in the resumption for mining purposes act of 1873, that land alienated thereafter should be subject to resumption on payment of value other than auriferous.

In 1870 a select committee of the Nelson provincial council recommended that "in all future sales of lands all mines and minerals should be reserved, together with the right to search for and mine the same," but the land board opposed this recommendation and nothing further was done. In the same year it was provided in the Westland waste lands act that in all grants the right to search for gold should be reserved for fourteen years after date of grant on payment of compensation for damages, but this plan was abandoned in 1877. The Otago waste lands act of 1872 likewise provided for the sale of lands on gold fields with the reservation of the right to search for gold, but this plan was abandoned in 1877.

While no deeds in fee simple contain a reservation of any minerals, all leases except for minerals contain a reservation of all minerals and are subject to cancellation on discovery of minerals and reimbursement of lessee for improvements. This plan was first adopted by the province of Nelson in 1854. It is the form of tenure which has been adopted in all mining districts, because it does not involve the alienation of mineral values.

Although the plan of not reserving any minerals in any grant in fee simple has worked very well in New Zealand because of the great

efficiency of the public service, and because of the very active and personal interest which the New Zealanders take in the administration of their national affairs, the conditions existing in the United States are such that a reservation of all mineral in agricultural patents would be a much wiser plan. This plan has been adopted in all the Australian States, with the exception of Queensland, and here a similar law will probably be passed the coming session of parliament, as such a change has been incorporated in bills which have been before parliament for three years and have not been passed, not because of any objection to this provision, but because of the opposition of the Labor party to clauses allowing more liberal development covenants.

RESUMPTION OF LAND FOR MINING PURPOSES: COMMON-LAW RIGHT TO THE PRECIOUS METALS.

In addition to the resumption of lands by the cancellation of agricultural and pastoral leases, freehold land may be resumed for mining purposes without the consent of the owner in the following cases:

(*a*) For mining other than coal mining: (1) All lands alienated from the government since September 29, 1873; (2) all lands alienated from native owners since August 30, 1888; and (3) all government lands alienated prior to September 29, 1873, or native lands prior to August 30, 1888, which were included in a mining district on October 17, 1896.

(*b*) For coal mining: (1) All lands alienated from the government since September 25, 1891, and (2) all lands alienated from the native owners since October 30, 1888.

Lands which are being actively developed are, however, not liable to resumption in any case, and if the owner of a freehold signifies to the department that he is willing that the land be deemed open for mining he is allowed to retain possession of the same and receives all rents and royalties collected. In all cases where the land is taken by the government full compensation is paid for the value of the land resumed other than auriferous and argentiferous.

The exception of gold and silver values from the compensation rests for the most part not on the common-law right of the government to these metals, but on the specific provision in the resumption of land for mining purposes act, approved September 29, 1873, that land alienated after that date should be subject to resumption under such conditions. It is in this respect a partial reservation of the precious metals. The common-law right is involved only in the justification of the assertion in the mining act of 1896, that all freehold lands which were then within a mining district, no matter when alienated, should be subject to resumption without payment for any gold or silver that might be on or under the land if the freeholder could not establish a right to such minerals. This, however, differs very markedly from the all-embracing declaration of the other Australian States that the gold in all lands, whensoever alienated, is the property of the government. The reason that New Zealand has never asserted this common-law right lies in the fact that practically no payable auriferous land has been sold, and hence there has been no economic demand for such an assertion. This is likewise the reason, as in Tasmania, why no mining on private property acts have been passed.

TERMS AND CONDITIONS OF LEASES.

The first mining leases in New Zealand were probably those issued in 1852 for coal and copper in the vicinity of Nelson. The first act or regulation specifically providing for gold leases appeared in 1862, and numerous leases were at once issued thereunder. Applications were made for gold leases some time before this date, and while some leases may have been issued by special authorization of the governor, the number was very small.

Mining leases are provided for under several different designations in the present New Zealand acts and regulations. The first innovation in this respect is found in the mining act of 1886, in which the term "mining lease" is abandoned as applied to holdings in mining districts, and the terms "licensed holding" and "licensed claim" substituted. An amending act the following year provided for mineral leases outside of mining districts, but if such a leased area was afterwards included in a mining district the lease must be canceled and a license issued in lieu thereof. In the mining act of 1891, and the regulations thereunder, a gold mining lease within a mining district for less than 5 acres is called a "licensed claim;" a gold mining lease within a mining district for minerals other than gold is called a "special claim" or "mineral license" according to the clause under which it is taken out. Areas outside of mining districts may, as in 1886, be held under mining lease, but if incorporated in a mining district licenses are required in lieu of leases. The mining act of 1898 went a step farther and abandoned the use of the term lease altogether as applied to mining holding. Under this act there are "licensed holdings" including "claims," "extended claims," "special claims," and "mineral licenses." Claims are restricted to mining districts and to gold mining, and no provisions is made for a holding of any kind for the purpose of gold mining outside of mining districts. Amendments were passed in 1902 affecting the Nelson land district, and in 1904 regarding prospecting warrants and these reintroduced the term "mineral lease." When all these acts and amendments were incorporated in the mining act of 1905 there resulted the following forms of mining leases for substances other than coal:

"*Licensed claim*" *or* "*extended claim.*"—A lease for gold for not exceeding forty-two years for not exceeding 5 acres, within a mining district.

"*Special claim.*"—A lease for gold for not exceeding forty-two years for not exceeding 100 acres within a mining district.

"*Mineral license.*"—A lease for one specified mineral other than gold or coal for not exceeding forty-two years for not exceeding 320 acres either within or without a mining district; subject to cancellation if land is found to be auriferous.

"*Mineral lease.*"—A lease for a specified mineral other than gold or coal for not exceeding sixty-three years for not exceeding 1,000 acres; selected from an area covered by a prospecting warrant; not subject to cancellation if found auriferous but subject to different conditions of exemption from labor than a mineral license.

"*Mineral lease,*" *Nelson land district.*—A lease for one specified mineral other than gold or coal for not exceeding forty-two years for not exceeding 1,000 acres in a specified area in the Nelson land district; not subject to cancellation if land is found to be auriferous.

In the mineral license the rent is in all cases a credit on the royalty, but in a mineral lease the rental does not become a credit on the royalty unless and until the royalty exceeds the rental.

Terms under which leases have been issued at different times in New Zealand.

	Maximum term of years.			Maximum area in acres.		
	Gold.	Minerals other than gold and coal.	Coal.	Gold.	Minerals other than gold and coal.	Coal.
Instructions of 1846	(a)	21		(a)	(b)	
Instructions of 1847						
Regulations of 1850	(a)	21		(a)	(c)	
Auckland regulations of 1855						
New Plymouth regulations, 1855	.....	21		.....	(b)	
Otago land regulations, 1856	.....	21		.....	80	
Nelson land regulations, 1856	.....	21		.....	1,280	
Auckland land regulations, 1856	.....	21		.....	160	
Auckland land regulations, 1858	.....	21		.....	80	
Nelson waste lands regulations amendment act, 1861	.....	21		.....	1,280	
Gold fields act, 1862	15	.....		d 10	.....	
Gold fields act, 1866						
Nelson waste lands act, 1863	15	21		10	1,280	
Buller coal field reserves act (Nelson), 1863e	.....	21		.....	1,280	
Buller coal fields reserves amendment act, 1866	.....	.....	99	.....	.....	5,000
Otago waste lands act, 1866	.....	21		.....	80	
Southland waste lands act, 1867						
Marlborough waste lands act, 1867	.....	21		.....	f 100	
Auckland mineral leases act, 1871	.....	21		.....	80	640
Auckland waste lands act, 1874						
Gold mining districts act, 1871	21	.....		No limit.	.....	.....
Otago waste lands act, 1872	.....	21		.....	(c)	
Westland waste lands amendment act, 1873						
Gold mining districts act, 1873	21	.....		No limit.	.....	.....
Nelson waste lands act, 1874	15	.....		d 10	.....	.....
Mining act, 1877	15	30		No limit.	200	g 640
Regulations, 1877						
Westland and Nelson coal fields act, 1877	.....	.....	99	.....	.....	No limit.
Mining act, 1886	21	21	30-90	No limit.	320	640
Mines amendment act, 1887						
Coal mines act, 1886						
Mining act, 1891	21	21	66	100	640	2,000
Coal mines act, 1891						
Mining act, 1898	42	42	66	100	320	2,000
Coal mines amendment act, 1901						
Mining act, 1905	42	42-63	66	100	320-1,000	2,000
Coal mines act, 1905						

a Gold not specifically included, but gold-mining lease could probably have been issued.
b To be fixed.
c So much as may be necessary for the efficient conduct of mining operations.
d 400 by 200 yards for quartz.
e In 1863 six leases covering 6,400 acres were issued for twenty-one years at a rental of 5s. per acre per year and a royalty of 6d. per ton on coal and 5 per cent on all other minerals.
f Increased to 40 acres in 1874.
g In the body of the act the maximum is given as 640 acres.

Terms under which leases have been issued at different times in New Zealand—Continued.

	Rent per acre per year.			Royalty on gross output.		
	Gold.	Minerals other than gold and coal.	Coal.	Gold.	Minerals other than gold and coal.	Coal per ton.
Instructions of 1846	(a)	None.		(a)		15 per cent.
Instructions of 1847	(a)	None.		(a)		6⅔ per cent.
Regulations of 1850						
Auckland regulations of 1855						
New Plymouth regulations, 1855		(b)				6⅔ per cent.
Otago land regulations, 1856		None.			6⅔ per cent.	Nominal.c
Nelson land regulations, 1856		None.				6⅔ per cent.
Auckland land regulations, 1856		None.				6⅔ per cent.
Auckland land regulations, 1858		None.				6⅔ per cent.
Nelson waste lands regulations amendment act, 1861		d 2s.				2 to 4 per cent.d
Gold fields act, 1862	(b)			2s. 6d.		
Gold fields act, 1866						
Nelson waste lands act, 1863	(e)	f 1s.		2s. 6d.		2 to 4 per cent.g
Buller coal fields reserves act (Nelson), 1863h		g 1s. to 5s.			2–10 per cent.	3d. to 12d.
Buller coal fields reserves amendment act, 1866		g 1s. to 5s.			2–10 per cent.	3d. to 12d.g
Otago waste lands act, 1866		(b)			None.	
Southland waste lands act, 1867		(b)			(b)	
Marlboro waste lands act, 1867		(b)			None.	
Auckland mineral leases act, 1871		(b)				
Auckland waste lands act, 1874						
Gold mining districts act, 1871	i £25			2s. 6d.		
Otago waste lands act, 1872						
Westland waste lands amendment act, 1873		(b)			None.	
Gold mining districts act, 1873	j £1–£2.5			2s.		
Nelson waste lands act, 1874	£2.			2s.		
Mining act, 1877	£1.	1s.	6d.–5s.	2s.	1–2 per cent.k	1s. per ton.k
Regulations, 1877						
Westland and Nelson coal fields act, 1877			(b)			(b)
Mining act, 1886	l £1.	2s. 6.	1s.–5s.	m 2s.	2–4 per cent.k	3d. to 1s.k
Coal mines act, 1886						
Mining act, 1891	10s.	2s. 6d.	1s.–5s.	m 2s.	2–4 per cent.k	3d. to 1s.k
Coal mines act, 1891						
Mining act, 1898	(n)	2s. 6d.	1s.–5s.	m 2s.	1–4 per cent.g	2d. to 1s.o
Coal mines amendment act, 1901	7s. 6d.					
Mining act, 1905	(n)	2s. 6d.	1s.–5s.	m 2s.	1–4 per cent.	2d. to 1s.o
Coal mines act, 1905	7s. 6d.					(p)

a Gold not specifically included, but gold-mining lease could probably have been issued.
b To be fixed.
c In 1862 and 1864 leases were issued at a royalty of 4d. per ton for first two years and 8d. per ton thereafter.
d In gray-coal district such higher rental and royalty as may be fixed.
e 10 per cent of capital value.
f 6d. first two years.
g All rent a credit on royalty.
h In 1863 six leases covering 6,400 acres were issued for twenty-one years at a rental of 5s. per acre per year and a royalty of 6d. per ton on coal and 5 per cent on all other minerals.
i At the rate of £1 for every 1,500 square feet.
j £1 per acre without a mining district and £1 for every 15,000 square feet within.
k If royalty exceeds rent, rent charge ceases.
l 10s. first three years, 15s. next two years, and £1 thereafter in a mining district; 10s. throughout term outside of mining district.
m Export duty on gold abolished for South Island on March 31, 1891.
n 2s. 6d. first year, 5s. second year, and 7s. 6d. thereafter.
o No royalty payable on unsalable waste coal or rubbish.
p In practice 6d. per ton for bituminous coal and 6d. and 3d. for brown coal.

Area of leases—Amalgamation and consolidation.—As shown by the foregoing table the general tendency of the New Zealand mining acts has been to allow larger areas and the maximum now permitted in ordinary cases is rather more liberal than in the Australian states. The early gold enactments, based on the Victorian statutes, placed no definite limit on the size of a gold lease, but the maximum area was usually fixed at 10 acres in the general and provincial regulations. As to minerals other that gold large areas were allowed in some of the early Nelson regulations and waste lands acts, but these were based almost wholly on the needs of coal lessees. In connection with the Buller coal field reserve areas of as much as 5,000 acres were authorized in 1866, the law providing that in addition to the usual maximum of 1,280 acres the area might be increased at the rate of not exceeding 1 acre for every pound expended up to a limit of 5,000 acres. This law was repealed in 1877 and no lease of the maximum size was ever issued.

There is under the present law no limit to the area which may be worked as one property for any substance except coal, as the law provides that "in every case where two or more claims or other mining privileges contiguous to one another, or worked in conjunction with one another, are held by the same person, or by copartners in mining, it shall be a sufficient compliance with the labor conditions if the total number of workmen employed on any one or more of such claims, or other mining privileges taken collectively, is not less than the total number prescribed for all such claims taken separately." No application is required and no check is now possible in this matter. This privilege has been very extensively abused in New Zealand, and the following remarks of Mr. John McCombie, mine manager of the Talisman consolidated mine, Karangahaki, are decidedly to the point:

> Exemption from work is very often granted to companies over extensive areas of auriferous country because they happen to have a large staff of hands employed in one very small corner of the same. There is nothing objectionable about this system, provided the ground covered by such protection is within reasonable distance of the section upon which work is centered, and that there is a chance of its being exploited sooner or later from the same base of mining operations. On the other hand, however, it is very detrimental to the general welfare to grant mining companies protection year after year for ground that is located a long distance off their main workings, and upon which they have no intention whatever of doing any development. There are innumerable instances of this all over the gold fields of the colony, and the law in this respect undoubtedly requires some alteration. There should be a limit to the area over which protection could be legally claimed, and in no case should protection be extended to cover any ground that is not contiguous to the principal workings.

The clause "or worked in conjunction with" makes it possible to speculatively hold large areas. A company could easily claim in respect to a large reduction plant that that plant was designed to handle all the ore from claims scattered for several miles around.

In coal leases areas exceeding the maximum are permitted only after the matter has been submitted to parliament, it being provided that if parliament does not take definite negative action that the consolidation takes effect at the close of the session. The Westport Coal Company, the largest coal company in New Zealand, holds leases for the following areas: 359, 478, 1,745, and 2,951 acres; the first three are worked practically as one property.

Duration of leases—Renewal.—The tendency in New Zealand legislation has been to lengthen the term of mineral leases. This was first increased from twenty-one to forty-two years, and in 1904 a further increase to sixty-three years was made in certain cases. Ninety-nine-year leases have been issued for coal mining, but the period now adopted is sixty-six years.

The Auckland waste lands act of 1871 provided for the renewal on such terms as might be fixed and the Nelson waste lands act of 1874 for renewal at double rental and royalty. Under the present acts all lessees have a right to indefinite renewal, subject to the acts and regulations in force at the time of such renewal.

Rental and royalty.—The first mineral regulation provided for a royalty but no rental. A ground rental was then charged and in 1863 the waste-lands act initiated the plan, which is now in force, for all minerals except gold, of a rental merging into royalty. Two plans have been tried and, strange to say, both are in vogue under the existing law. Under one, all rent is a credit on the royalty and under the other both rent and royalty are paid unless the royalty in any one year exceeds the rental when the rental for that year ceases. The first plan is followed in all mineral licenses and in mineral leases in the Nelson district, and the second in all other mineral leases and in coal mining leases. To avoid dispute as to the value of minerals on which royalty is charged the value per unit for purposes of royalty is fixed before a lease is issued. The present practice is to charge 4 per cent on minerals other than gold and coal, 6d. per ton on bituminous and subbituminous coal, and 3d. to 6d. on brown coal. In addition, all coal companies pay a tax of one-half penny per ton into the coal miner's accident relief fund and the public trustee administers this fund on behalf of miners maimed or killed. In case of accident 2s. 1d. per day is paid to the miner up to a total of £50. In case of death payment is £50.

Conditions of application for leases.—All applicants are required to deposit one-half year's rent with such survey and other fees as may be required. Applicants for coal or mineral leases must show that they are bona fide investors, financially able to develop the property, and willing to expend a certain amount of capital within a given time. In gold-mining leases no such conditions are required and the door is thus left open for an endless amount of "promotion" and speculation.

The manager of the Karangahaki mine, one of the larger New Zealand gold mines, who has already been quoted, reports:

> The present system of granting gold-mining leases indiscriminately has a most injurious effect on legitimate gold mining. * * * During the gold-mining boom, which commenced some time in the year 1895, nearly the whole of the Hauraki Peninsula from Cape Colville to Te Aroha was marked off in leases for gold mining, and it took an army of surveyors nearly two years to define the boundaries. At that time I again and again heard unscrupulous men boast of their ability to float anything from a bowlder bank to a flax swamp. * * * Since then I have visited and examined several blocks covering a surface of many square miles that were marked off in separate areas averaging 100 acres each, and floated into companies in Auckland and elsewhere during the boom era. Now, there is not a reef nor the semblance of a reef, or a bit of country favorable to the existence of a reef in the whole of the territory referred to.

Mr. McCombie suggests that this might be remedied if the warden had power to refuse to grant a lease to any man or party of men who could not prove that the ground they are applying for is marked

off on the line of a known reef system, or that they have a reef exposed to view within their boundaries. It is not apparent that this would cure all the evils referred to; the United States has for many years required that an actual "discovery" was necessary to initiate a right to a mining claim, but then what is an actual discovery, and again, for practical purposes, what is a reef? With wise administration, Mr. McCombie's suggestion would certainly yield good in that it would tend to eliminate some absolute impossibilities; on the other hand, what would be the objection to granting a lease to a company that would demonstrate its financial ability and bona fide intention to undertake the development of a piece of land, even if it did not contain a known reef. Certainly some check on the floatation of wild-cat schemes is desirable throughout the world in the interest of the investing public, and a step toward this end might be accomplished by requiring in all cases some guarantee of the prospective lessees' bona fides before granting a lease.

Development conditions.—As to gold mining, the acts and regulations have generally required the employment of a specified number of men per unit area; as to other minerals, the laws generally required such covenants as would insure "regular, proper, and efficient mining," and the expression of this covenant in coal mining frequently took the form of requiring a minimum yearly output.

The labor required under existing law is·

For gold claims and leases:
For first year, one man for every 6 acres.
For second year, one man for every 4 acres
For third year, one man for every 3 acres.
For mineral licenses and leases other than gold and coal.
For first and second years, one man for every 50 acres.
For each succeeding year, one man for every 25 acres.

Exemption to the extent of one-half the required labor is allowed for expenditure at the rate of one man for every £1,000 expended on plant or permanent work; otherwise, exemption rests wholly in the discretion of the warden, and this, as in the Australian States, is the main point in the mining law criticised by capitalists. Mr. Charles Rhodes, secretary of the great Waihi Gold Mining Company and one of the leading mining men of New Zealand, in response to an inquiry regarding the maximum amount of exemption which should be allowed as a right for any expenditure, however large, fixed the period at five years. This on a forty-two-year lease granted in New Zealand is about the same ratio as the three-year period allowed in Tasmania on a twenty-one year lease.

While New Zealand has, in respect to gold and minerals other than coal, taken no steps to satisfy the demands of the advocates of a greater security of tenure, except to increase the term of leases from twenty-one to forty-two years, and to provide for a fine in lieu of forfeiture, its coal-mining law meets all these demands and the coal-mining leases of the country are perhaps the most liberal in Australasia. In the coal-mining leases the development conditions are expressed in money expenditure per year and total coal yield; no coal lease is liable to forfeiture unless the lessee fails after three months' notice to remedy the breach complained of. In 1891 New Zealand provided that no coal lease should be forfeited owing to

failure to comply with labor conditions during strikes, and this provision, therefore, antedates the Tasmania enactment in this respect by fourteen years, although Tasmania still remains the first State to provide for such an exemption in all mining leases.

Why New Zealand should thus differentiate between mining for coal and other minerals is not very evident, and it would seem that those holding gold and mineral leases other than coal have just cause for complaint against this discrimination.

Forfeiture.—The New Zealand law does not recognize any form of automatic forfeiture. No mining privilege is open to reentry until declared forfeited by a court of competent jurisdiction. In recent years such forfeiture has been effected through the warden's court by a suit for a decree of forfeiture, and this is one of the methods still in vogue; the other method is explained in Gilkinson's Law of Gold Mining in New Zealand, as follows:

> The bringing of a suit in all cases having in experience proved a somewhat expensive and cumbrous procedure, an endeavor was made to remove the necessity of same in certain events. A new system, by which unoccupied claims on which there was no plant should be deemed abandoned and might be taken up as new claims without a suit, was introduced by section 108 of the mining act, 1886. That section was followed by sections 60 and 149 of the mining act, 1891. An entirely new procedure, however, was introduced by sections 151, 152, 153, and 154 of the mining act, 1898. These sections enumerate certain acts and defaults on the happening of which the mining privilege so affected shall be deemed to be abandoned.
>
> A privilege is to be deemed abandoned by operation of law in the cases which may be summarized as under:
>
> (1) If intentionally abandoned.
>
> (2) If unoccupied, etc., for one month; or if machinery, etc., exists upon it, if unused for three months.
>
> (3) If in case of a race or a dam for nonmining purposes it is unused, etc., for twelve months.
>
> (4) If in case of a business or residence site it is unused, etc., for six months.
>
> (5) If default has been made for twelve months in payment of rent, royalty, or license fee (sec. 151).
>
> (6) If in case of an ordinary mining race—
>
> (*a*) It is unused for three months, or if water does not flow continuously therein for seven days.
>
> (*b*) If a "dry" or "branch" race, if not used for six months.
>
> (*c*) If race out of repair for two months without steps being taken to repair (sec. 152).
>
> These acts and defaults differ in degree rather than in kind from those for which a suit for forfeiture may be brought.
>
> Instead of a decree of forfeiture by the warden's court, a certificate of abandonment by the warden is granted. The procedure laid down by the act of 1898 can not be said to be any simpler than that pursued in bringing a suit.

DUAL TENURE.

In all mining leases in New Zealand a right to mine only a specified mineral is granted. The right to mine other minerals may be granted to a person other than the original lessee if operations can be conducted without interfering with those already under way. The provision in this respect appears to give to the government officers discretionary power sufficient to prevent any conflict in this matter, but some of the mining men feel that there is a danger and favor a system in which the leases cover all minerals. To restrict leases to only one substance seems to be one extreme and to provide that in all cases they should include all substances is quite as much the other extreme.

MINERS' RIGHTS AND CLAIMS.

Miners' rights and miners' right claims were originated in Australia as a police and administrative measure for alluvial gold mining, and they first appear in New Zealand law in this form; gradually in both New Zealand and Australia the miner's right claim was extended to cover all sorts of gold deposits, and in Victoria many large mines were opened and developed solely on a claim-hold title. In many Australian States miners' right claims are now allowed for all minerals, but New Zealand has returned to the original idea and permits a miner's right claim only for alluvial ground of an area of 1 acre or less. All other gold claims are held, not under miners' rights, but under licenses, which are in all particulars except name merely leases.

Considered from the standpoint that the period of shallow gold digging, when one man could develop a gold claim and make it pay, has to a great extent passed, and that gold mining now involves the expenditure of considerable capital and the erection of extensive plants, and that for such work a lease is much preferable for all parties concerned, this action in New Zealand is perhaps more logical than that in Australia. But in this change the doctrine that no mining privilege could be obtained without a miner's right was retained. This makes the miner's right, except to ordinary alluvial claims, nothing more than a tax on mining; there is nothing left of the quid pro quo which was originally involved. The Western Australian plan, which admits the issuance of a lease without the preliminary requirements of a miner's right, is certainly much more just.

The miner's right under the 1858 act was issued for a period of one year at a charge of £1. In 1877, following the Victorian practice, this period was increased to fifteen years, but in 1886 it was again reduced to one year, and the charge was fixed at 5s. for a miner's right covering public lands and 20s. for a right covering native land, and provisions to this effect are still in force.

PROSPECTING LICENSES AND WARRANTS.

The desirability of prospecting areas was early recognized in New Zealand. In the Nelson waste-lands act of 1863 provision was made for prospecting areas of not exceeding 6 square miles for all minerals, except gold. The fee charged was 1d. per acre, and the license was good for one year. This plan was adopted in the mining act of 1877 and the regulations thereunder. In addition, in the 1877 regulations, provision was made for prospecting areas in connection with gold mining several times the size of ordinary claims. These were held under miner's right. In the mining act of 1886 the maximum area for prospecting for mineral other than gold was reduced to 3 square miles, and the privilege was restricted to one specified mineral or metal. Under the 1891 act the area was further restricted to 2 square miles within a mining district, but a prospecting license which was effective only outside of a mining district could be obtained for a specified area of any size on payment of £1 per year. The prospecting license outside of mining districts was apparently of a nonexclusive character and conveyed a right similar to that conveyed by a miner's right.

In 1895 the need of larger areas to promote prospecting for gold found expression in the provision for extended prospecting licenses and tunnel-prospecting licenses; each gave an exclusive right for not exceeding 640 acres in the case of an extended prospecting license and not exceeding 150 yards on each side of the mineral line of the tunnel throughout its proposed length. These licenses included all the minerals which might be found in the land, except coal. In the mining act of 1898 the old style prospecting license, which gave a right to prospect for a specified mineral on not exceeding 2 square miles at 1d. per acre per year, was abandoned and provision was made for prospecting warrants and prospecting licenses. The former gave the same nonexclusive right as a miner's right to search for one specified mineral on a specified area on payment of £1 per year; the latter, divided into ordinary and tunnel prospecting licenses, gave exclusive right to an area not exceeding 100 acres in an ordinary license and 150 yards on each side of the tunnel in the case of a tunnel license on payment of 1d. per acre per year.

In 1904 the matter was further complicated by the authorization of another sort of prospecting warrant, which gave an exclusive right to prospect for a specified mineral over an area not exceeding 10,000 acres. This act did not repeal the 1898 act, and there was, therefore, under the law a prospecting warrant, which gave a nonexclusive right on payment of £1, whatever the area, and a prospecting warrant which gave an exclusive right on payment of 1s. per acre per year. When all these enactments were combined in the mining act of 1905, there resulted another mixture of terms and ideas similar to that discussed under leases. The beginning of this confusion is in both cases found just after the Progressive or Labor party came into power in New Zealand. This party has with respect to the mining law done little but to continue the principles already established, and the mining legislation as a whole certainly suggests a great lack of thoughtful consideration of new enactments and of careful legislative drafting.

The present law provides for the following forms of prospecting licenses:

A miner's right.—This gives to the holder the nonexclusive right for one year to prospect for all minerals on all crown lands in the State open to prospecting on payment of a fee of 5s.

A prospecting warrant.—This gives to the holder the nonexclusive right to prospect for all minerals over a specified area for one year on payment of a fee of £1. Such a warrant may be granted not only for crown lands, but for native lands, and as to gold to private lands alienated since September 29, 1873. Practically its usefulness would seem to be restricted to the last class of land, for as to crown lands the miner's right seems to be more satisfactory and cheaper than a prospecting warrant.

A mineral prospecting warrant.—This is the prospecting warrant of the 1904 act with the word "mineral" added for the sake of separating it from the preceding. It gives to the holder the exclusive right to prospect for not exceeding five years for any one specified mineral over any crown lands specified in the warrant not exceeding an area of 10,000 acres. The rental on such a warrant is 1 penny per acre per annum for the first two years, 2 pence per acre for the third year, 3 pence for the fourth year, and 6 pence for the fifth year. The applicant must deposit £50 for the first 1,000 acres and £25 for each additional 1,000 acres or part thereof, the deposit to be refunded at the rate of £50 for every £100 spent on actual development. The holder of such a warrant has the right to a lease for not exceeding 1,000 acres for not exceeding sixty-three years at such rent as may be decided. Labor must be employed on such a prospecting area at the rate of one man for every 250 acres.

An ordinary prospecting license.—Gives the exclusive right to prospect for all minerals for one year over a specified area of land not exceeding 100 acres on payment of a rent of 1s. per acre.

A tunnel prospecting license.—Gives the exclusive right to prospect for all minerals for two years over a specified area not exceeding 150 yards on each side of the proposed line of a tunnel on payment of a rent of 1s. per acre per year.

ENCOURAGEMENT OF MINING.

Exact figures regarding the total amount spent by the general and local government throughout New Zealand for the purpose of "opening up mineral belts * * * and for the development of mining industry" are not available. The mines department presents the following statement of the amounts contributed by the general government:

Summary of mining works subsidized by the Government of New Zealand, 1852–1906.

Nature of works.	Total cost of construction, or amount authorized to be expended.			Expenditure by way of subsidy or otherwise, by mines department.		
SUMMARY.	£	s.	d.	£	s.	d.
Roads on gold fields	617,691	8	6	584,619	8	5
Subsidized roads and tracks	175,502	1	5	103,283	12	2
Subsidized roads and tracks other than on gold fields	6,146	9	10	4,759	6	2
Tracks to open up mineral lands	325	8	1	325	8	1
Prospecting	92,433	16	4	36,740	0	7
Prospecting deep levels	57,955	1	8	32,455	1	8
Water races	115,563	2	1	111,855	17	3
Water conservation	25,197	1	8	25,197	1	8
Drainage channels	46,283	5	9	31,265	0	5
Compensation for proclamation of rivers as channels of discharge for mining waste	39,781	7	7	39,781	7	7
Repairing flood damages	500	0	0	500	0	0
Artesian-well boring, Maniototo Plains	800	0	0	800	0	0
Wharves	435	15	9	285	15	9
School of Mines	39,776	4	1	39,776	4	1
Diamond drills	5,170	11	4	3,428	11	4
Treatment of ores	3,661	18	0	3,011	18	0
Construction of telephone lines	60	0	0	50	0	0
Total	1,230,395	19	1	1,021,247	0	2

In addition to the total of £1,021,247 here given as contributed by the general government, considerable sums have been granted by local bodies for the discovery of valuable minerals and in prospecting and other mining subsidies. In 1897 the government purchased the patent right to the cyanide process of gold extracting for £10,000, and allowed it to be used for a nominal royalty. Returns from this royalty up to October, 1905, entirely recouped the principal and since that time all persons in the colony have been free to utilize this process in connection with mining operations.

EXTENT OF OPERATIONS.

The department of mines in New Zealand does not prepare a comprehensive statement of the operations under the mining acts, but the following data has been supplied by the department:

Total areas held under mining acts in New Zealand on December 31, 1906.

	Acres.
Gold licenses and leases (1906)	76,087
Coal leases	83,610
Prospecting warrants or licenses, extended prospecting warrants or licenses, and mineral licenses	77,646
Total	237,343

RESULT OF TEST OF GOVERNMENT MINERAL LEASEHOLD.

The result of the test of government mineral leasehold in New Zealand affords a most conclusive demonstration of the soundness, practicability, and economic value of this form of tenure. For sixty years this State has provided for the sale and leasing of mineral lands, and yet practically no known mineral lands have been sold—all have been leased. For forty-two years in one part of the State or another the lands comprised in mineral leases could be put up for sale at public auction at the request of the lessee after three years' development work, and for seventeen years the lessee could demand such a sale as a right, and yet an entirely negligible quantity of land was sold in this way.

This result has been attained not by arbitrary or despotic means but in a freedom-loving English-speaking country, a country which within the past year has conclusively demonstrated that it cared not for abstract doctrines but only for results. It can not be considered as the result of any socialistic or labor agitation, for during the first forty-four years the dominant political party was the Conservative; only in 1891 did the Progressive and Labor Party become of importance and it has done little more in connection with the mining law than continue the principles already established.

Had the policy of mineral leasehold not proved entirely satisfactory, the sale of mineral lands would undoubtedly have resulted, as is conclusively shown by the action of the State in regard to perpetual agricultural leases. One of the early acts of the Progressive or Labor Party was to provide for a 999-year lease for agricultural holdings. This was in response to the cry for the nonalienation of land but in providing for this form of tenure the settler was allowed to select between it and freehold. Under these conditions more land was taken up under perpetual lease than under forms of disposal leading to freehold and the advocates of this plan rejoiced. However, after a time the holders of perpetual leases desired the freehold and as a result of their demands a law was passed the last session of Parliament abolishing 999-year leases and permitting the holders of such leases to convert to freehold.

Not only is there now no demand for the freehold of minerals, but the mining men are practically a unit in regard to government leasehold as better for mining industry than freehold. They point out that this policy prevents persons from indefinitely preventing the development of the mineral wealth of the nation; that it guarantees if a property is not being worked that it will be opened at reasonable rental to any bona fide developer; that the government charge as to rental and royalty must of necessity be more reasonable than that which an individual would charge and that this tends to prevent the charges of private owners of land alienated before the policy of leasehold was adopted from being exorbitant and that the fact that no money is required to purchase the freehold leaves a larger sum to be expended in development.

CHAPTER VIII.

The Development and Practical Workings of the Mining Law of Queensland.[a]

OUTLINE OF HISTORY OF MINING AND MINING LAW.

The settlement of Queensland began with the establishment of a branch penal colony near the present town of Brisbane in 1824. The transportation of convicts was abandoned in 1840, and in 1842 the district was declared open to settlement, and the first sale of country lands occurred in the following year. Queensland was at this time a portion of the colony of New South Wales, under the designation of the Moreton Bay district, and while it was created a separate colony in 1859 its mineral land laws continued for many years to be based upon those of New South Wales.

The land regulations of New South Wales in 1843 announced that all deeds would convey to the purchaser everything above and below the surface, except that in some cases "precious minerals or metals might be reserved if they were known to greatly abound, but not otherwise." The reservation of coal which was enforced in New South Wales until 1847 because of the agreement with the Australian Agricultural Company was never enforced in Queensland, and this State began its public lands history by freely selling all mineral values. Under these conditions the coal-bearing lands in the vicinity of Brisbane were sold, and the first coal mine was opened at Ipswich in 1843.

The assertion by the governor of New South Wales of the right of the government to all gold in lands, whether alienated or not, which followed the discovery of gold in 1851, did not prove of much practical moment in Queensland. Gold was not discovered here in paying quantities until 1858, and by this time the right of the government to gold in private lands was no longer enforced. Since 1885 a reservation of gold has been inserted in all deeds, but no steps have been taken to enforce the common-law right.

The discovery of gold in 1858 was followed by the discovery of copper in 1861, and with the passage of a law authorizing the sale of mineral lands at 20s. per acre, after development work of equal amount, considerable areas of copper-bearing lands were sold. In the late sixties and early seventies many important mining fields were discovered, including the Gympie, Ravenswood, Charters Towers, and Palmers Creek gold fields, the Stanthorpe tin field, and the Mount Perry and Cloncurry copper fields. With these gold discoveries the need of

[a] Australian Mining Law Report No. 7. Not formally transmitted to President.

a revision of the New South Wales gold fields law of 1857, which had been in force in Queensland up to that time, became evident, and there resulted the Queensland gold fields act of 1874. New and amending mining acts followed from time to time, and the country is just now endeavoring to codify and revise its mining law as was done by Western Australia in 1904, by Tasmania in 1905, and by New South Wales in 1906.

The history of the policy of the government of Queensland with regard to the alienation of minerals shows the following stages:

From settlement of colony in 1843 to 1885: No reservation of minerals in deeds.

1843 to 1860: Lands sold without regard to mineral values until discovery of gold in 1858, when government instituted policy of refusing to sell any lands "when there was any reason to suppose that they contained gold." Under the gold fields act the governor could declare specified areas gold fields and practically exempt the lands therein from sale.

1860 to 1872: Mineral lands other than gold sold in areas not exceeding 640 acres at £1 per acre after an expenditure in development of a like amount. Coal lands were not sold between 1860 and 1865. After 1860 all leases contained a reservation of all minerals with the right to mine on payment of damages.

1872 to 1882: Mineral lands sold in areas not exceeding 320 acres at 30s. per acre after an expenditure of £1 per acre in development work.

1882 to date: Sale of known mineral lands practically abandoned and policy of leasing such lands enforced in all cases. Governor empowered to constitute, by proclamation, any portion of the public land a mining district. The effect of this was generally to reserve the land from sale, but even in a mining district lands not known to contain minerals were sold.

1885 to 1892: Gold reserved in all deeds.

1892 to 1898: Gold reserved in all deeds. Silver as well as gold reserved in all deeds for lands sold within a mining district or gold field.

1898 to 1899: Silver and gold reserved in all deeds.

1899 to date: Silver and gold reserved in all deeds. In gold fields and mining districts copper, tin, opal, and antimony are also reserved, in addition to silver and gold. The total area of all gold field and mineral fields was, in 1905, 12 per cent of the total area of the State or 51,011,433 acres. Since 1901 coal has been reserved in deeds for certain areas. An act is pending reserving all minerals in all deeds.

As a result of the free sale of mineral land prior to 1882 there are many freehold mining properties in the important mining camps. The leases issued since that time often cover areas adjacent to freehold properties, but the leaseholders do not appear to suffer any disadvantages from this condition.

Notwithstanding the free sale of mineral lands prior to 1882, the fact that, as to land sold prior to 1885, the government has never enforced its common-law right to the gold and the fact that the most important mineral discoveries were made prior to these dates, the bulk of the mineral production now comes from government leasehold. In 1906, 91 per cent of the total mineral production other than gold came from government leasehold, and including gold over 95 per cent came from this form of tenure. The country in which this result has been attained has an area slightly less than the combined areas of Arizona, Nevada, Utah, New Mexico, and Texas, and in 1905 produced approximately as much gold as all these States, one-eighth as much coal, one-eighteenth as much copper, and one-thirty-sixth as much silver.

TERMS AND CONDITIONS OF LEASES.

About the time of the exhaustion of the rich alluvial deposits which caused the Gympie gold field rush in 1867 payable reefs were discovered at this point, and in a short time gold leases were issued under the New South Wales gold fields act of 1857. Before this time gold had been developed in Queensland wholly on miners' right claims or on freehold land. Mining for minerals other than gold was conducted on a system of development and final purchase very similar to that which has prevailed in the United States for many years. The first lease for mineral other than gold was issued in 1871 for the purpose of mining for copper on Island No. 6 of the Percy group. The period was ten years and the rent £5 for the first year, £15 for the second year, £25 for the third year, and increased at the same rate up to £55 for the sixth year at which amount it remained for the balance of the lease. No Queensland law at this time provided for mining leases other than for gold mining unless one considers the order in council of 1855, which was issued to the governor of New South Wales while Queensland was still a portion of that Province and which had not been specifically repealed in Queensland. In the following year specific provisions regarding leasing were incorporated in the mineral lands act of 1872. This act still allowed the sale of the mineral freehold on very liberal terms, and yet a number of miners elected to take leases at 5 shillings per acre per year instead of buying the freehold at 30 shillings per acre. The first application for a lease under this act bears the date of August 27, 1872. In the mineral lands act of 1882 no provision was made for the sale of mineral lands, and since that time the leasing of minerals has been the binding policy of the Government.

The terms and conditions on which mining leases have been issued at different times in Queensland are shown in the following table:

Terms and conditions under which mining leases have been issued at different times in Queensland.

	Gold-fields act, 1857.			Mineral-lands act, 1872; regulations Oct., 1872.	Gold-fields act, 1874.		Mineral-lands act, 1882; regulations Jan., 1883.	Coal-mining act, 1886; amendment 1891.	Mining act, 1898; regulations May, 1900.	Proposed mining act.
	Ordinary leases, regulations 1858, 1863, 1866.	Special leases, regulations 1858, 1863.	Special leases, regulations 1866; Jan., 1874.		Regulations Sept., 1874.	Regulations. Oct, 1880.				
Term of years:										
Gold	2	21	21	.....	21	21	.....	.....	21	21
Minerals other than gold	.....	.....	.....	99	.....	.....	21	21		
Period for which renewable:										
Gold	.....	.....	.....	.....	21	21	.....	.....	[a] 21	[a] 21
Minerals other than gold	.....	.....	.....	.....	.....	.....	21	21	[b] 21	
Maximum area in acres:										
Gold—										
Alluvial.....acres	8	[c]	[c]	.....	25	25	.....	.....	50	[l] 25–100
River bed....yards	500									
Reef.....do....	400									
Minerals other than gold and coal	.....	.....	.....	320	.....	.....	40–160	[e] 320	160 320	160–320 1,280
Coal	.....	.....	.....							
Rent per acre per year:										
Gold	[f] £5	None.	[g]	.....	£1	£1	.....	.....	£1	[h] £1
Minerals other than gold and coal	.....	.....	.....	5s.	.....	.....	10s.	6d.	10s. 6d.	10s. 6d.
Coal	.....	.....	.....							
Royalty on gross output:										
Gold	[i]	[j]	[g]	.....	None.	None.	[k] 1 %	.....	[l] None.	[m] None.
Minerals other than gold and coal	.....	.....	.....	None.	.....	.....	None.	[n]	[n]	[n]
Coal	.....	.....	.....							
Development conditions expressed in men per acre per year:										
Gold	[o]	[o]	[o]	.....	[o]	1	.....	.....	½	½
Minerals other than gold and coal	.....	.....	.....	[p]	.....	.....	1/5	1/5	1/10 1/10	1/10 1/50
Coal	.....	.....	.....							
Development conditions expressed in money per acre per year:										
Gold	[o]	[o]	[o]	.....	[o]	[q]	[q]	[q]	[q]	£20
Minerals other than gold and coal	.....	.....	.....	[q]	.....	[q]	[q]	[q]	[q]	£2½
Coal	.....	.....	.....	[p]	.....	[q]	[q]	[q]	[q]	5s.

[a] Under acts and regulations in force at time of such renewal.
[b] On such terms as minister deems equitable.
[c] No limit.
[d] Ordinary maximum, 25 acres; may be made 100 on account of special difficulties. A lease of 300 acres may be issued for gold dredging.
[e] 640 acres may be granted as a reward for a discovery.
[f] Per acre or per 100 yards.
[g] Such rent and royalty as may be agreed upon.
[h] In a dredging lease, 2s. 6d.
[i] On all gold exported a duty of 2s. 6d. per ounce was paid until 1862, when the charge was reduced to 2s. The duty was further reduced on July 1, 1872, to 1s., and on June 30, 1873, to 6d., and was finally abolished Jan. 1, 1874.
[j] Not less than 1 per cent.
[k] For gold found in association with minerals mined under a lease for minerals other than gold.
[l] No royalty is charged on gold leases covering public lands, but a royalty of 1s. per ounce is charged on gold from land in which that mineral is reserved in the deed. If gold is mined in connection with some other mineral on an ordinary mineral lease, a royalty of 1 per cent is charged.
[m] No royalty on gold leases covering public lands; 5s. per ounce is charged on gold obtained from a mineral lease and 1s. per ounce on gold from private lands.
[n] 3d. per ton first ten years; 6d. per ton thereafter.
[o] Fixed in each case on applicant's statement.
[p] Fixed in each case.
[q] Only labor accepted in fulfillment of development conditions.

Area.—The tendency of mining legislation in Queensland, as in other parts of Australasia, has been to increase the maximum size of mining leases. While in the early history of gold mining no limit was fixed by law for the size of a gold-mining lease, it was in practice smaller than allowed to-day. Under the mining act of 1898 the maximum area was increased from 25 to 50 acres, and in the proposed mining act an increase to 100 acres for reef deposits is suggested. Notwithstanding this suggested increase in the maximum size the proposed bill emphasizes the fact that for all ordinary cases 25 acres is a fair maximum for a gold lease. Such statistics as are available show a practical result similar to that found in New South Wales, where 90 per cent of the leases are for less than half the maximum area. In Queensland, where the maximum area is 50 acres, the average size of the gold leases now in force is only 19 acres, and with a maximum of 160 acres for minerals other than gold and coal the average size of 1,334 leases is only 22 acres.

Under existing mining law no area can be worked as one property under a mining lease, or mining leases, which exceeds the maximum fixed for a single lease. The union of leases up to the usual maximum is allowed, but no provision is made for larger areas, and the working of any larger area as one property requires a special act of parliament.

A slight evasion of this principle is found in provision for "dredging claims" in the regulations. The need, for dredging purposes, of larger areas than 50 acres was not fully appreciated when the 1898 mining act was passed, and this demand has been met by providing for "dredging claims." The law permits the minister of mines to fix the size of claims and to determine the conditions under which the same may be held, but when the maximum of a dredging claim was fixed at 300 acres, the labor conditions prescribed, and a rental of 2s. 6d. per acre per year assessed, the distinction between a claim and a lease became only a difference in name. The proposed mining bill only recognizes this condition when it provides for dredging leases on the same terms that are now fixed for dredging claims.

Special leases have on several occasions been authorized in connection with the construction of railroads, and these are discussed under the heading of "Development conditions." In 1902 the union of four leases of 50 acres each at Gympie was specially authorized by act of Parliament for the purpose of encouraging deep sinking. Under this act the new 200-acre lease was to be free from labor conditions for the first eighteen months, but thereafter the usual conditions should apply. The lessee was required to sink a shaft to a depth of not less than 4,000 feet within four years, and to deposit the sum of £5,000 as surety for compliance with this condition; the money to be repaid at the rate of £500 for every like amount spent on the shaft, and the balance, if any, to be forfeited if the company failed to fulfill its agreement.

Development conditions.—The condition that a mining holding other than a freehold should be actually developed has always been sine qua non in Queensland. In the early days this condition of development was naturally expressed as the continuous labor of a specified number of men. As larger work was undertaken the capitalists claimed, with some show of justice, that the amount of money expended was under certain conditions a fairer gauge of a company's

bona fides than the mere employment of a given number of men, and demanded the expression of the development conditions in money per acre per year instead of men per acre per year. This change has been consistently opposed by the Labor party, because it sees in the requirement that men should be employed a better guarantee that those living in the neighborhood of the property will find employment. This policy is perhaps shortsighted, but is one that has had to be fought throughout Australia. In the proposed mining bill such a change has been made, and it is the incorporation of the innovation that has delayed the passage of the bill.

Queensland has, however, on several occasions recognized by special enactments the principle that the capitalist could show his honest intention of developing a property without actually employing men on the ground leased. In 1897 Parliament passed the Chillagoe railroad act, which authorized the issuance to a company of three men of leases for fifty years for the lead, copper, and tin in areas not exceeding in the aggregate, 2,000 acres in the vicinity of Chillagoe at an annual rent of £1 per acre, or double that usually charged, on condition that it construct within four years a railroad 100 miles long, which would be subject to government control, and might be purchased by the Government at the end of the fifty years. In return for this proof of the company's sincerity and of the additional rental charge the Government agreed to waive the usual development conditions on the areas leased.

In 1900 an act was passed empowering the Government to grant to the Callide Coal Company fifty-year leases to an area aggregating 2,560 acres, which was already held under lease by that company, on condition that it construct within four years a railroad 75 miles long, which road was to be subject to government control, and might be purchased by the Government after fifty years. In this case the one concession to the company was that it would be relieved of the development conditions on the areas leased until the completion of the railroad, but no longer. In all other respects the leases should be subject to the usual covenants of rent, royalty, and labor conditions. In this case the company was required to deposit with the Government a sum of £2,500, to be forfeited, together with all rights to the leases, if it did not complete the railroad in a specified time.

In the same year the Albert River, Burketown, and Lilydale tramway act was passed which empowered the government to grant to the Queensland Silver Lead Company leases to all the minerals in not exceeding 2,000 acres of land for not exceeding fifty years at a rental of £1 per acre, free from all conditions of development if the company constructed within six years a railroad 120 miles long, subject to the same conditions of control and purchase. In this case the deposit of a forfeit of 5 per cent of the estimated cost of construction was required, this sum and the leases to be forfeited if the railroad was not constructed in the time named.

The Glassford Creek tramway act, passed the same year, authorized the granting of leases for fifty years for all the minerals except gold and silver in not exceeding 2,560 acres at the usual rent and royalty fixed by the mining act, which leases were to be forfeited if within three years the company did not construct a railroad 33 miles long. Until the railroad was completed no development was required on the land

leased, and after the completion of the railroad "the labor covenants shall be deemed to be sufficiently performed if the total number of men prescribed in respect of all leases is employed in or upon any part of the mineral lands or on or about the tramway." In this case the company was required to deposit £2,500, this sum to be forfeited with the leases if the railroad was not constructed in the time named.

A similar act was pased in 1901 involving a railroad 260 miles long and leases of areas not exceeding in the aggregate 5,000 acres in the vicinity of Cloncurry for all minerals except gold at twice the usual rental. The deposit required in this case was £10,000.

These enactments are the nearest approach, in Queensland, to the railroad land grants made by the United States in the same stage of its development.

Renewals.—The present laws provide for the renewal of leases for gold on such terms as are fixed by the acts and regulations in force at the time of such renewal and for minerals other than gold on such conditions as the minister may deem equitable. In the pending mining bill the policy is adopted of allowing renewal in all cases on such terms as are then fixed by the acts and regulations then in force.

Royalty.—In the public lands the general government policy, except with regard to coal, is not to charge a royalty on minerals. This would seem to indicate a feeling that while the development of all other minerals should be encouraged the development of coal may, to this slight degree, be retarded to the advantage of the country. While this attitude is by no means logical it is common to several of the Australian States.

While royalty on gold is not collected in connection with leases covering public lands, a charge of 1 shilling per ounce is made for gold obtained from land in which that substance has been specifically reserved in the deed—that is to say, all land sold, or for which a new deed has been issued, since 1885—and is in lieu of a ground rental. If gold is mined in connection with some other mineral on ordinary mineral leases a royalty of 1 per cent is charged, but in this case the government may require or the lessee may elect to take out a gold mining lease on which no royalty is charged.

Forfeiture.—For the first two breaches of the covenants of any lease the minister may inflict a fine of not exceeding £100. If the fine is unpaid or the lessee is guilty of a third breach the lease may be forfeited. Forfeiture for noncompliance with labor conditions is effected by an action before a warden. The warden in this respect acts as an inspector and is instructed to report any serious breaches. But, according to the under-secretary for mines, "the onus of giving information is largely left to the mining community who may, if they wish, apply for the forfeiture of a holding on which labor conditions are not fulfilled." Under this lax system "shepherding"—that is, the holding of claims or leases without development—has become somewhat prevalent in Queensland. The general situation is, however, somewhat better than that for the United States, where enormous areas are openly held either as claims or freeholds for purely speculative purposes without any intention on the part of the holder to develop the same. Companies who have the means to develop must buy out these speculators before they can begin the development of the region involved.

OWNERSHIP OF THE PRECIOUS METALS.

The early deeds of grant in Queensland contain no reservation of the royal metals, and although this region was a portion of New South Wales at the time that the common-law right of the government to the gold in all lands was proclaimed by Governor Fitzroy in 1851, this doctrine has never been enforced in this state. The decision of the privy council in 1877 that under the common law a grant in Australia does not pass to the grantee the gold and silver that may be found under the land described in the grant, unless the intention that such minerals should pass is expressly stated in apt and precise words (Woolley *v.* Attorney-General Victoria), has never been enforced in Queensland, though it has led to several provisions at law and transactions which would otherwise be unintelligible.

The property on which there has since been developed the famous Mount Morgan mine was purchased in 1864 as low-grade agricultural land, and the deed of grant conveying the freehold of this property contained no reservation of mineral. Gold was discovered on this property by the Morgan Brothers in 1882, and they purchased it from the original patentee at £1 per acre. When the magnitude of the find was shown by development several attempts were made to attack the title on the basis that under the common law the freeholder had no right to the gold. These suits were all instituted by private parties and were successively dismissed on the ground that as the claimants could not show a better title than the company in possession there was no justice in transferring the title, and that whatever may or may not have been the right of the freeholder to mine the gold the contestants clearly had no claim at all. Had the government, through the attorney-general, instituted suit the common-law right of the government would clearly have been involved and the result would have been different, but the government remained quiescent and the company continued to develop the gold.

Up to the close of 1893 this mine produced £4,725,386 worth of gold and paid dividends amounting to £3,350,000. Recognizing the enormous value and long life of the property, the company began to fear that if a radical government came into power it might enforce the common-law right of the state, claim all the gold in the land, and demand an accounting from the company for the gold already extracted. There therefore appeared in the mineral lands act amendment act of 1894 clauses introduced at the request of the Mount Morgan Company, which gave to any freeholder the right to surrender his land to the government, and upon such surrender to receive in lieu thereof a grant specifically reserving to the government all gold and silver. The owner of such surrendered land was given the preference right to make, within thirty days after such surrender, an application for a gold-mining lease covering the land involved. On such leases the government charged a royalty of 1s. per ounce of gold produced. The Mount Morgan Company immediately surrendered the 75 acres of its freehold which contained the deposits they were then working, received therefor three government leases of 25 acres each, and has since paid a royalty of 1 shilling per ounce.

In other words, a strong and powerful mining company with a title as completely conveying the gold as any title in the United States,

except certain patents under the mineral land laws, voluntarily surrenders its grant, receives in lieu thereof one in which the gold and silver are specifically reserved, and takes out government leases covering the surrendered area, thus voluntarily imposing on itself a tax of 1s. per ounce of the gold produced. The royalty now paid by this company under this arrangement exceeds $30,000 per year.

No attempt is now made by the government to enforce its right to the gold on freehold property. Owners may either follow the example of the Mount Morgan Company or mine the gold on their own responsibility as in the United States. It is, however, more than probable that within the next few years the government will assert its right in this respect and provide for mining on private property along the lines followed by the Western Australian law. Such provisions are made in the new mining bill and meet the approval of the great majority of people in Queensland.

MINER'S RIGHTS AND CLAIMS.

Under the New South Wales gold fields act of 1857, which was in force in Queensland until 1874, miner's rights were issued for a period of one year on payment of 10s. These miner's rights gave to the holders the right to search and mine for gold only. Those mining for gold on a proclaimed gold field without such a license were liable to fine. The holder of a miner's right could stake out any number of gold claims of the size prescribed by the regulations. In 1874 the period for which a miner's right could be issued was increased to ten years, but the fee per year remained the same.

The mineral lands act of 1872 provided for "mining licenses," which were issued for one year on payment of 10s. and gave to the holders the same rights as to minerals other than gold, over such areas as were proclaimed mineral districts, that miners' rights conveyed as to gold. The operation of mining licenses was extended in 1882 to all public lands. In 1898 the mining license was abandoned and the miner's right was extended to cover all minerals. The fee now charged for a miner's right is 5s. per acre per year and the term is fixed at not exceeding ten years. In the new bill it is proposed to reduce this period to one year and better results can undoubtedly be obtained with this change.

Under the present law there is no limit to the number of claims that may be held under one miner's right. It is also held that after a person takes possession of a claim he may hold that claim indefinitely without renewing his miner's right, provided that he does the required amount of development work. This feature of the system in Queensland gives rise to the same difficulty that is found in the United States; it is impossible for the government to tell what land is and what land is not covered with valid mining claims. In Queensland, however, development conditions are more rigid and forfeiture can be effected more readily.

The areas which may now be held as mining claims and the labor required are as follows:

Ordinary reef claims.—For gold: One holder of a miner's right is entitled to 50 feet along supposed line of the reef by a width of 400 feet. The whole or any part of this width may, at the option of the miner, be marked off on either side of the reef. No more than ten such claims may be taken up conjointly but concentration of labor on one of a group of contiguous claims, not exceeding a total of 1,000 feet along the reef,

may be allowed. On such claims one man must be employed continuously for every 100 feet along the line of reef included in the claim until the claim is payable; then one man for every 50 feet.

For minerals other than gold: One man's ground is 200 by 350 feet. No more than ten such claims can be taken up conjointly but concentration of labor on one of a group of contiguous claims not exceeding a total length of 4,000 feet along the supposed line of the reef may be allowed. Such claims must be continuously worked by one man for every 200 feet along the line of the reef included in the claim.

Alluvial claims.—For gold: Ordinarily one holder of a miner's right is entitled to 100 by 50 feet, but in wet ground 100 by 100 feet is allowed. Not exceeding ten holders of miner's right may combine to take up 10 men's ground as one claim.

For minerals other than gold: One man's ground 300 by 300 feet. Not exceeding ten claims may be taken up conjointly.

All alluvial claims must be worked continuously by one man for each man's ground contained therein.

Dredging claims.—Not exceeding 300 acres; length along river or shore of ocean not to exceed 6 miles. One man must be continuously employed for every mile, or fraction of a mile contained in the claim, or the holder must keep continuously employed and fully manned machinery to the value of £1,000 for each hundred acres in the claim, but the value of such machinery shall in no case be less than £3,000. On a dredging claim a rental of 2s. 6d. per acre per year is charged.

All claims except ordinary alluvial claims must be registered.

PROSPECTING AREAS.

As to minerals other than coal prospecting areas may be staked out on the basis of a miner's right; in coal a special prospecting license must be obtained.

Any holder of a miner's right may, subject to the approval of the warden, and only with such approval, mark out and hold the following areas:

	Yards.
For reef or alluvial gold:	
Within a gold field—	
Between 400 yards and 1 mile from nearest mine which is in operation or has been operating within a period of 6 months	150 x 150
Between 1 and 3 miles from nearest mine, etc	200 x 200
More than 3 miles, etc	300 x 300
Outside a gold field	400 x 400
	Acres.
For minerals other than gold or coal:	
Within a mineral field—	
Between 1 and 5 miles from nearest mine, etc	10
Between 5 and 10 miles, etc	20
More than 10 miles, etc	40
Outside a mineral field	160

Prospecting areas must be continuously worked by at least one man, must be registered, and this registration must be renewed monthly. This monthly renewal of registration is designed to prevent the sort of shepherding that has been found objectionable in claims. The prospector must report the discovery of minerals and on such report is entitled to a prospecting or a reward claim in addition to the ordinary claim to which he is entitled. The prospecting or reward claim in case of minerals other than gold and coal is of the same size as the prospecting area. In the case of gold it varied as follows:

	Along line of reef. Feet.
Reef gold:	
If distant not more than 1 mile from reef that is being worked	150
If distant between 1 and 2 miles	200
If distant between 2 and 10 miles	300
If distant over 10 miles	500

In all cases the width is 400 feet.

Number of ordinary claims.

Alluvial gold:	Feet.
Between 400 yards and half a mile	2
Between half a mile and 1 mile	3
Between 1 and 2 miles	4
Between 2 and 3 miles	5
Over 3 miles	6

Every prospecting claim is attached to an ordinary claim of not less than one man's ground, and the whole is deemed one tenement.

These provisions for prospecting definitely lead only to claims. Provisions for exclusive prospecting privileges over large areas preliminary to taking up leases have not been deemed necessary in Queensland. A special prospecting license is issued in connection with coal mining covering the same area as a reward lease, or twice the area of an ordinary lease, but in this case the same rent is charged for the license that is charged for the lease.

EXTENT OF OPERATIONS.

The mines department does not prepare any statistics giving the total acreage held as claims and prospecting areas, but it is stated that while tracts of considerable size are held under these forms of tenure as soon as important finds are made these holdings are usually converted into leases. The number of miner's rights issued during the past five years and the areas held under lease on the 31st day of December of each year are shown in the following table:

Table showing number of miner's rights issued during each year and areas held under lease on December 31, from 1902 to 1906, inclusive.

	1902.	1903.	1904.	1905.	1906.
Miner's rights	9,351	10,879	11,371	12,075	11,533
Gold mining leases:					
Number	743	770	569	537	543
Total area in acres	13,883	14,540	10,499	10,093	10,067
Leases for minerals other than gold or coal:					
Number	652	695	461	814	1,302
Total area in acres	15,159	19,898	11,598	16,424	20,916
Leases for coal mining:					
Number	27	26	30	35	32
Total area in acres	4,387	4,415	5,479	8,275	7,891

The relatively small area under lease for coal is due to the fact that the most favorably situated coal fields are in the regions first settled and so passed into private hands during the period when no attempt was made to reserve mineral lands. These areas are of such size and are so favorably situated that the demand for other sources of coal supply has arisen only in the last few years. This demand is growing, and the total area held under government coal lease may be expected to rapidly increase in the future.

RESULT OF TEST OF GOVERNMENT MINERAL LEASEHOLD.

There is in Queensland the same general satisfaction with the policy of government leasehold of minerals that is found throughout Australia. The royal commission on mining appointed in 1897 to, among other things, "inquire into and report as to the best mode in which assistance can be rendered to develop the mineral resources of the colonies" did not deem the absolute sale of minerals worthy of even passing notice as a means toward this end. This was only thirteen years after the abandonment of the policy of selling mineral lands, and the feeling in this respect has not changed.

CHAPTER IX.

AUSTRALASIAN MINERAL LEASING.[a]

The recent mining enactments of all the Australasian States, regardless of political complexion, are based on the policy of mineral leasehold. Not only do all the political parties of Australia to-day heartily indorse this policy, but it represents a gradual evolution from the principle of freehold, through stages varying somewhat in different states.

The mining laws of all these States require continuous development, the enforcement of which is incompatible with the state of freehold. Development as a condition of possession was early recognized in mining practice in the United States; but the annual assessment work required by the present mining law fails to accomplish the continuous development which is requisite to a proper utilization of the mineral resources of the country. On this account the consideration of the extent to which the leasing policy succeeds in securing such development becomes of vital interest.

WESTERN AUSTRALIA.

In Western Australia the development of the mineral land laws has been particularly simple. At the time of the first mineral discoveries in 1842, mineral lands were sold under the same conditions as agricultural lands. Later the purchase price was fixed and the option of lease provided. In 1872–73 the erection of a satisfactory mining plant was made a prerequisite to purchase of the land and the rate of lease rent was reduced. Then, after the gold finds of 1885, the abandonment of the principle of sale became a state policy, and in 1898 provision was made that land grants should contain a reservation of all minerals. Thus, in Western Australia the system of leasehold and claim hold on the condition of bona fide development came at a time most opportune for the test of practice. For the five years comprising 1881–1885 the average annual mineral production was less than £9,000, while for the past five years the annual output has exceeded £8,000,000. Not only was the law subjected to this practical test of great expansion in the mining industry, but an investigation by a commission on mining showed that throughout the gold fields the verdict was overwhelmingly in favor of leasing.

The same general satisfaction with the leasing system is found in the Collie coal fields, although the coal operations are not comparable with the gold mining. The coal-land law has promoted the development of the industry in this field, which is not so favored by natural conditions as most of the American coal lands. The

[a] An address delivered before the Conservation Commission, December 3, 1908.

provisions of this law encourage prospectors by granting exclusive prospecting rights over a considerable area for a limited period, followed by either reward or ordinary leases when discovery has been made. Continuous development is secured by the terms of the lease. The decision was reached in Western Australia that 2,560 acres is a sufficient maximum for a single holding, except where the the coal seam is at a depth of over 1,000 feet, in which case 5,120 acres is allowed, a decision which is in striking accord with the opinion independently reached in this country and embodied in one of the coal-land bills recently presented in Congress.

The Western Australian mining law is, in short, a wonderfully symmetrical and carefully balanced enactment, and while it may not be, as a whole, applicable to American conditions, it contains many suggestive provisions which merit careful consideration, as they are not the idle vision of some theorist, but the mature enactment of a legislature whose members are chosen entirely by the voters of a great democratic mining State, a State which ranks among the greatest mining countries of the world and which as recently as 1904 has reorganized and revised its mining laws to meet the practical workaday conditions of a mining region.

The mining law of Western Australia is that of a State in which the mining industry is of preeminent importance. The mineral exports of the country are from five to six times the total value of all other exports. It is, moreover, a mining community in which the capital employed in development is almost wholly of foreign origin. On these accounts the evidence furnished by the development of mining laws in South Australia is to a large degree supplementary to that afforded by Western Australia.

SOUTH AUSTRALIA.

South Australia is a country in which mining occupies the subordinate position, the mineral exports amounting to less than one-tenth the value of the other exports, so that the mining law is that of the agricultural holder and local capitalist.

In South Australia the alienation of minerals has been carried further even than in the United States, yet here, too, the principle of leasehold has developed and been fully tested. The history of the mining law of this country becomes of especial interest to Americans, as it shows the practicability of introducing a system of government leasehold after important mining properties had passed into private ownership.

There has resulted a surprising unanimity of opinion in favor of government leaseholds for all minerals. Mining engineers, operators, and capitalists unite in asserting that mining development is promoted more by leasehold than by freehold. The leaders of the several political parties agree that the matter of government leasehold is not a party question. It is important to note that the mining laws of both Western Australia and South Australia were developed under Conservative or Tory governments, and while a Labor government has been in power for some years in South Australia, these mining laws can not be characterized as "radical labor legislation." They are, in fact, nonpartisan enactments which antedate the present supremacy of the Labor party.

VICTORIA.

In Victoria the national mining law has been enacted under conditions strikingly like those under which the American mining law developed, but with very different results. Here, as in California, there was, at the time of the discovery of gold, no law governing mining on the public lands. In both countries the discovery of valuable gold fields resulted in an enormous immediate influx of population, and while the United States delayed dealing with the situation the Victorian government attacked the problem at once, and by the time of the passage of the American act of 1866 had evolved a very comprehensive mining law. In Victoria the development of the coal resources has been practically all under government leases, notwithstanding the fact that considerable areas of coal land are in private ownership.

TASMANIA.

The mining law of Tasmania has been commended in the Australian mining press as the model among the Australian laws from the standpoint of the capitalist. This State was the first to provide that no lease should be forfeited for noncompliance with the development conditions during suspensions of work due to strikes. The last mining act also meets the demands of investors for more secure tenure, by providing for the expression of the development covenant in money instead of men and by allowing, under certain restrictions, the excess of development expenditure in one year as a credit on the requirements of the next. In Tasmania, at the time of the early discovery of coal under the existing policy of alienation of lands, the coal lands passed into private ownership. Yet, to-day all the working coal mines are reported as operating under government leasehold, showing that the terms of leasing must have proved satisfactory. The present act permits consolidation of leases to any extent in the discretion of the minister of mining.

NEW SOUTH WALES.

New South Wales is the most important of the Australian States from the standpoint of its coal production. In this State there is the same general indorsement of mineral leasehold; indeed it may be said that there is absolutely no demand for private ownership of minerals.

SUMMARY OF GOVERNMENT LEASING.

The history of government leasing in Australasia and the tenure and conditions under which leases are to-day issued in the various States are summarized in the tables following:

Terms and conditions under which minerals are to-day leased in Australasia.

	Western Australia.	South Australia.	Tasmania.	Victoria.	New South Wales.	Queensland.	New Zealand.
Term of years:							
For gold	21	42	21	15	20	21	42.
For other minerals	21	42	21	15	20	21	42-62.
For coal	21	42	21	15	20	21	66.
For dredging	21	10					
Maximum area in acres:							
For gold	24	20	40	No limit	25	50	100.
For other minerals	48	40	80	640	80	160	320-1,000.
For coal	320	640	320	640	640	320	2,000.
For dredging	5,000	200			100		
Rent per acre per year:							
For gold	£1	1s.	£1	2s. 6d	5s	£1	7s. 6d.
For other minerals	5s	1s.	5s	1s. to £1	5s	10s	2s. 6d.
For coal	6d	1s.	2s. 6d	1s. to £1	1s.	6d.	1s. to 5s.
For dredging	6d.	1s.			2s. 6d		
Royalty:							
For gold (per ounce)	None	2½%	(a)	None	None	None	2s. c
For other minerals	None	2½%	(a)	None	None	None	1%.
For coal (per ton)	3d. first 10 years, 6d. thereafter.	2½%	(a)	None	3d. to 6d. per ton.	3d. first 10 years, 6d. thereafter. b	2d. to 1s.
For dredging	1s. per oz.	None			1%		
Development conditions, expressed in men per acre per year:							
For gold	1/6	1/6	None	Fixed by minister.	1/2	1/2	1/6 to 1/3.
For other minerals	1/6	1/10	None	Fixed by minister.	1/10	1/10	1/60 to 1/25.
For coal	1/20	1/10	None	Fixed by minister.	1/100	1/10	
For dredging	None	1/10			1/100		
Development conditions, expressed in money per acre per year:							
For gold	Must be labor.	Must be labor	£10	Fixed by minister.	Must be labor.	Must be labor.	
For other minerals	Must be labor.	Must be labor	£2	Fixed by minister.	Must be labor.	Must be labor.	
For coal	Must be labor.	Must be labor	£2	Fixed by minister.	Must be labor.	Must be labor.	
For dredging	30s	£20			£10		

a Such as may be fixed by regulation. None has been charged up to this time.
b Rent a credit on royalty.
c Only in North Island.

Summary of history of government mineral leasing in Australasia.

	Year of first government leases for—			Year in which sale of known mineral land was practically abandoned.	Year of first reservation of all minerals.	Total area held under mineral lease in 1905.a	Total value of mineral production in 1905.	Percentage of total production from government leasehold.
	Gold.	Minerals other than coal and gold.	Coal.					
						Acres.	£	
Western Australia	1886	1865	1896	1886	1898	56,541	8,555,841	96
South Australia	1869	1854	1874	1872	1888	27,157	568,796	±90
Tasmania	1860	b 1862	c 1853 / b 1862	1859	1903	52,924	1,729,129	100
Victoria	1857	1861	c 1853-54 / 1862	1860	1892	84,546	3,361,455	93
New South Wales	1851	1856	1861	1884	1884	173,342	7,017,940	68
Queensland	1868?	1872	1891	1882	(d)	38,874	3,726,275	91
New Zealand	1858	1852	1852	e 1875	(f)	149,697	3,622,786	±90

a A considerable area is also held under mining claims, or as prospecting areas.
b Date of act; date of first lease unknown, but soon after date given.
c Special leases.
d No reservations except in gold and mineral fields.
e Isolated case; practically no known mineral land has been sold in New Zealand since 1850.
f No reservations.

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