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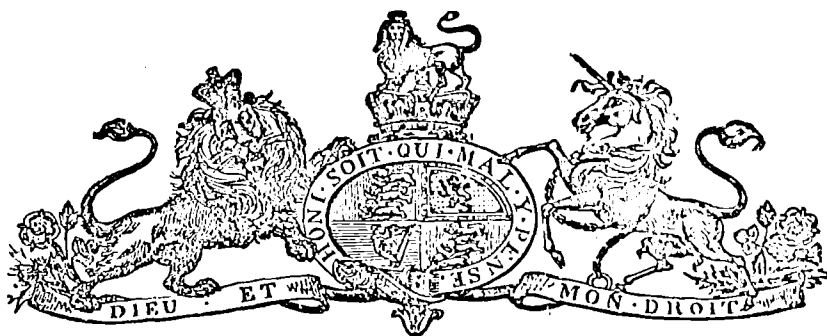
1884.

PARLIAMENT OF TASMANIA.

THE MINES OFFICE, AND THE MINING
INDUSTRY :

REPORT OF THE SECRETARY OF MINES.

Presented to both Houses of Parliament by His Excellency's Command.



REPORT OF THE SECRETARY OF MINES.

*Department of Lands and Works,
Office of Mines, Hobart, 12th July, 1884.*

SIR,

I HAVE the honor to submit my Report upon the Mines Branch of the Lands and Works Department, and the Mining industry generally within the Colony.

The separation of the Mines Branch from the Lands Office was carried into effect in January, 1883, and all correspondence, plans, books, and records relating to Mines were placed in this office. All papers have been carefully examined, docketed, and put away in the order of their dates, but a complete registration has not yet been accomplished. Arrangements have, however, been made for the officer who has just completed that duty in the Lands Office to take the matter in hand, and he entered upon the task on the 1st instant. The bulk of the correspondence does not extend back further than the year 1872, the papers existing prior to that date being few, although some are of considerable importance. The correspondence portion generally was received by this office in a state of confusion, and every document had to be examined to ensure its being placed in its proper position. The plans have been arranged and placed in their proper order.

Separation
from Lands
Office.

Registration
of Papers.

It is well known, outside as well as within official circles, that very great confusion and irregularity existed in the Lands Office in connection with the conduct of the Mining business. I need not, I apprehend, enter upon any detailed description of the state in which I found applications, leases, and other documents, and registers and other records. It will be sufficient to say I found it necessary, with your sanction, to change almost every practice and every method of keeping books of record, and to devise new forms of notices and demands. I trust the result has been the establishment of a system which will meet the requirements and convenience of that section of the community which is engaged in the Mining industry.

Condition of
Papers, Re-
cords, &c.

The staff in Hobart consists of the Chief Clerk and Draftsman,—an experienced officer of many years' service,—three Clerks, and two Draftsmen, all of whom were transferred from the Lands Office, and are, with the one exception, juniors. One clerk is Registrar of Mines, another has the general care of the correspondence, and the other the preparation of leases. The draftsmen are fully occupied drawing diagrams for leases, entering up plans, and other work appertaining to the drafting-room. In addition to these is the Accountant, an officer who is attached to both Lands and Mines Branches, and who keeps the accounts and transacts the financial business of both. Since the establishment of the office the services of one clerk have been dispensed with by his transfer to another branch.

Staff in
Hobart.

The Colony is divided into five Districts, each of which is presided over by a Commissioner of Mines and Gold Fields. The Districts are the Northern and Southern District, embracing the whole of the Colony not included in the other divisions, and in which are situated the following mining centres:—Beaconsfield, Lefroy, Back Creek, Lisle, Golconda, Denison, and Mount Claude. The Commissioner is stationed in Launceston; and his staff consists of a Registrar, a Clerk, and a Draftsman. The Eastern Mining District, including the Fingal and George's Bay Districts, with the Commissioner and a Registrar stationed at St. Helen's. The North-Eastern Mining District, including the Scottsdale, Ringarooma, Mount Victoria, and Waterhouse Districts, with the Commissioner resident at Scottsdale; and Registrars of Mines and Gold Fields stationed at Scottsdale, Moorina, and Gladstone, and a Registrar of Gold Fields at Alberton, Mount

Mining
Districts.
Northern and
Southern
District and
Staff.

Eastern
District and
Staff.
North-Eastern
District and
Staff.

North-western District and Staff. Victoria. The North-Western Mining District, extending from the River Blyth to Cape Grim, and including Mount Bischoff, with the Commissioner, who acts also as Registrar, resident at Emu Bay. And the Western Mining District, including the West Coast from the Arthur River to Point Hibbs south of Macquarie Harbour, and extending inland to the Frenchman's Cap, with the Commissioner, who also performs the duties of Registrar of Mines and Gold Fields, stationed at Reminé, Trial Harbour.

Duties of Commissioners. The Commissioners visit the different parts of their Districts at stated periods, all, with the exception of the Commissioner stationed in Launceston, being also Stipendiary Magistrates. They also visit any place requiring their presence at any time, and are always in readiness to proceed immediately to any part where a discovery may be made or a dispute arise. The complete nature of the arrangements for the discharge of this duty is recognised by the miners as a great advantage, inasmuch as it affords substantial protection. The knowledge that a Commissioner is prepared to appear upon the scene at the shortest notice acts as a check upon any attempt on the part of a class who are generally to be found upon the heels of prospectors and working miners to interfere with the peaceable possession of claims.

Bailiff of Mines. A Bailiff of Mines has quite recently been appointed. His duty is to visit the several Mining centres, see that minerals are not taken without sufficient authority, and that ground is not unlawfully occupied, and that the Regulations generally are complied with. He is also Bailiff of Crown Lands, attached to the Lands Branch. It is to be hoped the presence of this officer will lead to more attention to the requirements of the Regulations on the part of claimholders than has been generally exhibited.

Register of Applications. The first matter which engaged my attention upon assuming charge of the office was the establishment of a complete and reliable Register of Applications. The Register now contains a record of all applications received under "The Mineral Lands Act" since 1st January, 1883, and of all particulars of transactions connected with them. One page is devoted to each application, and a complete history of its progress is recorded thereon, and any information required by the public may be ascertained at a glance. Immediately upon receipt of an application a requisition for survey is addressed to the Deputy Surveyor-General. My instructions to the Registrar are, that such requisition shall be made at the latest before the close of the day following the receipt of the application. The surveys are now performed with reasonable despatch, but there are occasional delays, inseparable from the contract system which prevails in the Department.

Surveys.

Diagrams and Reports. The Surveyor's diagram and report are required to remain one month in the office to afford persons interested an opportunity of seeing them, and entering objections should any grounds exist for opposing the issue of the lease; and during this period the plan is examined and its accuracy and conformity with the application tested. The application is then submitted for approval. I have drawn up a form of notice of approval to be served upon the applicant, printed with a butt, in order that a record may be kept, which shall be evidence that the regulations in this particular have been complied with.

Preparation of Leases. The preparation of leases, although they are drawn up in a prescribed form, which is printed, is a matter requiring great care. Very great difficulty indeed has been experienced in securing proper execution by the lessees, and careful watching and scrutiny have been necessary. I have hesitated to insist upon applicants attending at the local Registrars' offices to execute them, and continue the practice of sending them a copy to be signed and returned, to be exchanged for that signed by the Minister. The greatest difficulty has, however, been experienced in dealing with transfers of leases. With very few exceptions they have been refused when first sent in for registration on account of some informality, and many have led to prolonged correspondence before the persons concerned could be made to understand the requirements, especially of "The Stamp Act," in respect of such deeds. The register of leases has been established upon a sound basis, and all transactions, such as transfers, &c., are regularly recorded.

Transfer of Leases.

Register of Leases.

Registers in the Mining Districts. Complete and reliable Registers of Applications have been established at the headquarters of the several mining districts. In Launceston the Register is a duplicate of the one in this office, and exact information can be obtained there in reference to any application from any part of the Colony. Information giving particulars of every transaction in relation to applications is daily forwarded by the Registrar in this office to the Registrar there, and entries are thereupon made against the applications referred to. This is considered desirable in order that the public in Launceston may be afforded equal facilities of reference to those available to residents in Hobart. In the other mining districts the Registers are precisely similar, except that they are confined to applications for claims within the districts. Thus a complete Register is kept at St. Helen's for the Eastern District, at Moorina for the North-Eastern District, at Emu Bay for the North-Western District, and at Reminé for the Western District. A duplicate Register for the North-Eastern District is being prepared, to be kept at Scottsdale, the head-quarters

of the Commissioner. The several Registrars in their offices are supplied with all the forms in use, and issue Residence and Prospectors' Licences under "The Mineral Lands Act," and Miners' Rights and Business Licences under "The Gold Fields Regulation Act." Miners' Rights, and Residence and Prospectors' Licences are also issued by persons specially appointed for the purpose, but not otherwise connected with the Department, at Beaconsfield, Lefroy, Lisle, Bowood, Westbury, Deloraine, Latrobe, Ulverstone, Wynyard, Stanley, Waratah, Corinna, Strahan, Fingal, Port Cygnet, Franklin, and Flinders Island. They are also issued by the Bailiff of Mines, who travels through all the mining centres.

Issue of
Miners'
Rights, &c.

The preparation of a complete set of reliable plans is a matter I have been unable, with the present strength of the office, to attempt. Those handed over from the Lands Office are not accurate, and I have objected to their distribution, nor have I thought it advisable to exhibit them in the public room. Working plans are kept in the office for the use and guidance of the officers, and are now, by dint of repeated corrections whenever an error is brought to light, tolerably accurate, although errors and omissions doubtless still exist. Every effort has been made to supply tracings upon application for them, great care being exercised that none are issued the accuracy of which is not assured. Before lithographs can be produced for general distribution, a fresh compilation from the original diagrams ought to be made. This is a work which is in my opinion very much required, and I fear some dissatisfaction exists because of the want of it.

Want of re-
liable plans.

The method of dealing with applications for leases under the Gold Fields Regulations has not been materially altered, the system which has been in force for some years past being still adhered to. The Commissioners, with the exception of the Commissioner of the Western District, are required to receive and record applications, each in his own district, in a register similar to that used under the Mineral Lands Act, issue the instructions for survey, and conduct them through their several stages until they are matured and ready to be laid before the Governor in Council. There have been, however, so few applications in any other of the districts in the northern part of the Colony than that presided over by the Commissioner stationed in Launceston, that practically the whole of the work in relation to that particular matter has been done by that officer and his assistants. At the time of the discovery of the Mount Victoria Gold Field the imaginary dividing line between the Northern and Southern District and the North-Eastern District was supposed to run through the claims, and it was found necessary to direct all applications to be dealt with in Launceston.

Applications
for Leases,
Gold.

I am of opinion that the whole of the applications in these districts ought to be dealt with in Launceston, for the convenience of the vast majority of persons interested, and especially for the more complete organisation of the service. A large majority of persons in the districts transact all their business by partners or agents in Launceston, in addition to which the nature of the duties in which the Commissioners are engaged renders the effective performance of the duty connected with the receipt and disposal of applications almost an impossibility. Had there been any considerable number of applications in any of the districts named, I believe very serious inconvenience would have arisen. The principle I advocate has been applied to the Western District. All applications from that district centre in Hobart, and are dealt with here. This plan was brought into operation on 1st January last, and was rendered necessary, in the interests of applicants and other persons concerned, by the difficulty experienced in communicating with the local officer, who was, in addition to his inaccessibility owing to the nature of the country, frequently absent on duty in different parts of his extensive district. A duplicate of the Register is maintained at the Commissioner's Office at Remin , upon the same principle as that applied to applications under the Mineral Lands Act.

Applications
for Gold Min-
ing Leases in
Mining Dis-
tricts.

Claims held under miners' rights for gold mining purposes are not numerous, and very few of those occupied are registered, registration not being compulsory. Every possible facility for the registration of such claims is afforded, and it is effected by the Registrars without the intervention of a Commissioner, except in cases of dispute. The instruction for survey is issued by the Registrar, and the diagram remains for reference in his office. Such claims are exclusively confined to shallow alluvial working, and are therefore never held for any lengthened period.

Claims under
Miners'
Rights.

The conduct of the general correspondence of the office has been a matter of extreme anxiety, and one which has occupied a great deal of my time, and called for great care and attention. The duty of answering enquiries coming from all parts of the Colony where mining interests exist, relating to matters connected with past transactions with the Lands Office before the separation, alone involves a vast amount of labour, and even now, after a lapse of eighteen months, appears to be in no appreciable degree diminishing. The work is rendered more irksome by the condition of the papers and records received from the Lands Office, from which the requisite information has to be

General cor-
respondence.

extracted, such condition being the reverse of that which would facilitate the work. It is evident this description of correspondence will be continued for some time longer, and until the whole of the matters originally dealt with in the Lands Office have been disposed of and set at rest. The correspondence created by the transaction of business relating to current events is by no means light. The magnitude of the correspondence generally of this branch since its establishment may be inferred from the fact that such of it as it was found necessary to copy occupies no less than 5415 pages of letter-books of foolscap size.

**Applications
in abeyance.**

I found upon examination of the papers handed over from the Lands Office that a large number of applications for leases and water rights were in abeyance; of water rights especially very few indeed had ever been issued. Although the most strenuous efforts have been made to bring up these arrears, the work has not yet been completed. We have had to deal with no less than 2072 applications thus in arrear. One difficulty which presents itself, and appears almost insurmountable, is the indifference and carelessness exhibited by most of the applicants themselves, from whom it is in numerous cases impossible to get any information or assistance. It has been found necessary to refer back to the surveyors many of the diagrams, especially of water rights, for further survey or particulars, the omission of which arose out of the imperfect nature of the instructions for survey issued in the first instance, and not from any fault of theirs.

**Registration
of Mining
Companies.**

The Registration of Mining Companies, required by law to be effected by the Commissioner of Crown Lands, naturally falls upon this branch of the Department. It would be a simple matter, involving little time and trouble, if it were not for the extreme carelessness shown by many of the managers who have to furnish the materials for registration. It is seldom indeed that the papers are quite correct, and that the desired registration can be effected without involving some correspondence.

**Winding up
Mining Com-
panys.**

The duty of winding up Mining Companies has recently been again placed in the hands of the Commissioner of Gold Fields in Launceston, after having for some time been discharged by the Commissioner in Bankruptcy. The Acts regulating Mining Companies are in a most imperfect state, and are wholly inadequate for the present requirements.

**Diamond
Drills.**

The general management of the Diamond Drills has been placed in the hands of the Commissioner of Gold Fields stationed in Launceston. I append a report from that officer which gives full particulars of their operations since they were imported,

**Inspector of
Mines.**

The Office of Inspector of Mines has within the last few days been placed under the control of the Secretary of Mines.

**Carelessness
of persons who
transact
business with
the office.**

Before leaving the question of the internal departmental arrangements, I may be permitted to refer to the additional work thrown upon us by the extreme carelessness of those (with some few marked exceptions) who transact business with the office. The documents sent to the office exhibit every conceivable form of irregularity, and display the most culpable indifference to the requirements of the regulations, and the ordinary caution exercised by business men appears to desert them in many instances when dealing with mining matters. I have from the first rigidly adhered to the determination to refuse to permit informal or irregular documents to pass, and in consequence an improvement in their preparation has become very perceptible.

**Present con-
dition of the
mining in-
dustry.**

The present condition of the mining industry in the Colony is sound, and will bear comparison with that of preceding years, although not quite equal, as regards gold, to the position attained at one time. A general impression prevails amongst people who are not fully informed on the subject, that the industry has nearly collapsed. Many persons do not distinguish between the legitimate application of capital in genuine mining enterprise, and the reckless and objectionable practice of gambling in shares, which had at one time gained such a footing in the Colony, and did so much to hamper and impede the practical work of mining. The great check which this injurious practice has recently received is a matter for the most sincere congratulation, although it has been followed by the inevitable reaction which to a certain extent temporarily affects the whole commercial community. It is true, that many spirited attempts, undertaken in perfect good faith, to develop mines of tin and gold have failed, resulting in the loss of considerable sums of money to the enterprising shareholders, yet the number is not above the average of failures in other countries, and is no more than experience has shown must be expected in an industry which partakes so largely of the speculative element, and in which the greatest skill, industry, and practical knowledge are often of little or no avail. The quantity of metal being exported from the Colony is the true test of the actual state of the industry; and I have prepared certain returns which will be found in Appendix B., and which afford complete information on the subject, and to which I will again refer.

The Commissioners have furnished reports, which are on the whole of an encouraging tone, but owing to their necessary length I do not propose to embody them. Commissioners' Reports.

Mr. Commissioner Belstead, in speaking of the gold-fields in the Northern and Southern District, points out that the weight of gold won during 1883 compares favorably with any previous year, in spite of the fact that many claims upon which extensive prospecting operations were conducted have suspended operations. Report upon the Northern and Southern District.

At Beaconsfield, the far-famed Tasmania mine, having now reached a production in less than six years of 121,457 ounces of gold, still continues to yield in the same magnificent proportions, whilst other claims in the neighbourhood are attracting attention by their promising returns. A Drainage Union, established on the gold-field on a large scale, with powerful pumping machinery just completed, is expected to give a fresh impetus to mining, and lead to the profitable working of ground heretofore inaccessible. An extensive plant for treating pyrites has been constantly at work for about two years, evidently with profitable results. Beaconsfield.

Lefroy, at one time the seat of a flourishing gold mining industry, is for the third time in its history in a state of partial collapse, work being almost suspended on the New Native Youth and New Chum lines of reef, once famous for their wealth. The New Native Youth Company has the deepest shaft in Tasmania, 812 feet, and it will be much to be regretted in the interests of the Colony if the Company find itself unable to continue the sinking until a depth of 1000 feet at least has been reached. An extensive pyrites plant has also been in active operation for some time, presumably with satisfactory results. Lefroy.

The Back Creek alluvial gold-field, having been twice abandoned, is again reviving somewhat, and several parties of miners are obtaining gold. Back Creek.

Lisle, the most productive alluvial gold-field the Colony has seen, at one time affording employment for upwards of 1000 men in mining operations alone, now has a population of about 70 miners only. Lisle.

Mr. Belstead concludes his report in these words:—"I believe I am right in stating that the depression which now exists is attributable not to any great falling off in legitimate mining, but rather is the result of wild and unreasoning speculation, with its natural and corresponding disappointment, and that so soon as confidence is restored mining in Tasmania will continue to be a prosperous industry."

Mr. Commissioner Dawson, writing upon the Eastern District, draws attention to the fact that the rich yield of the alluvial tin mines has somewhat diminished in consequence of the most easily accessible parts of the richest deposits having to a great extent been worked out. He points out, however, that the industry is still being steadily carried on, and a large quantity of tin sent out of the district. During the six months ended 30th June last, 410 tons of tin ore, valued at £20,500, have been shipped at George's Bay to Hobart and Launceston. The mining parties are mostly tributors, and many of them are composed of Chinese, the European population having greatly decreased. Large sums of money have been expended in efforts to develop lode mining, but without success, so far as remunerative returns are concerned; but the attempt has not been abandoned, and the active prospecting operations still being prosecuted bid fair to lead to ultimate success. The gold fields in the Fingal portion of the district, which at one time yielded handsome returns, are now partially deserted, with the exception of some freeholds, where great promise of success is held out. Report upon the Eastern District.

Mr. Commissioner Glover, in reporting upon the Western District, points out that the Corinna Gold Field, lying to the north of the river of that name, is of vast expanse, and little prospected in consequence of the inaccessible nature of the country. A very considerable quantity of alluvial gold has, however, been found, and here the largest nuggets found in Tasmania were unearthed, two of which weighed 243 and 144 ounces respectively. Reefs have also been discovered, some of which have yielded astonishing prospects; but owing to the nature of the country above referred to, the total absence of roads and a settled population, and the dense impenetrable scrubs, no substantial mining plant has yet been erected. Another gold-field has been discovered recently at King River, in the neighbourhood of Macquarie Harbour. Considerable quantities of alluvial gold have been taken from shallow deposit, and several reefs of apparently great richness have been found. The inaccessible nature of the country, and the great hardship and privation to which miners are subjected, especially at this season of the year, have operated as a hindrance to further work, and effectually retarded the development of the gold field. There is, however, a certainty that the prospects are of a nature to cause a large influx of miners and prospectors next summer. Report upon the Western District.

Tin mining in the Western District has not as yet proved a success. The alluvial deposit appears to be of a very limited extent, and a comparatively small quantity of mineral in this form has been obtained. Tin lodes are numerous in the neighbourhood of Mount Heemskirk, and some very energetic attempts are being made to develop them. The process is well known to be a slow one, and probably years may elapse before the industry is established upon a permanent and profitable footing. Some of the mines are being opened up in a systematic manner with superior appliances, and under the most able management which can be procured. There cannot exist a doubt but that the Western District will in the future be the scene of a very extensive mining industry. The extent of prospecting already accomplished for both gold and tin is insignificant compared to the size of the field for such enterprise, and many practical miners whom I have known in other parts of the Colony and in whom I place confidence, who have recently returned from there, driven back by the impossibility of procuring supplies, penetrating the country, and effecting any substantial progress with their work at this season, have expressed to me the greatest confidence in the ultimate success of the mines, both gold and tin.

Report upon
the North-
Eastern
District.

I have recently travelled through the North-Eastern District with Mr. Commissioner O'Reilly. The Mount Victoria Gold Field, discovered towards the close of 1882, gives every promise of success as a quartz-reefing District. Several reefs have been opened up, and trial crushings have given very encouraging results, and prospecting operations are being energetically carried on. Already 148 applications for leases have been received. The place is easy of access, and is near a settled population, whilst the facilities for conducting mining operations are great, with an abundant supply of water and timber of the best description. The reefs discovered in the vicinity of Mount Horror have never been thoroughly prospected; and gold mining operations at Gladstone,—at one time the scene of the most reckless speculation and unreasonable excitement the Colony has witnessed,—have altogether ceased. The Waterhouse Gold Field is also deserted, although the existence of numerous auriferous reefs is an established fact. The tin mining industry appears to be carried on with vigour, the total quantity of tin ore produced during the six months ended 30th June being 746 tons, valued at £38,700. Many of the claims in the District are held by co-operative parties, who are steadily prosecuting their work, attracting little or no public attention. A considerable number of Chinese are employed as tributors. Mining operations in the District have extended as yet very little beyond shallow alluvial deposits; but there is every reason to believe that vast and rich deposits exist beneath the basalt which occupies a considerable extent of the District, and which has not yet been tested. Although there is generally a good supply of water for mining purposes, few attempts have been made to utilise it on a large scale for ground-slucing. There are reported to be large deposits of tin in some of the hills, which will be worked to great advantage when the abundant supply of water in the larger streams has been brought to bear upon them.

Report upon
the North-
Western
District.

Mr. Commissioner Boyd, in charge of the North-Western District, reports the recent discovery of an auriferous reef at the River Cam. Gold in alluvial deposit has been known to exist in the neighbourhood for some years, but no very extensive mining operations have been conducted there. Gold is also known to exist over a large area unprospected to the north of the Arthur River, and also at Henrietta Plains. The yield of tin from this district is very large: the mine of the Mount Bischoff Tin Mining Company, Registered, continues to produce the magnificent returns which have made it probably the most productive tin mine in the world. It has yielded, since metal was first sent from it into the market, some eight years ago, 12,892 tons. Several other tin mines are being worked at Mount Bischoff with varying results. The quantity of tin ore sent out of the district during the six months ended 30th June was 1192 tons 17 cwt. A large extent of this district is known to be auriferous, and silver has been discovered; but comparatively little prospecting has been done in consequence of the generally inaccessible nature of the country.

Coal.

The production of coal has hitherto been confined to that required for home consumption, limited quantities being obtained at the Mersey, Jerusalem, and New Town, as well as upon some freeholds in other parts of the colony. A very good prospect, however, now exists that it will soon become an article of export. Considerable areas have lately been leased near Fingal and Mount Nicholas, in the Eastern District, and the Sandfly Rivulet in the South, and the persons who have applied tests to samples from those places pronounce the coal to be of superior quality. Active operations have not yet commenced, but preparations are, it is understood, being made to prosecute the industry on a large scale. The two diamond drills are boring for coal at Tarleton, on the Mersey, and Guy Fawkes Rivulet, in the neighbourhood of Hobart, and full particulars of their progress will be found in Mr. Commissioner Belstead's Report, (Appendix A). The total area of Crown lands leased for coal is 3739 acres.

With reference to the returns which appear in Appendix B, I may point out that they are all compiled from information derived from authentic sources. In the case of gold, it is well known that the successful gold-digger never tells the actual quantity he procures. It is taken from shallow alluvial deposit, without the aid of capital, and with the use only of ordinary hand appliances, and the owners generally convey it, or have it conveyed, to Melbourne or one of the other Colonies, without entry at the Customs, and unknown to any one except those entrusted with its transit. I have no doubt whatever but the quantity estimated to be exported in this way, and added to the Customs entries in Return No. 1, is well within the actual yield.

Returns showing the state of the Mining Industry, Returns Nos. 1 and 2.

Whilst the quantity of gold taken from alluvial deposit is constantly fluctuating, and its production never can be regarded as affording more than temporary employment, the quartz mining industry is of a much more stable nature. Return No. 3 bears very conclusive evidence that the production of gold from quartz is a firmly established industry and is increasing. The diminished yield for the first half of this year does not necessarily show a decline, and I have no doubt but the end of the year will show a substantial increase, especially in view of the operations now being conducted at Mount Victoria.

Return No. 3.

In the case of tin, the Returns Nos. 4 and 5 are compiled from actual export entries at the Customs. The yield for the first half of the current year is slightly less than that of the corresponding period of last year, but is greatly in excess of the corresponding periods of previous years, and I have every reason to suppose that the total yield for 1884 will be found at the close of the year to exceed that of any previous period of the same duration. It is well known that, owing to the scarcity of water, the produce of the first half is less than that of the second half of the year.

Returns Nos. 4 and 5.

Return No. 6 exhibits the effect of the excitement which prevailed in 1881 and 1882, the applications for mineral and gold leases in those years being 2093 and 1759 respectively. A large number of these were undoubtedly of a wildly speculative character, designed more to operate upon the share market than to develop legitimate mining enterprise, whilst the applications since the beginning of 1883 were generally made with the view to *bonâ fide* mining operations.

Return No. 6.

Return No. 7 shows a gradual increase in the number of licenses actually taken up and still in force; but doubtless many, especially of the earlier ones, are held for speculative purposes, and are liable to forfeiture for non-performance of the labour covenant.

Return No. 7.

A careful examination of the Returns referred to will unquestionably demonstrate that the Mining industry in Tasmania is in a progressive and very satisfactory condition.

Satisfactory condition of the industry.

I have the honor to be,
Sir,

Your most obedient Servant,

BERNARD SHAW, *Secretary of Mines.*

The Honorable the Minister of Lands and Works.

APPENDIX A.

Office of Mines, Launceston, 30th June, 1884.

MEMORANDUM.

Diamond Drills.

In the latter part of the year 1882 two diamond drills were imported by the Government. Drills. These drills were manufactured under the patent of the Pennsylvania Diamond Drill Company, Pottsville, U.S.A. No. 1 is a powerful machine, designed to work on the surface by means of steam power, and is capable of boring 2000 feet; No. 2 is a smaller drill, intended for either surface or underground work, and capable of boring at any angle, up to 550 feet, the motive power being steam for surface and compressed air for underground work.

Up to this time the longest vertical bore put down is 350 feet (an unfinished bore for coal at Guy Fawkes Gully, near Hobart, still in progress), and the longest horizontal bore put in Work done.

is 546 feet at Mangana, from the face of the Alpine tunnel. The aggregate number of bores put in is 15, and the total distance bored 3651 feet. Particulars as to the work of each drill are appended.

Diamonds.

The diamonds used in boring are known as carbon and Brazilian boartz, the former having been found to stand the best; they should be cubical in shape and from one to three carats in weight. Boartz should be as nearly spherical as possible, and of a pinkish tinge. The prices range considerably: those obtained by this department have averaged 84s. per carat in price. The experience here has been that the carbons stand the best. These diamonds are set in bits varying in size from $1\frac{1}{4}$ inches to $4\frac{3}{8}$ inches in diameter, and are valued at from £20 to £102 according to size. The quality of the several stones varies considerably, some which appeared good to the eye have been found to be practically valueless for drilling purposes and evidently had been got up for market. Some Tasmanian stones, known as Flinders Island diamonds, were tried at Beaconsfield, but proved to be of no value for boring.

Cost of boring.

Want of experience in setting the bits, and in general management of the drills, will probably render a comparison of the cost of boring here with the cost in other parts of the world unfavorable to this department. With diamonds costing as before stated, 84s. per carat, the average cost of boring has been:—In basalt, 5s. 8d. per foot; in metamorphic schist, 15s. 1d. per foot; in sandstone (estimate only), 5s. 1d. per foot; but the cost latterly, with a wider experience, has been very considerably reduced. These estimates include wages, cost of diamonds, fuel, removals, and repairs.

Conditions upon which drills are lent.

The whole cost of working (exclusive of the wages of the men employed), together with the value of diamonds lost or worn out while the drill is being worked, is paid to the Government by the lessees.

The sum of £40, an approximate estimate of the above cost, to be paid in advance on account of expenses, for the first month, excess or deficiency deducted from or added to the payment of £40 for the succeeding month, and so on from month to month. The drill to be worked and operations superintended by the foreman in charge; the management, charge, and working of the drills being under the absolute control of the Mines Branch of the Lands and Works Department. The necessary labor to be provided by the lessees. The right is reserved to the Minister of Lands and Works to suspend or terminate the operations of the drill at any time, and the lessees shall not be entitled to any compensation for such suspension. All expenses connected with the removal of the drill to the place of operation to be borne by the lessees. No charge is made for the use of the drill.

Wages.

The Department employs two foremen at £5 10s. and £5 per week respectively, and two assistants to each drill at rates of wages 7s. 6d. and 7s. per diem respectively (for surface work). These rates are per shift of eight hours. A shift consists of a foreman and first and second assistants.

General remarks.

With reference to the work done by the drills, it may be said to have been fairly successful, excepting in the Beaconsfield District, in what is known as the "Cabbage-tree" country. There, owing to the rapid alternations from hard to soft rocks, notwithstanding the greatest care on the part of the foreman to avoid loss of diamonds and prevent straining the machine, the loss was excessive and the work practically a failure. In boring through basalt and metamorphic schists (making due allowance for the want of experience before referred to), I believe it will be found that the work done by the machines here will bear favourable comparison with drill work elsewhere as regards rate of boring, economy of working, and freedom from serious breakage or accident. The successful carrying on of boring operations depends mainly upon the skill and competency of the foremen, the greatest care and watchfulness being required to avoid loss and wear and tear of diamonds and the straining of the more delicate portions of the machinery. In these respects the Department has nothing to complain of. The expense of working drills in this Colony is considerably increased owing to the difficulty of procuring good diamonds and such tubing and rods as are from time to time required.

Financially the diamond drills have not hitherto been a success, owing to the inability or unwillingness of the companies using them to repay the Government the cost of working. There can, however, be no doubt but that, under proper management, and when a certain amount of prejudice which now exists has been overcome, the diamond drills will become a valuable and economical aid to mining in this Colony.

F. BELSTEAD, *Commissioner.*

The Secretary of Mines, Hobart.

DIAMOND DRILLS.

Statement of Work done.

<i>Date.</i>	<i>Locality.</i>	<i>Direction of Bore.</i>	<i>No. of Bores.</i>	<i>Total distance bored.</i>	<i>Average Cost per foot.</i>
No. 1 DRILL.					
1882-3	Back Creek	Vertical	7	feet. 1330	s. d. 10 9
1883	Lefroy	Ditto	4	1011	5 3
1884	Tarleton	Ditto	1 (now in progress.)	335 7"	5 1 (estimate)
		TOTAL	12	2676 7"	
No. 2 DRILL.					
1882	Beaconsfield	Horizontal, underground.	1	68	No record.
1883	Mangana	Ditto	1	546	15 1
1884	Guy Fawkes Gully ..	Vertical, surface.	1 (now in progress.)	360	5 1 (estimate.)
		TOTAL	3	974	

Aggregate Number of Bores 15

Total distance bored 3650 ft. 7 in.

F. BELSTEAD, *Commissioner.*

90 June, 1884.

APPENDIX B.

No. 1.

RETURN showing the Export of Gold from Tasmania.

YEAR.	QUANTITY.	VALUE.
1880	52,595 ounces	£201,297
1881	56,693 "	£216,901
1882	49,122 "	£187,337
1883	46,577 "	£176,442
*Half-year ended 30th June, 1884...	20,346 "	£77,210

*The quantity actually entered at the Customs for exportation was 17,846 ounces, valued at £85,500, but it is well known the greater part of the gold taken by miners from alluvial deposit is not so entered by them, and it has been estimated at 3000 ounces. This estimate is based upon reliable information.

BERNARD SHAW, *Secretary of Mines.*

12th July, 1884.

No. 2.

COMPARATIVE Statement of Gold exported from Tasmania during the first half of each year since 1879.

HALF YEAR.	QUANTITY.	VALUE.
From 1st January to 30th June, 1880	29,301 ounces	£115,606
" " 1881	27,852 "	£108,146
" " 1882	18,195 "	£69,274
" " 1883	22,148 "	£86,512
" " 1884	17,346 "	£65,509

Compiled from Customs Returns only.

BERNARD SHAW, *Secretary of Mines.*

12th July, 1884.

No. 3.

RETURN showing the quantity of Gold obtained from Quartz during the years 1880, 1881, 1882, 1883, and 1884.

YEAR.	QUANTITY.	VALUE.
1880	34,345 ounces	£130,622
1881	45,776 "	£174,956
1882	36,215 "	£137,183
1883	36,672 "	£138,060
Half year ended 30th June, 1884	15,500 "	£55,600

Compiled from Returns furnished by the proprietors of Crushing Machines, and checked with Customs Entries of Exports

BERNARD SHAW, *Secretary of Mines.*

12th July, 1884.

No. 4.

RETURN showing the Export of Tin from Tasmania.

YEAR.	QUANTITY.	VALUE.
1880	3954 tons	£341,736
1881	4124 "	£375,775
1882	3670 "	£361,046
1883	4121 "	£376,446
For half year ended 30th June, 1884	1922 "	£152,615

Compiled from Customs Returns.

BERNARD SHAW, *Secretary of Mines.*

12th July, 1884.

No. 5.

COMPARATIVE Statement of Tin exported from Tasmania during the first half of each year since 1879.

HALF YEAR.	QUANTITY.	VALUE.
From 1st January to 30th June, 1880	1655 tons	£160,638
" " 1881	1807 "	£158,464
" " 1882	1570 "	£158,953
" " 1883	2008 "	£184,424
" " 1884	1922 "	£152,615

Compiled from Customs Returns.

BERNARD SHAW, *Secretary of Mines.*

12th July, 1884.

No. 6.

RETURN showing the Number of Applications for Leases under the Mineral Lands Act and Gold Fields Regulation Act since the close of 1879.

	1880.	1881.	1882.	1883.	To 1st July, 1884.
Mineral Lands Act.....	474	1469	1449	349	38
Gold Fields Regulation Act ..	216	624	310	251	59
TOTAL	690	2093	1759	600	97

BERNARD SHAW, *Secretary of Mines.*

12th July, 1884.

No. 7.

RETURN of the Number of Leases held under the Mineral Lands Act and the Gold Fields Regulation Act in force on the 31st December of each year since 1879, and on 30th June, 1884.

	1880.	1881.	1882.	1883.	30th June, 1884.
Mineral Lands Act.....	432	595	972	1318	1958
Gold Fields Regulation Act ..	101	181	302	325	338
TOTAL	533	776	1334	1643	2290

BERNARD SHAW, *Secretary of Mines.*

12th July, 1884.

No. 8.

RETURN showing comparatively the Number of Applications for Leases, and the actual Number of Leases held for Mining purposes, during the years 1880, 1881, 1882, 1883, 1884.

	1880.	1881.	1882.	1883.	1884.
Applications for Leases	690	2093	1759	600	97
Leases in force.....	533	776	1334	1643	2296

BERNARD SHAW, *Secretary of Mines.*

12th July, 1884.