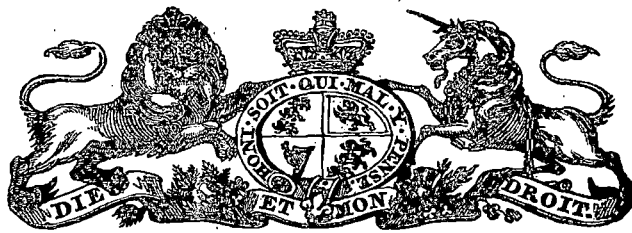


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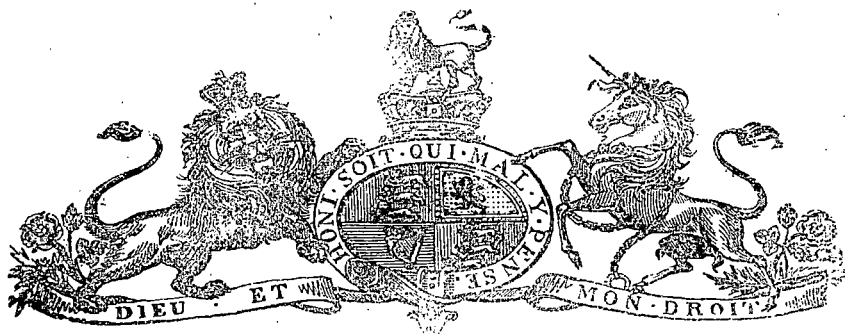
1885.

PARLIAMENT OF TASMANIA.

CROWN LANDS OFFICE:

REPORT OF THE DEPUTY SURVEYOR-GENERAL.

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



REPORT BY DEPUTY SURVEYOR-GENERAL.

Crown Lands Office, Hobart, 1st July, 1885.

SIR,

THE last Report which I had the honor of submitting to you dealt with the reorganisation of the Department after the separation of the Lands and Mines Branches. In it I sketched out the various reforms introduced and proposed, and indicated some of the points I considered in need of legislative action to improve them.

In this Report I propose to review the operation of this Branch of your Department during the twelve months commencing 1st July, 1884, and ending 30th June, 1885.

Clerical Work.

I certainly thought that when the arrears of work were cleared off we should be able to effect many improvements in the way of dealing with our clerical work, but the increase of work has been so rapid that it taxes the utmost energies of the clerks to keep pace with each day's requirements. As the confusion which existed amongst the records has now been put straight as much as it will be possible to do so, I hoped to have been in a position to sort up and rearrange the registered documents of past years; but the demands of daily work have been inexorable, and the services of the temporary clerk have been absorbed in attending to the current correspondence. I experience very great difficulty in securing anything beyond the usual routine work, and if the present pressure continues I shall be compelled to ask for additional assistance. The number of letters despatched during the last half-year amounts to upwards of 10,000, and as the services of two clerks are devoted almost entirely to keeping the books up and preparing returns, it may be imagined that the other two have quite as much as they can manage to answer the large correspondence we receive. The greatest nuisance in all Government Departments seems to me to be the preparation of returns; they are required for every conceivable purpose, both for other Government offices and for Parliament; they entail an immense amount of labour and time to produce, and by far the greatest portion serve no useful end whatever. It not unfrequently happens that just before the valuation rolls are made up the Municipalities, &c. are clamouring for immediate returns of land selected or leased in their districts, and the amount of trouble this entails is inconceivable. What with returns for the Treasury, Auditor, Statistician, Real Estate Duties Office, Municipalities, Road Trusts, and our own purposes, it is a difficult matter indeed to find time to attend to matters of urgent importance in the working of the office.

Drafting Work.

In the early part of this year the draftsmen took possession of their quarters in the new wing. The change is most welcome, and assists materially to a better performance of duties. The rooms themselves are cheerful and airy, and all our offices being now on the same floor and the rooms connected by telephone, there is far less running about and loss of time. The new strong-room is now occupied, and the plans stowed away in security. This being the first time in the history of the Department that the plans have been protected, the acquisition of the room relieves us of a great anxiety. It is intended to replace the wooden presses now in use with iron shelves, and the plans will be kept flat instead of being rolled up. All the loose diagrams have been bound up into books and placed on the shelves. Some sixty volumes have been thus treated during the last two years.

All the draftsmen have been busily employed during the past year; and although the current work demands almost their whole time, they have, nevertheless, contrived to compile some new plans, and renewed others which were becoming illegible and too dilapidated for use. A commencement has been made to compile parish plans on a scale of 4 inches

to the mile. These plans will be extremely useful; their preparation was strongly urged by Mr. Black, who recommended that a special staff of draftsmen should be engaged for the purpose. The compilation of these plans is an extremely tedious job, entailing an examination of every individual diagram; and as the system of check used in past years was extremely defective, it may be imagined that the discrepancies coming to light are not few. I should like to see Mr. Black's recommendation carried out, and a special staff of draftsmen employed on these plans; but as the demands upon the revenue are already very pressing, we must be content to progress slowly. The parish plans will be invaluable for the purposes of "The Real Property Act" and for the assistance of surveyors; they will contain all the information the Department is possessed of respecting the various surveys, and they will be issued on a reduced scale for the use of the general public. Two draftsmen are now employed on these plans, so far as pressure of other duties will permit, and I hope that in two or three years their labours will make a respectable show. It is satisfactory to think that this work has not to be done over again in the future. The original drawings are carefully preserved and copied from time to time by photography, so that each plan may be entered up from time to time as new surveys come in.

The duty of examining and checking Surveyor's diagrams entails a large amount of careful work; two officers are constantly employed at this duty, every diagram being subjected to a searching scrutiny. We have now taken over the duty of examining the surveys of road deviations and transfers for public purposes, and I hope by degrees to exercise some supervision over all surveys made for Government.

We have also taken over the duty of compiling maps showing the progress of settlement under the 24th Section of "The Waste Lands Act," in order that the amounts due for roads may be ascertained. These maps are based upon reports furnished by the Bailiff of Lands and Mines, and it is intended that in time the whole Colony should be included in his examination. Up to the present time reports have been furnished and charts prepared showing all the lands held on credit in Wellington, Devon, and Dorset, distinguishing those improved from those held on speculation. The results of this examination will be found tabulated in Appendix.

Lithography.

At the beginning of the present year the Photo Gallery was completed and opened for work. The building was designed in the Public Works Office from the particulars furnished by the Photographer, and was erected under that officer's supervision. The apparatus was procured from Detmold & Co., of Melbourne, who employed Dalmeyer, of London, to manufacture the lenses and cameras. Everything is of the very best description, and I believe is superior to anything of the kind in any other colony.

The benefits derived from the employment of photo-lithography are so marked that it is a matter for regret that the Department did not possess the appliances years ago. I may cite one instance to show what a saving of time and expense is effected. The map accompanying the Bill for the Redistribution of Seats was required in a hurry, and there was no map in the Department of a suitable scale. A large map was reduced by photography, and within 48 hours of the order being given 500 copies were printed from the stone; without the photo apparatus a draftsman would have been employed for three weeks in drawing the transfer.

It is in the preparation of parish plans that the advantages of photo-lithography are most appreciated. I have already explained the nature of these plans. We have already issued plans of Uxbridge, Molesworth, New Norfolk, Elliott, and Lewis; the towns of Wynyard, Leith, and Latrobe; beside these we have photo-lithographed the middle county sheet of Devon and the portions of Dorset including Piper's River and Scottsdale. All these plans were urgently required, and the public complained very much that they were not procurable. We have also photographed some plans for the Mines Office, and some etchings of buildings for the Public Works Office.

The Photographer's spare time has been occupied in photographing drawings of fossils and plans to be utilised in connection with the work on the Geology of the Colony now in preparation by Mr. R. M. Johnston. Some very beautiful photos of fossils have been obtained and distributed amongst experts in England and Australia, and I have no doubt will be greatly appreciated. We have also photographed a few things for various government offices, and it seems that as the process becomes better known it is better appreciated.

Altogether the acquisition of this plant is a great help, and I am confident that the cost incurred will be the most reproductive work in the Department.

In the Lithographic Printing-room we have been very busy, so much so that I am glad to avail myself of a temporary lull to have the machinery overhauled. It has been running almost every day for over two years.

Survey.

At the time of my last Report I was engaged in preparing a series of Regulations for the guidance of Surveyors; these were published in July last, and are now in force. After a considerable amount of friction inseparable from the starting of any new machinery, the system has been got into working order, and now goes smoothly enough. Some confusion was caused by the retirement of two of our oldest Surveyors, and some delay occurred before the surveys in their hands were executed by their successors; otherwise, with one exception, the Surveyors have promptly carried out their instructions. The season has been an exceptionally wet one, and the Surveyors are loud in their complaints that their work has been unremunerative in consequence. One District Surveyor has petitioned the Governor-in-Council for an increase in the rate paid for surveys.

The increased rate of settlement has sufficed to keep some of the Surveyors busily employed, but the absence of any excitement in the mining world has thrown some out of work.

I am endeavouring to exercise some check over the surveys for the Real Property Act, and have arranged with the Recorder of Titles that any cases of doubt or discrepancy shall be referred to Surveyors in the manner practised in this Department, and if the Surveyor's reply is not satisfactory the plans are sent here for examination. I think it is desirable that all the surveys for the Mines Office should first pass through this branch, and I hope to be able to arrange some such plan with the Secretary of Mines. At present these plans are dealt with in the Mines Office without any reference to us. I understand from the Secretary of Mines that he is not able with his present drafting staff to compile plans of the surveys effected for that branch, and without these plans no effective check can be exercised over the surveys. The Secretary of Mines was not furnished with correct charts when he took over his branch, and I therefore venture the suggestion that a special Draftsman should be employed to compile all the plans required for the Mines Branch. If this is not done I anticipate considerable difficulty will arise when the lands in Dorset are thrown open for selection; the two branches will then be operating in close contact, and it will be necessary that each should have correct records of what is being done.

It will be seen from the Report of the Inspector of Surveys that satisfactory progress is being made in the establishment of standard lines and traverses. The opportunities offered by the survey of various railway lines are being turned to advantage, and the surveys effected in such a manner that they can be used as checks upon our ordinary section surveys. It might be objected that the services of the Inspector were obtained for the primary purpose of checking Surveyor's work, but on the other hand it is essential that some basis of future work should be laid down and some data established whereby the surveys may be tied together and made to constitute portions of the Map of the Colony. The railway surveys seemed to offer an opportunity that may not occur again for some years, and I therefore cordially approve of the Inspector's efforts to utilise them. It is to be regretted that the Main Line, the Western Line, and the Mersey Line were not surveyed in the same excellent fashion as the Scottsdale Line, and I can only express the hope that at no distant day I shall be allowed to survey them and connect them with the Trigonometrical Survey of the Colony. It must be remembered that not only should we provide for the settlement surveys, but we should also anticipate the requirements of the Land Transfer Act; as years go by the original survey marks decay, and it becomes more and more difficult to re-establish old boundary lines. The Real Property Act provides that the Government guarantees an indefeasible title, and it therefore is incumbent upon the Government to provide reliable surveys.

For the purposes of the Real Property Act it is necessary that within the next year or two surveys should be made of Hobart and Launceston; the only plans of them we now possess are old, and have been compiled from separate and detached surveys. Many new streets have been laid out which do not appear upon any of our plans, and two or three suburbs are not shown. I strongly urge that a sum of money should be appropriated for surveys of both towns.

In order to establish a uniform standard of measure, I have procured and distributed about a dozen Standard Steel Band Chains, to be used for comparison only and not for field work. My impression has always been that much of the trouble we experience in reconciling discrepancies of surveys is owing to the want of a uniform standard of measure, and this impression has been confirmed by recent experience. Not only are the working chains subject to variation, but I found that so-called standards were unreliable. Four standards were compared and found to vary as much as two inches. I procured reliable standards from Melbourne and found that they agreed exactly with the one laid down at Launceston, and therefore adopted that as our basis.

Examination for Land Surveyors.

The Board appointed by you for the examination of gentlemen requiring authority to practice as Land Surveyors has held two examinations. At the first, held in December, 1884, four candidates presented themselves; one passed. At the second, held in June last, there were three candidates; all passed. I think the institution of this examination will be the means of securing Surveyors of much higher attainments than has hitherto been the case; the papers set and the

qualifications required are of such a nature that no unpractical Surveyor can possibly pass. The result of the examinations already held is satisfactory, the second one being a vast improvement upon the first, and I have no doubt that as the scope of the papers become better known future candidates will be more carefully prepared. A class for the study of Surveying has been established at Christ's College, and judging from the pupils who have come under my notice the instruction they there receive is practical and thorough. Most of the pupils who attend this class are allowed to come to this office to learn drafting, and as our regulations insist that every candidate must have had two years' service with a Surveyor in the field, I think it will be admitted that everything is being done to secure a good training for our young Surveyors.

Settlement.

During the year 1884 the demand for land was unprecedented. The area of County lands taken up amounts to 73,133 acres, as compared with 38,093 taken up in 1883, and 26,635 in 1882. On reference to the Tables at the end of this Report the various localities in which the lands have been taken up will be found noted. The area of land taken up during the first six months of the current year is 26,527 acres, and I estimate that at the close of the year it will amount to not less than 60,000 acres. The reasons for this increase in the demand for land are, I believe, twofold; first there is the increased facilities of transit offered since the inauguration of a progressive system of railways and roads, and, secondly, there is the fact that a great many men who have lately earned good wages on the various mining fields have now settled down on the land to a more comfortable mode of life.

In order that the Department may be in a position to decide upon the sums to be appropriated for roads constructed from the moneys derived from the sale of land under the 24th Section of the Waste Lands Act, the Bailiff of Lands and Mines has been employed to report upon the settlement of the districts he has visited. The results of his investigations, as far as conducted, have been tabulated, and will be found in the Appendix. In another year I hope to have the whole of the settlement under this section tabulated, and maps prepared showing the localities and position of the lots and the roads on which the money has been expended.

Revenue.

The Revenue derived from the Waste Lands Act for the year 1884 amounted to £59,679, an increase of £7256 on the preceding year. The increase is due entirely to the selections under the 24th Section, which yielded £33,743, as compared with £24,974 in 1883. It must not be imagined, however, that this increase is a legitimate one, or that it will be maintained; the half of the extra amount realised represent sums recovered from arrears of previous years, and, as no arrears are now permitted, the revenue will return to its normal condition. The Waste Lands Act, 1870, has now been in operation 14 years, and consequently the credit selections taken up in the first year of its operations are maturing and the final payments have been made; therefore, although an increased rate of settlement is helping the revenue, on the other hand a great many contributors are dropping off. The revenue for the last six months is about £27,900, and I estimate the total revenue for the year at £56,500. The number of applications for land shows no diminution; in 1882 they amounted to 1075, in 1883 to 1610, in 1884 to 1748, and during the first half of this year to 852. As a large area of good land is about to be thrown open, the applications this year will probably reach 2000.

Special Work.

The Crown Lands Guide for 1885 was published in March, and is meeting with a ready sale. The first edition was a complete success, as every copy was taken up. In the second edition will be found a geological map of the Colony completed by myself and Mr. R. M. Johnston. This map is as accurate as our present information permits; it does not lay claim to be a faithful representation of ascertained facts, but merely a general sketch, and until there is a geological survey as a basis it will not be possible to do more than correct and extend our plan as information comes in. At any rate, this is the first attempt that has been made to represent the geology of the whole Island.

In conclusion, I desire to acknowledge the willing co-operation of all the officers of the Department, especially of those employed in the drafting room, who have willingly sacrificed much of their spare time in their desire to see the work proceed expeditiously.

I trust that the progress made during the past year will give satisfaction both to yourself and colleagues in the Cabinet, and to the public generally.

I have the honor to be,
Sir,

Your obedient Servant,

CHAS. P. SPRENT, *Deputy Surveyor-General.*

The Hon. the Minister of Lands and Works.

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APPENDICES.

STATISTICS.—*Crown Lands Branch.*

	1880.	1881.	1882.	1883.	1884.	1885. 6 Months.
Revenue from all sources £	45,010	46,698	52,388	52,423	59,679	27,900
Revenue from Deposit and Instalments, 24th Section £	16,822	18,442	21,422	24,975	33,743	14,270
Revenue from other Sales of Crown Lands £	18,850	18,825	21,828	17,675	16,805	9644
Rent of Crown Lands for Pastoral purposes £	8842	8669	7906	8781	8002	3396
Area of Country Lands sold Acres	37,913	30,794	26,274	36,796	68,284	24,343
Area of Lands selected under Immigration Act Acres	977	1890	357	1297	5849	2184
Number of Applications received for Selection and Purchase	1147	938	1075	1610	1748	852
Number of Grant Deeds issued	308	282	377	402	602	282

RETURN of Town and Suburban Allotments sold during the Years 1880 to 1884 inclusive.

Year.	No. of Lots.	Area.			Amount sold for.		
		A.	R.	P.	£	s.	d.
1880.....	254	837	0	36	5042	4	4
1881.....	313	540	2	3	9823	10	0
1882.....	308	893	0	6½	8677	16	8
1883.....	173	839	1	13	4400	15	2
1884.....	291	1031	3	16	5908	19	3
TOTALS.....	1339	4141	3	34½	33,853	5	5

RETURN of Country Lots of Crown Land sold during the Years 1880 to 1884 inclusive.

County.	Area sold in—														
	1880.			1881.			1882.			1883.			1884.		
	A.	R.	P.	A.	R.	P.	A.	R.	P.	A.	R.	P.	A.	R.	P.
Buckingham	2535	2	24	2983	3	0	1693	2	0	3497	2	0	5056	1	16
Cornwall	508	1	0	626	2	0	1741	2	0	2336	3	0	2359	3	16
Cumberland	427	0	0	573	0	0	2286	0	0	2321	3	0	5210	0	1
Devon	11,571	1	35	6721	0	0	5763	2	32	7246	3	0	18,307	3	18
Dorset	8719	3	0	8532	3	0	6430	3	32	5689	3	16	11,827	0	0
Glamorgan	221	2	0	225	0	0	240	3	10	1224	0	0	3415	2	9
Kent	1543	0	0	1857	2	0	2271	2	0	1732	3	0	2634	3	4
Lincoln .....	...	...	...	320	0	0	...	...	...	...	...	...	392	2	27
Monmouth	3449	2	29	1674	0	0	873	0	5	3022	2	27	1545	3	3
Pembroke	2972	1	0	2450	2	0	1770	3	0	2984	1	0	8194	0	29
Russell	30	0	0	...	...	...	...	...	...	...	...	...	...	...	...
Somerset .....	...	...	...	447	0	0	958	3	0	2098	1	0	150	2	13
Wellington.....	1448	1	0	1352	0	24	941	2	0	1171	3	0	2769	0	18
Westmorland.....	4435	3	0	3031	0	0	1354	0	0	3470	1	0	6720	3	39
TOTALS.....	37,913	1	8	30,794	3	24	26,274	3	39	36,796	2	3	68,284	2	33

RETURN showing Progress of Settlement under the 24th Section of "The Waste Lands Act," as reported on by the Crown Lands Bailiff and District Surveyors.

County.	No. of Lots reported on.	Area in acres of Lots reported on.	No. of Lots reported as resided upon or improved.	Area in acres of Lots resided upon or improved.	No. of Lots reported as unimproved.	Area in acres of Lots unimproved.
Devon	1079	86,742	812	63,083	267	23,659
Dorset.....	405	30,930	304	22,678	101	8252
Cumberland	84	11,302	39	5568	45	5734
Cornwall.....	149	6567	120	5337	29	1230
Monmouth.....	121	8090	103	7530	18	560
Wellington.....	139	9239	96	6069	43	3170
Pembroke	53	3358	29	1961	24	1397
Tasman's Peninsula	...	...	...	...	...	...
TOTALS	2030	156,228	1503	112,226	527	44,002

Crown Lands Office, Hobart, 1st July, 1885.

SIR,

I HAVE the honor to submit my Annual Report of the progress made during the past twelve months by my assistant (Mr. R. W. Stokell, Trigonometrical Surveyor), and party, and also that of a subsidiary party under my immediate supervision, with Mr. C. K. Oldmeadow (head chainman) in charge; and have also the honor to put forward suggestions of works for the forthcoming year.

Mount Hicks.—In last year's Report it was mentioned by me that I had started a True Meridian line from this hill-top. As Mr. Stokell had not completed a check survey elsewhere, Mr. F. Windsor (the District Surveyor) and his assistant (Mr. Peart) took on the line till Mr. Stokell was able to bring up his party for the purpose of continuing it. This first part was re-checked by Mr. Stokell for the sake of comparison, and both chainage and line showed excellent work. This standard line was run out true south for over four and a half miles, and then a right angle thrown off both in an easterly as well as westerly direction, easterly till the line cut the River Cam, and westerly till a track was reached running from the Hellyer River to Moore's Plains—total distance exceeding eleven and a half miles, through dense forest.

Another fixed point has been given to Mr. Windsor on Moore's Plains from Mount Hicks, and definite instructions were issued to him by me, at your request, as regards the surveys adjacent to this line, which has a reservation throughout its whole distance.

Having only just come into the office I have have no opportunity as yet of determining the result of this work, or whether my instructions have been carried out, but the starting point on Mount Hicks is not yet finally fixed in its proper position from the independent old stations in the neighbourhood, as they are either down or shrouded in timber. This will be altered by the subsidiary party in due course. The Magnetic Variation was considerable on one half-mile of the line; on the rest, though too great for accurate "needle," work is maintained at a fair average throughout.

This work was much retarded by continuous wet weather.

Lisle Forest Reserve.—Mr. Stokell was then instructed to proceed to Lisle. On arrival in Launceston he was granted a few days' leave, and I employed his men in fixing the initial peg of the Scottsdale Railway Survey to the old Trig Station in Launceston. Then took the party up to Lisle, and inspected a portion of the line run by Mr. Lord (the District Surveyor), who had *by my instructions* cleared out and straightened what there was of the old Eastern Forest Reserve boundary. Mr. Stokell checked the chainage, &c., and produced the line southerly about four miles till it arrived at about a right angle with Mount Arthur Trig Station, which had in the meantime to be re-built and re-poled. For the purpose of fixing the line absolutely shots were taken to the station in my presence, and this portion of the line inspected by me. Directions were then given to produce the line northerly to intersect the Scottsdale Railway Survey undertaken by Mr. M'Cormack, to which I shall have occasion to refer under a separate heading. This data is completed, besides other essential information that I gave instructions for, but is not yet received in the office. Knowing its nature I am prepared to say that it will prove most valuable to this Department. This work was also much retarded, first by the wet weather we have had this summer in the North, and then by Mr. Stokell having been called away to make various re-surveys of long surveyed sections. Serious discrepancies were found to exist in these, but, after all, not sufficiently bad to specify at length, their nature being known to you.

Re-Surveys.—I would be glad if the District Surveyors could receive payment for this work, when they are in no way to blame for it, as it trenches considerably on the Special Survey Vote, every penny of which, and indeed more, is urgently required for making proper connections, circuit traverses, standard lines subordinate to the Trigonometrical Survey, not one of which existed before my advent for nearly thirty years, and which I feel sure did then exist, but have been wilfully or carelessly mislaid or destroyed in the interim. I beg to draw your attention to my remarks on Plans.

Scottsdale Railway Survey.—Knowing Mr. M'Cormack, the engineer in charge of this line, by reputation in Australia, and some of the gentlemen working under him personally, I put myself in communication with him; he most courteously offered to accompany me over the line, and I availed myself of the offer. A sufficient number of the field-books, plans, &c. at the different camps were kindly shown to me, and enabled me to see that it would be greatly to our advantage to avail ourselves of this data, which is uniform throughout. The line cannot be spoken too highly of. Taken as a standard circuit line in connection with the Lisle Forest Reserve standard line previously mentioned, and with the assistance of the re-established trig. points of Mount Arthur and Launceston, a large block of country will be permanently enclosed and fixed where the surveys are not very reliable at present. I had the honor to report most favourably to you on the survey above referred to, and the Engineer-in-Chief has kindly placed the field-books of the various sections in turn at my disposal. I also got Mr. M'Cormack to decide with me on two station sites on the Crown lands through which the line passes, subject to the approval of the Engineer-in-Chief and yourself, in order that the land adjacent might be reserved for township purposes, and that roads might trend in that direction. These matters were approved of, and the District Surveyor instructed.

Circuit Traversing.—I had the honor to urge the necessity of some additional circuit traversing, and mentioned that a gentleman competent and willing to undertake it at a reasonable rate could be found; but whilst acknowledging the utility of the course indicated, want of funds compelled you to defer the matter.

Public Works Officers.—I have tried to establish friendly relations with officers employed on roads, mines, and railways, &c., or any professional gentlemen having dealings on Public Service with the Honorable the Minister—in some cases with great success. At present there is, and has always, apparently, been a want of *esprit de corps*, else professional jealousy or sheer carelessness. The result is that there is not a railway or a road properly fixed on our plans,—no starting points known beyond the Department the survey belongs to, and frequently, I suspect, not even there after a lapse of time; and though this road or railway may be well laid out in its entire length, it has no significance from our standpoint as a subsidiary base of operations. Since my advent I have hoped to remedy this, and am pleased to say that Messrs. T. M. Atkinson and C. K. Sheard, Civil Engineers, proffered me assistance, and have most cordially and materially helped me, by voluntarily taking sights along the railways they have been in charge of to the various trig. stations I have erected, to obtain their kindly co-operation. I am credibly informed that a serious discrepancy exists in one case, full particulars of which are not yet to hand. Other gentlemen connected with the Railway Department also offered their assistance, but I was not in a position to avail myself of the offer as the trig. stations require rebuilding in every case. I venture respectfully to point out if the Colony was richer in revenue it would be still a waste of time and money for each Department to survey a road or railway several times over to obtain the information they may severally require from time to time, whilst a little kindly co-operation in the first instance, as above stated, would prevent the necessity.

Trigonometrical Survey.—The survey concluded by the late Mr. Sprent, sometime Surveyor-General of Tasmania, has come in for an unmerited share of abuse and opprobrium, for the simple reason that very many of the surveys that till last year obtained here would not stand any test of that nature. It must be borne in mind that it is entirely owing to that survey that we have a plan of Tasmania at all, for the subsequent plans are mere tracings from the old original plan with detail alterations and additions here and there, but having no actual alteration as a whole, the proof of which is the scale the original plan is drawn to—namely, five miles to the inch,—and the reductions of which are seven and a half miles and fifteen miles to the inch respectively. The records of this survey that exist, from which the plan above referred was compiled by the late Mr. Sprent, consist of a plan with distances from station to station; a few clerical errors and entire omissions have been noted by me, but the plan is invaluable to the Department. The other records that exist are not complete, I think, and I am not sure how many of them are to be depended upon; some appear to be office compilations; whatever they may be taken as a whole they are probably sufficient to meet our requirements for some years. I can quite understand that with a dominant clerical staff and supervision the draftsmen found it easy to overcome the opposition trig. stations offer to bad work sought to be added to a plan. On preparation of a plan the trig. stations should be first scored in, and not afterwards as an ornament when everything else is completed; secondly, the standard lines and circuit traverses and minor fixed points; and, last of all, the selection work. Hitherto these trig. stations have had no significance on a plan, and got wiped out if they came in the way, or else were put further out a mile or so where they gave no trouble.

Plans.—I would respectfully draw your attention to the fact that many of the old parish plans, and also later ones, have not been respected like the original trig. plan completed in 1856. The present staff of draftsmen, I should judge, are not able to do much more than keep up the current work of the office, and the mere blocking of various surveys together will never constitute a good plan, which, as you are aware, can only be properly done in the way I suggest. In conclusion, I need not point out that the correctness of a tracing from generations of tracings, extending over, say, twenty-six years, must be viewed with strong suspicion.

Circuit Traversing.—Owing to the wet weather we had last summer, reasons before specified, and others understood, I think it will be advisable to confine ourselves as much as possible to circuit traversing instead of standard lines in connection with the re-established trig. stations. I would point out its utility, amongst other things, for supplying a surveyor with a fixed point to work from, provided the remainder of the traverse is known only to yourself and me, so that the work can be gauged thoroughly when it comes in.

The Assistant Surveyor.—Instructions have been lately forwarded to this gentleman to disband his party for this winter. He, at the present juncture, is to visit and report on some matters on which you require information, and which may possibly take him a month; his movements will then depend on your approval or otherwise of a short set of traverses that will be shortly required or his employment in the office during the winter months, where there appears to be plenty of work.

Subsidiary Party.—In November last I was authorised by you to form a subsidiary party for trig. construction, which I placed in charge of Head Chainman Mr. C. K. Oldmeadow, who had served six months with Mr. Stokell, and I am much pleased to draw your attention to the way this young gentleman has acquitted himself, as well as the members of the party. Their duties are very hard sometimes, and the work requires intelligent, strong, and trustworthy men to be efficiently done. I have much pleasure in stating that these four young Tasmanians have done their work thoroughly well. Their duty consisted in finding the old trig. stations, carefully centering each of them, and rebuilding them in turn on the principles adopted by Major-General Frome, R.E., Sir Henry Freeling, R.E., and G. W. Goyder, Esq., severally, and in turn, Surveyors-General of South Australia. A base stone is sunk flat into the ground, or the solid rock taken, and a mark—cross within a circle—is punched on the stone or rock by means of a cold chisel, with the broad arrow cut out adjacent to the circle; a complete circle of nine feet in diameter is then carefully marked out from the centre of the cross, and the pile is built of solid stone, vertical for about seven feet, then tapering into about three feet and a half diameter, at an altitude of from ten to eleven feet. A centre pole, being a large straight sapling about fourteen feet long, is carefully lowered down a well, butt up, *i.e.*, small end down, on to the cross itself, when the pile is about four feet high, and firmly built in vertically. Owing to this base-mark now instituted, it will be easy to reproduce these trig stations hundreds of years hence exactly as they now exist. The re-erection of the old trigs should not be delayed, as they were built principally of timber which has decomposed in some cases, been burnt in others, leaving, in a few cases, nothing to mark the spot; but, generally speaking, there is sufficient stone to indicate the true position. It is a pity that timber was used in their construction, as good stone is frequently abundant and timber scarce. I can only account for it on the hypothesis that it gave the prisoners something to do. I am afraid that we shall never be able to afford to clear hills for minor trig. stations similar to those in the long settled districts, where whole acres of large timber were cleared off the summit of the selected hills by the labour before referred to. I have endeavoured to obtain a price for clearing the summit of Mount Horror, but as yet neither person who was likely to do it has sent me an offer to submit to you.

This rebuilding on the new pattern represents a lot of hard work, as the stone has to be carried by hand to one point. So expert have the members of this party become under my superintendence that they can average a trig. a week, often travelling included. It must be recollected that generally everything has to be "swagged up" these mountains, and they frequently had three trips up with seventy pound swags on their backs. They had to be taken off this work lately for the purposes of clearing round the old semaphore at Mount Augustus for the Colonel Commandant, and assisting me in traversing certain roads in the environs of Hobart, for the purpose of ascertaining the natural features and other information for military purposes.

Numbers of the trig. stations are on private property, but the owners have invariably accorded permission to this party to clear round and rebuild the station.

The following stations have been built or rebuilt and cleared round where necessary:—Mount Stronach (new), Mount Victoria, Mount Cameron, Mount Arthur, Butler's, Constitution and Spring Hills, Black Tier, Hummocky Hills, Mount Arnon, Temple Bar (hill cleared and stone ready), Mount Augustus (trig. and semaphore), Mather's Hill, Mount Rumney, Spring Hill. Grass Tree Hill is now in hand, and will be finished this week; Mount Direction at the end of next. This mountain must not be taken for the Mount Direction in the north, where Mr. Stokell's party were engaged clearing round the old station before coming into Launceston to disband. I trust that it will be thought that very fair progress has been made in this direction. All the principal stations must be re-constructed before much can be done in the way of circuit traverse adjacent.

Mineral Sections.—I think something ought to be done about the surveyed lines of forfeited claims on the ground. I understand it is the practice to erase the claims off the plan as soon as forfeited, but some record ought to be maintained in order that in supplying the District Surveyor with information he would be in a position to distinguish for himself the various "side lines" from each other. The surveyors have frequently a long way to go. There are no mileage fees, and sometimes it may happen there is no one in a position to give information. Whilst advocating the necessity of good work, it is only right, it appears to me, that the surveyors should be spared any loss of time that is preventible.

Military Survey.—During the late threatened rupture between England and Russia I was deputed to construct, to a scale of half a mile to the inch, a plan of the environs of Hobart, showing approaches, natural features, buildings, timber clearings, &c., which was compiled and drawn by myself for the use of the military authorities. This plan showed the country as far as the Sorell Causeway in one direction, Muddy Plains and North West Bay in others.

Office of Inspector of Surveys.—I have the honor to thank the Hon. the Minister and Surveyor-General for the comfortable office I have just taken possession of. During the past eighteen months, owing to the crowded state of the office, I have had no proper facilities for doing any clerical or drawing work. Hitherto I have not had any of the new work sent in by the surveyors officially submitted to me, but I can see a considerable alteration for the better by comparison with the old work sent in before the issue of the regulations last year. I beg that, when trig. stations are actually visible from a new survey or re-survey of any block, the surveyor be required to give a round of angles to these stations from some point of that survey, and if a "side line" is sufficiently long the included angles at each end to be taken, in order that the position of the survey can be accurately determined. I know a case where the trig. stations were ignored quite lately, and I have seen that new surveys adjacent to my standard lines have not as much information as is desirable.

In conclusion, I beg to state the Scottsdale Railway Survey and the Lisle Standard Line, taken with the Trigonometrical Survey, form the ground-work of an excellent plan; the results agree very closely, as I anticipated in a former portion of this report. There are some matters that require alteration which will, I feel sure, be more fitly and ably treated of by yourself. As Administrator of the Department, and, previous to that, with many years' Tasmanian experience, the systems that obtain in the various Departments and side issues involved are necessarily known to you, of which I, as a new comer, albeit professional adviser of this Department, know nothing, beyond the necessity for alteration. I am aware that changes must be gradual, and a question of time, if efficiency and economy are expected and enjoined: much has been done already, considering those essentials had to be studied together.

I have the honor to be,
Sir,

Your obedient Servant,

WENTWORTH M. HARDY,
Inspector of Surveys.

The Deputy Surveyor-General, Hobart.