

# REPORTS

ON THE

## TRAMWAY SYSTEM AT THE THAMES AND COROMANDEL.

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PRESENTED TO BOTH HOUSES OF THE GENERAL ASSEMBLY, BY COMMAND OF  
HIS EXCELLENCY.

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WELLINGTON.

—  
1872.



## REPORTS ON THE TRAMWAY SYSTEM AT THE THAMES, ETC.

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### No. 1.

His Honor T. B. GILLIES to the Hon. W. GISBORNE.

SIR,—

Wellington, July, 1872.

I have the honor to transmit herewith copies of Reports on the Tramway System at the Thames and Coromandel, by the respective District Engineers, which probably may be useful and interesting to the Government as well as to the House.

I have, &c.,

THOMAS B. GILLIES,

Superintendent of Auckland.

The Hon. the Colonial Secretary, Wellington.

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### No. 2.

Mr. J. SHEEHAN to Mr. R. MILLETT.

SIR,—

Superintendent's Office, Auckland, 21st May, 1872.

I have the honor to state that the Government, being dissatisfied with the manner in which the tramways on the Thames Gold Fields have been managed during the last two or three years, have determined to take such steps, if possible, as will insure their being worked more economically, and and with less trouble to the Government for the future. Before deciding on the nature and extent of the changes necessary to effect this desirable object, the Government desire to have all the information available upon the whole question of tramways construction and management on the Thames Gold Fields. With this object in view, you will be good enough to prepare, without delay, a report showing—

1. The number, position, and extent of the several tramways.
2. Their cost, showing prime cost, and amounts since expended in extensions and repairs in each case.
3. Total receipts from each up to end of last quarter from first working.
4. Total expenditure on each during same period, for extensions, repairs, and working expenses.
5. Statement showing the manner in which they have been worked by Government, and by holders under lease; specifying the periods during which each system was in force, and comparative statement of receipts and expenditure under either system.
6. Amounts paid or allowed by the Government to lessees, as compensation or otherwise, including amounts written off because of inability to pay. Specify individuals and amounts in each case.
7. Approximate estimate of amount of work done by each tramway during the several half-years it has been in operation, for the purpose of ascertaining whether the work is increasing or decreasing, and also showing the nature and quantities of the several articles carried. This return cannot be anything but an approximation, but you will please endeavour to make as close an estimate as possible.
8. The periods at which the several tramways now under lease will come into the hands of Government.

In addition to furnishing the foregoing returns, you will be good enough to report specially on the question of the best method of dealing with the tramways for the future, taking into consideration—(1.) Whether the tramways can be regarded as having been successfully managed under the present leasing system. (2.) If considered a failure, the cause of failure. (3.) Whether any modification of the leasing system might be introduced by which more regular and economical working might be obtained. (4.) Whether the Government could work the tramways at a cheaper rate than private individuals; and, if so, what would be the probable cost per annum of tramways now in work. (5.) Whether you would recommend the adoption of this latter course.

And you will further oblige the Government by furnishing them with any other facts or suggestions relating to the matters under inquiry which may not come properly under any of the above heads.

I have, &c.,

J. SHEEHAN,

Gold Fields Secretary.

The District Engineer, Grahamstown.

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### No. 3.

Mr. R. MILLETT to Mr. J. SHEEHAN.

SIR,—

Engineer's Office, Grahamstown, 28th June, 1872.

In accordance with your instructions, contained in letter No. 1598-7, 725, 21st May, 1872, I have the honor to report that, in the years 1868 and 1869, certain representations having been made to the Government regarding the great want of tramway accommodation on the Thames Gold Field, surveys were ordered, tenders called for, and works undertaken by Government, in order to meet the requirements of the field.

On the 17th June, 1869, the first tramway—the Moanataiari—was opened for traffic, and, strange to say, with all the reported thousands of tons to be brought down to the machines, for some time only a few claim-owners availed themselves of the accommodation; in fact, for the first three months only 733 tons of quartz were sent down.

The Tararu, Waiotahi, and Karaka Tramways were then constructed; also the Hape Tramway.

After a time branch lines as feeders became necessary, to enable certain claims to send down quartz to the crushing mills, and a system of wire tramways was invented. Three lines were constructed, two of which are still in use as feeders to the Moanataiari; but the third—the Te Papa—put up at the instance of claim-holders, has fallen into disrepair, there not being sufficient quartz at present to come down to pay the working expenses.

The cost of all these tramways and extensions, including the rolling stock necessary to utilize them, was £34,192 11s. 7d.

It will be seen by reference to accompanying tabulated statements, under the headings therein given, the comparative amount of work done by the different lines of tramway at present being worked on the field. Of these the Moanataiari shows the largest amount of traffic, but from the peculiar form of construction (the greater part of the line being worked by gravitation) it requires a large staff to work it, consequently the working expenses and maintenance are heavy. However, notwithstanding the apparent increase of the traffic, as shown by lessee's return, lessee made application to the Government to take the line off his hands, being unable to pay the rent. This was done on the 1st May, 1872. The late lessee was then put in charge to work the line, on the condition that it and the rolling stock should be kept in repair, the understanding being that this arrangement was to terminate at any time the Government desired either to work the line or to lease it.

As regards the estimated quantities of quartz sent down the Moanataiari Tramway, as shown in return, they must be taken as approximate, with the exception of the time the line was worked by Government (from 26th June, 1869, to 25th March, 1870), they being compiled from newspaper reports up to 15th May, 1872.

Judging from these newspaper reports of the quantities of quartz crushed from month to month, I expected the tramway returns would show a great decrease in the quantities brought down; but the opposite seems to be the case on the Moanataiari, Tararu, and Waiotahi Tramways, as shown by returns made by the various lessees.

The other tramways show a decrease; the Hape may, however, be expected to keep up its returns, as a new stone quarry has been opened there, the demand for stone from it being gradually on the increase.

The opening of the main tunnel through the Kuranui Hill to the Moanataiari Company's ground has had the effect of causing many claim and lease owners to shepherd their ground, the intention being, I believe, to avail themselves of this means of sending down quartz to the beach, and open up the claims at a very low level. I am informed it is the intention of the Moanataiari Company to bring up their mining timber by this underground tramway, which will cut off from the Moanataiari Tramway a large amount of up-paying traffic, quartz and mining timber being the down-paying. I notice that latterly there is less timber brought down for mining purposes than formerly, the competition at the beach reducing the down-payment for carriage on the line from an average of £50 per quarter in 1870 and 1871 to £32 per quarter in 1872.

The Tararu and Waiotahi Tramways were opened for traffic about the 1st October, 1869. They were worked by Government—the Tararu till 6th July, 1870, and the Waiotahi to 24th April 1871, when they were leased.

The traffic returns whilst worked by Government and by lease are given in the schedule appended.

Since the Tararu Line was leased it has been extended about half a mile up Tinker's Gully. The last 30 chains of this extension were made at the instance of the owners of the "Highland Chief" and "Felix" leaseholds. On completion of the extension these leases sent down a few tons of quartz; but the yield per ton being so small, further work has been suspended.

The Tararu Tramways leased to William Souter, Esq., are successfully worked, the lessee having constructed a branch line, about half a mile long, to the paying claims in Fiery Creek; otherwise I believe this line would be in the same position as the Karaka—simply for bringing down timber for mining and firewood.

The Waiotahi Tramway is also well worked by the lessee; and if extended to the beach, it would much increase its usefulness, by facilitating the supply of coals to the batteries up the creek.

The Hape Creek Tramway was first worked by the Government and subsequently leased. This tramway has done but little in the way of bringing down quartz, but is now fairly employed in bringing down firewood, and stone for building purposes.

The Te Papa Wire Tramway, a line constructed for the convenience of miners in the locality of Te Papa Creek, has fallen into disrepair; there being so little quartz to be brought down, it will not pay to keep hands on to work it. The principal mine from which quartz was sent down having amalgamated with the Una Company, all quartz from it is brought down by the Una Tramway to the mill.

The Karaka Tramway is not much used, except for the purpose of bringing down firewood, but may be made useful when a stone quarry is opened up, there being excellent stone in the locality.

It will be seen from the returns, that while the Government held the tramways, only in one case (the Moanataiari) did the amount of traffic cover the sum paid for working expenses and repairs, while the receipts by Government under the leasing system are considerably in excess of the expenditure, notwithstanding that large sums of the lessees' rent have been remitted. I may, however, mention that the tramways, while wrought by Government, were kept in thorough working order and repair, which cannot be said of them under the leasing system.

There was always a difficulty of the Government collecting the moneys due for traffic, most of the companies and claims who brought down quartz seeming to think that they had no right to pay the Government; this difficulty, I believe, not being experienced to anything like the same degree by the lessees.

Taking altogether the experience gained while the tramways were wrought by Government, I cannot recommend that they again should be worked by it.

To work the lines by Government, there will be required a general manager, five depôt clerks,

who might act as brakesmen, five labourers in charge of horses, also to assist in loading and discharging trucks; on the Moanataiari, one carpenter and six men at the least to work the line.

The cost of this staff would be:—

1 Manager	...	...	...	...	£3 15 0 per week.
5 Depôt Clerks	...	...	...	...	12 0 0 „
5 Labourers	...	...	...	...	10 10 0 „
6 Brakesmen	...	...	...	...	12 0 0 „
1 Carpenter	...	...	...	...	2 14 0 „
					£40 19 0 „

Cost of staff and labour would amount to £2,000 per annum, exclusive of horse feed and material required for the maintenance and working of the lines.

As regards the best mode of working the tramways, I believe the best way to make them really useful to the field will be to lease them on the lowest tariff system (*i.e.* lowest rate of charge), the lessee of the Moanataiari to pay the Government £150 per annum, so as to refund the amount it has to pay Mr. Tookey; lessees to keep lines and rolling stock in thorough repair and working order. To insure that this be done, a monthly inspection should be made, and an inventory taken; and any repairs required to the line, or deficiency in the rolling stock, should be forthwith made good, otherwise the Government may enter on and make good the repairs at the risk and cost of lessee and his sureties; and, as a further security for monthly repairs, lessee shall lodge with the Government a cash deposit, equal to 10 per cent. on the probable receipts from traffic on the line, calculated on the basis of traffic for the last six months.

After the first month, lessee shall produce to the Government a proper amount of all receipts and accounts due for traffic on the line or lines so leased, said account to be duly audited by the Accountant or other Government officer, and duly verified by lessee before a Justice of the Peace; this account to be sent in within the first week of each month, accompanied by a cash deposit of 10 per cent. on the traffic, as ascertained from said account furnished.

After the monthly inspection of the lines and rolling stock has been made, and it be found that all repairs of line and plant have been made good by lessee, then the above 10 per cent. shall be returned by voucher; but the first 10 per cent. deposit shall remain in the hands of the Government till the termination of the lease, when it will be returned, if line and plant be found in good repair and working order.

By adopting this system of working the lines of tramway, it appears to me that, if the line be at all a paying one, it will be the interest of the lessee to keep it in proper working order, even if it pay him, over and above expenses, only his own wages for the management.

Annexed I give replies to each of the queries in your letter; also general returns having reference to the various tramways while under lease and worked by Government; and a return received from lessees of their income and expenditure during the time they held the tramways. As regards this return, I beg to draw your attention to the fact that the lessee of the Karaka line is the only one who shows that his income exceeds the expenditure. At the same time you will observe that the length of this line is nearly double the other lines worked by horse power, the principal part of the traffic (being firewood) is brought from the upper section, thereby increasing the working expenses.

I have been obliged to delay sending in this report in consequence of the difficulty I found in getting the lessees' statements, and without them it would have been incomplete, though they must be taken for what they are worth.

I have, &c.,

R. MILLET,  
District Engineer.

John Sheehan, Esq., Gold Fields Secretary.

Query No. 1.—“The number, position, and extent of the several tramways.”

1. Moanataiari Tramway	...	120 chains	...	Gravitating and horse power.
2. Shooting Star Wire ditto	...	7½ „	...	Gravitating.
3. Madman's Gully Wire ditto	...	26 „	...	ditto.
4. Waiotahi Tramway	...	59 „	...	Horse power.
5. Karaka ditto	...	163 „	...	ditto.
6. Tararu ditto	...	80 „	...	ditto.
7. Tinker's Gully ditto	...	40 „	...	ditto.
8. Hape ditto	...	81 „	...	ditto.
9. Te Papa Wire ditto	...	40 „	...	Gravitating.

Query No. 2.—“Their cost, showing prime cost, and amounts since expended in extensions and repairs in each case.”

Name of Tramway.	Prime Cost.			Extensions.			Repairs.			Total.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Moanataiari	8,675	3	5½	110	5	0	50	3	4	8,835	11	9½*
Madman's Gully and Shooting Star	1,369	2	11	...	...	...	...	...	...	1,369	2	11
Karaka	8,542	5	6	...	...	...	100	8	9	8,642	14	3
Tararu and Tinker's Gully	5,588	12	10	666	15	6	7	13	0	6,263	1	4
Hape	4,041	13	9½	...	...	...	28	10	0	4,070	3	9½
Waiotahi	4,316	13	9	303	13	0	...	...	...	4,620	6	9
Te Papa	578	5	10	...	...	...	...	...	...	578	5	10

\* Including £1,355 paid for Tookey's line.

REPORTS ON THE TRAMWAY SYSTEM

Query No. 3.—“Total receipts from each up to end of last quarter, from first working.”

	£	s.	d.
Moanataiari, Shooting Star, Madman's Gully, to 25th April, 1872	2,104	16	11
Karaka, ... to 30th May, 1872	714	3	2
Tararu and Tinker's Gully ... to 28th May, 1872	419	16	6
Hape ... to 30th May, 1872	188	19	6
Waiotahi ... to 24th May, 1872	175	5	4
Te Papa ... to 30th May, 1872	95	0	8

Query No. 4.—“Total expenditure on each tramway, during the same periods, for extensions, repairs, and working expenses.”

	£	s.	d.		£	s.	d.
Moanataiari, Shooting Star,				Hape	303	15	0
Madman's Gully*	2,288	8	2	Waiotahi	548	0	5
Karaka	796	9	3	Te Papa	113	13	6
Tararu and Tinker's Gully	1,555	11	1				

\* Includes rent paid to Mr. Tooke.

Query No. 5.—“Statement showing the manner in which they have been worked by Government, and by holders under lease, specifying the periods during which each system was in force, and comparative statement of receipts and expenditure under each system.”

IN GOVERNMENT HANDS.				UNDER LEASE.									
	Receipts.		Expenditure.			Receipts.		Expenditure.					
	£	s.	d.	£	s.	d.	£	s.	d.				
Moanataiari, from 17th June, 1869, to 25th March, 1870	1,525	13	7	1,830	2	10	Moanataiari, from 26th March, 1870, to 25th April, 1872	579	3	4	348	0	4
Karaka, from 3rd Nov., 1869, to 15th Aug., 1870	556	13	2	696	0	6	Karaka, from 15th Aug., 1870, to 30th May, 1872	158	0	0	100	8	9
Tararu, from 1st Oct., 1869, to 4th July, 1870	269	12	10	413	9	9	Tararu, from 7th July, 1870, to 28th May, 1872	150	3	9	7	13	0
Hape, from 3rd March, 1870, to 31st Aug., 1870	121	6	2	275	15	0	Hape, from 1st Sept., 1870, to 30th May, 1872	67	13	4	28	10	0
Waiotahi, from 16th Sept., 1869, to 6th Oct., 1870	104	17	0	244	7	5	Waiotahi, from 24th April, 1870, to 24th May, 1872	70	8	4			
Te Papa, from 10th Oct., 1870, to 28th Jan., 1871	78	7	4	113	13	6	Te Papa, from 1st July, 1871, to 31st Jan., 1872	16	13	4			

Query No. 6.—“Amounts paid or allowed by the Government to lessees as compensation or otherwise, including amounts written off because of inability to pay. Specify individuals, and amounts in each case.”

	Amount allowed.				Amount allowed.		
	£	s.	d.		£	s.	d.
Moanataiari—Simpson and Unthank, Lessees	200	0	0	Tararu—William Souter, Lessee			
Moanataiari—Alexander Unthank, Lessee	275	0	0	Hape—Holland and Peace, Lessees	65	5	0
Karaka—J. P. Clark, Lessee	75	0	0	Hape—John Briton, Lessee			
				Waiotahi—Edward Gallagher, Lessee			
				Te Papa—William Murdoch, Lessee	8	6	8

Query No. 7.—“Approximate estimate of amount of work done by each tramway during the several half-years it has been in operation.”

MOANATAIARI.

Dates.	Tons Quartz.	Tons General Traffic.	Superficial Feet Timber.	Remarks.
From 17th June to 30th Dec., 1869, 6½ months	2,893	968	162,725	} Wrought by Government.
From 1st Jan. to 25th March, 1870, 3 months	3,145	297	66,268	
From 26th March to 30th Sept., 1870, 6 months	4,981	1,344	41,689	
From 1st Oct., 1870, to 30th March, 1871, 6 months	4,468	1,767	53,976	} From returns given by Lessee.
From 1st April, 1871, to 30th Sept., 1871, 6 months	5,959	2,253	114,438	
From 1st Oct., 1871, to 30th March, 1872, 6 months	6,264	1,375	91,587	
	27,710	8,004	530,683	

KARAKA.

Dates.	Tons Quartz.	Tons General Traffic.	Superficial Feet Timber.	Remarks.
From 3rd Nov., 1869, to 30th April, 1870, 6 months	185	1,834	62,639	} Wrought by Government. } From returns given by Lessee.
From 1st May, to 15th Aug., 1870, 3½ months	188	1,380	8,296	
From 16th Aug. to 31st Dec., 1871, 4½ months	149	1,146	No return included	
From 1st Jan. to 31st July, 1871, 7 months	172	657	in General Traffic.	
From 1st Aug. to 31st Dec., 1871, 5 months	144	1,054		
From 1st Jan. to 31st May, 1872, 5 months	97	742		
	935	6,813	70,935	

WAIOTAHU.

Dates.	Tons Quartz.	Tons General Traffic.	Superficial Feet Timber.	Remarks.
From 16th Sept., 1869, to 31st Mar., 1870, 6½ months	547	156	20,116	} Wrought by Government. } From Returns given by Lessee.
From 1st April to 7th Oct., 1870, 6 months	12	217 traffic	10,112	
From 8th Oct., 1870, to 24th April, 1871, 6 months	No		...	
From 25th April, 1871, to 24th April, 1872, 12 months	1,279	1,012	No return included in General Traffic.	
	1,838	1,385	30,228	

TARARU.

Dates.	Tons Quartz.	Tons General Traffic.	Superficial Feet Timber.	Remarks.
From 1st Oct., 1869, to 31st Dec., 1869, 3 months.	257	183	28,217	} Wrought by Government. } From returns given by Lessee.
From 1st Jan., to 4th July, 1870, 6 months	438	338	31,581	
From 5th July to 31st Dec., 1870, 6 months	3,096	8,100	No return included	
From 1st Jan. to 30th June, 1871, 6 months	5,151	2,070	in General Traffic.	
From 1st July to 31st Dec., 1871, 6 months	865	2,200		
From 1st Jan. to 31st May, 1872, 5 months	3,837	2,900		
	13,644	10,791	59,798	

HAPE.

Dates.	Tons Quartz.	Tons General Traffic.	Superficial Feet Timber.	Remarks.
From 3rd March to August, 1870, 6 months ...	167	693	23,863	} Wrought by Government. } From returns given by Lessee.
From 1st Sept. 1870, to 28 Feb., 1871, 6 months	310	811	No return included	
From 1st March to 31st August, 1871, 6 months	196	696	in General Traffic.	
From 1st Sept. to 29th Feb., 1872, 6 months	133	1,978		
From 1st March to 31st May, 1872, 3 months	57	136		
	863	4,314	23,863	

TE PAPA.

Dates.	Tons Quartz.	Remarks.
From 10th October, 1870, to 28th January, 1871, 4 months	413	} Wrought by Government. } From return given by Lessee.
From 1st February to 31st July, 1871, 6 months ...	100	
From 1st August, 1871, to 31st March, 1872, 8 months...	40	
	553	

NOTE.—Under the heading of "General Traffic" is included timber, coal, iron, machinery, groceries, &c.

## REPORTS ON THE TRAMWAY SYSTEM

Query No. 8.—“The period at which the several tramways now under lease will come into Government hands.”

Waiotahi, 24th April, 1873.  
Hape, 30th September, 1872.  
Tararu, 28th June, 1873.

Moanataiari, in Government hands.  
Karaka, in Government hands.  
Te Papa, in Government hands.

NUMBER of TONS of QUARTZ sent down the Moanataiari Tramway, compiled from Newspaper Returns, with the exception of the first three months of 1870, which are taken from Government Tramway Books.

Month.	Year 1870.	Total for each Quarter.	Year 1871.	Total for each Quarter.	Year 1872.	Total for each Quarter.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
January ... ..	890	...	473	...	238	...
February ... ..	1,001	...	406	...	457	...
March... ..	1,254	3,145	692	1,571	448	1,143
April ... ..	1,204	...	397	...	265	...
May ... ..	1,184	...	706	...	597	to 15th May, 1872.
June ... ..	955	3,343	674	1,777	...	...
July ... ..	995	...	358	...	...	...
August ... ..	1,035	...	478	...	...	...
September ... ..	512	2,542	791	1,627	...	...
October ... ..	842	...	551	...	...	...
November ... ..	516	...	687	...	...	...
December ... ..	1,076	2,434	604	1,842	...	...

## LESSEES' RETURNS of INCOME and EXPENDITURE.

*Moanataiari.*

	Income.			Expenditure		
	£	s.	d.	£	s.	d.
For six months ending 30th September, 1870 ... ..	1,580	17	4			
"    "    March, 1871 ... ..	1,170	10	0			
"    "    September, 1871 ... ..	1,501	3	0			
"    "    May, 1872 ... ..	1,942	17	8			
	£6,195	8	0	No return.		

*Karaka.*

For five months ending 31st December, 1870 ... ..	£196	18	5	£157	16	0
For seven " " 31st July, 1871 ... ..	130	4	3	66	6	0
For five " " 31st December, 1871 ... ..	182	14	0	120	4	0
For five " " 31st May, 1872 ... ..	128	18	6	87	13	0
	£638	15	2	£431	19	0

*Waiotahi.*

For twelve months ending 24th April, 1872 ... ..	£270	0	0	No return.		
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*Tararu.*

For twenty-two months, from 7th July, 1870, to 30th May, 1872 ... ..	£1,836	0	2	£1,904	3	2
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*Hape.*

J. Holland, Lessee.						
For twelve months ending 31st August, 1871 ... ..	£272	8	0	£352	3	6
John Briton, Lessee.						
For eight months ending 31st May, 1872 ... ..	231	13	4	226	10	0
	£504	1	4	£578	13	6

*Te Papa.*

For six months ending 1st August, 1871 ... ..	£100	0	0	£129	0	0
For six months ending 28th February, 1872 ... ..	40	0	0	52	18	8
	£140	0	0	£181	18	8

Note.—The Lessee, in his expenditure shows the sum of £25 as having been paid for rent, while only £16 13s. 4d. was paid by him.



TRAMWAY RETURNS, showing Total Length, Cost of Construction, &c., and Debit and Credit Account while in Government hands.

Tramway.	Total length.	Cost of Construction.	Cost of Extension.	Time held.		Amount paid for Working Expenses and Repairs.	Amount receivable for Traffic.	Actual Cash Receipts.	Bad Debts cut off.	Debts still due.
				From	To					
Moanataiari	Chains. 120	£ s. d. 8,675 3 5½	£ s. d. 110 5 0	June 17, 1869	Mar. 25, 1870	£ s. d. 1,830 2 10	£ s. d. 1,859 14 1	£ s. d. 1,525 13 7	£ s. d. 16 4 6	£ s. d. 317 16 0
Shooting Star Wire Line	... 7½	... 2 11	... 6	Nov. 3, 1869	Aug. 15, 1870	696 0 6	593 14 11	556 13 2	23 2 9	13 19 0
Madman's Gully	... 163	8,542 5 6	...	Oct. 1, 1869	July 4, 1870	413 9 9	293 19 3	269 12 9	4 16 0	19 10 6
Tararu and Tinker's Gully	... 120	5,588 12 10	636 15 6	Mar. 3, 1870	Feb. 28, 1871	275 15 0	125 4 2	121 6 2	3 18 0	...
Hape	... 81	4,041 13 9½	...	Sept. 16, 1869	April 24, 1871	244 7 5	154 1 9	104 17 0	...	49 4 9
Waioatahi	... 59	4,316 13 9	303 13 0	Oct. 10, 1870	Jan. 28, 1871	113 13 6	82 9 10	78 7 4	...	4 2 6
Te Papa	... 40	578 5 10	...							
						3,573 9 0	3,109 4 0	2,656 10 0	48 1 3	404 12 9

TRAMWAY RETURNS while under Lease.

Name of Tramway and Lessee.	Time held.		Receivable Rent.	Rent actually Received.	Amount written off by Government.	Amount still Due.	Expenditure by Government on behalf of Tramways while in Lessees' hands.	When Lease terminates.
	From	To						
Moanataiari, first lease, Simpson and Unthank	Mar. 25, 1870	June 25, 1871	£ s. d. 687 10 0	£ s. d. 487 10 0	£ s. d. 200 0 0	£ s. d. 91 13 4	£ s. d. 348 0 4	Terminated.
Moanataiari, second lease, Alexander Unthank	June 26, 1871	April 25, 1872	458 6 8	91 13 4	275 0 0	172 0 0		"
Karakaka, first lease, J. P. Clark	Aug. 15, 1870	July 31, 1871	230 0 0	58 0 0	...	25 0 0	100 8 9	"
Karakaka, second lease, J. P. Clark	Aug. 1, 1871	May 30, 1872	125 0 0	100 0 0	...	...		"
Waioatahi, Edward Gallagher	April 24, 1871	May 24, 1872	70 8 4	70 8 4	...	...		April 24, 1873.
Tararu and Tinker's Gully, William Souter	July 7, 1870	May 28, 1872	150 3 9	150 3 9	...	...	7 13 0	June 28, 1873.
Hape, first lease, Holland and Peace	Sept. 1, 1870	Sept. 30, 1871	68 5 0	31 10 0	36 15 0	...	28 10 0	Terminated.
Hape, second lease, John Briton	Oct. 1, 1871	May 30, 1872	36 13 4	36 13 4	...	...	...	Sept. 30, 1872.
Te Papa, William Murdoch	Feb. 1, 1871	Jan. 31, 1872	25 0 0	16 13 4	8 6 8	...	...	Terminated.
			1,851 7 1	1,042 12 1	520 1 8	288 13 4	484 12 1	

Note.—The item £348 Os. 4d., expenditure on the Moanataiari Tramway, includes rent, at the rate of £150 per annum, paid to Mr. Tookey for depot leased by Government, at foot of tramway.

## No. 4.

REPORT ON TOKATEA TRAMWAY, COROMANDEL, by ALEXANDER AITKEN, District Engineer.

THE total length of the Tokatea Tramway is 135 chains; 52 chains of the line is on the eastern side of the main range, and the remainder of the line is on the western side.

In a length of 44 chains the line falls 900 feet, in six self-acting gradients. The total fall is 1,130 feet.

The self-acting portion of the line cost £34 per chain, or £2,720 per mile.

The average cost of the portion of the line worked by horses was £15 per chain, or £1,200 per mile.

The country through which the line runs is very broken, and was covered with dense bush. Most of the line is constructed on heavy side and block cuttings and trestle work.

The only accident of a serious nature that has occurred was the result of riding on the trucks, which was strictly forbidden by notices posted on the line.

The receipts for the past twelve months have nearly met all working expenses and repairs necessary for keeping the line in good working order and condition, besides paying for erection of goods shed, tool house, and office, small extensions and improvements, together with two new brakes and trucks, and truck wheels more than sufficient to replace all breakages.

The improvements made on the line during the year I value at £400. These improvements have been made by the men employed on the line, while the line is not working. The men have to be kept on full time whether the line is working or not, otherwise the employment of fresh hands would be necessary from time to time, which would be attended with great danger to all employed, as the work can be performed with safety only by men who have had some experience in the working of the same.

The line has hitherto been worked by hired horses, and the price paid has been for single horse and man, 15s. per diem; for two horses and one man, 25s. per diem. In this item a saving would be effected by the purchase of horses for the line. This might be worth consideration should the Government continue to work the line.

The line has not yet been employed more than half time, nor is there at present any probability of its being fully worked.

The prices charged for the carriage of quartz, &c., have been low, but could be considerably reduced if there was full work for the line.

Experience on this line has proved that on wood rails no gradient to be worked by horses should be steeper than 1 in 14, as this is the steepest gradient on which it is safe to use any ordinary brake on loaded trucks being brought down the line by gravitation.

On the self-acting portion of the line there is no difficulty on gradients of 1 in 1.75, which is the steepest on the line; and a self-acting gradient is now being tried on the Kennedy's Bay side of the range having a descent of 1 in 1.50. No self-acting gradient should be flatter than 1 in 4, in lines where there is a necessity for the carriage of goods or material upwards, as flatter lines have little or no power for that purpose. On lines where the whole traffic is downwards, self-acting gradients would work as flat as 1 in 8. All self-acting gradients, to work well, should be a little flatter at the bottom than the top, and when finished should show a uniform curve with a view to attain that object.

Attached is a statement showing the monthly receipts and expenditure for twelve months, ending May 31, 1872; also a table of the rates charged for the conveyance of quartz from any part of Kennedy's Bay side of the range to the various batteries.

ALEX. AITKEN,  
District Engineer.

STATEMENT showing the Monthly Receipts and Expenditure of the Tokatea Tramway, for the Twelve Months commencing 1st June, 1871, ending 31st May, 1872.

	£	s.	d.	Balance to Credit.	Balance to Debit.		
Receipts for the months of June and July, 1871	£	s.	d.	£	s.	d.	
Expenditure for the months of June and July, 1871	31	14	9				
Receipts for the month of August	26	13	0	5	1	9	
Expenditure ditto	124	2	0				
Receipts September	112	6	0	11	16	0	
Expenditure ditto	128	11	10				
Receipts October	141	13	8		13	1	10
Expenditure ditto	200	2	9				
Receipts November	170	4	3	29	18	6	
Expenditure ditto	198	4	6				
Receipts December	212	3	10		13	19	4
Expenditure ditto	179	12	9				
Receipts January, 1872	152	4	11	27	7	10	
Expenditure ditto	195	6	0				
Receipts February	236	17	6		41	11	6
Expenditure ditto	156	3	6				
Receipts March	171	12	10		15	9	4
Expenditure ditto	153	3	4				
Receipts April	161	17	6		8	14	2
Expenditure ditto	148	1	7				
Receipts May	151	9	6		3	7	11
Expenditure ditto	104	11	6				
	122	1	4½		17	9	10½
				74	4	1	
					113	13	11½
					74	4	1
Outstanding accounts Royal Oak Gold Mining Co. for freight,					39	9	10½
					22	0	0
Showing an expenditure in excess of receipts for the twelve months ending May 31st, 1872, of					17	9	10½

TABLE of RATES charged on the Tokatea Tramway up to the 1st May, 1872.

FROM any part of the Kennedy's Bay side of the Range:

To Tookey's Battery, distance about 1 mile, 4s. 6d. per ton.

To Nil Desperandum " 1½ " 6s. 6d. "

To New Zealand " 1½ " 6s. 6d. "

Since the above date the whole of these charges have been increased 1s. per ton.

