

Public Works (1899) Department.

RAILWAY BRANCH.

G.O., No. 116-7 *Ry*

DATED 11th September 1899.

[Despatch Abstract.]

Railway line from Ponnirai on the
M.V.R. to Kodikassi.

Informing the petitioners that their
application for a — via Ettugudi,
Vedaaswaram &c, should be addressed
to the President, Dist Board Tanjore.

[illegible]

G.O.	No.	Department.	Date.

G.O.	No.	Department.	Date.

9) Department.

Railway
CURRENT No. 1122

From The Ryots and
traders of Vedaraniam
Nerka, Tangire &c

No. _____

Order. No 1015 Ry dated 11/9/86.

The Petitioners will be informed that their application should be addressed to the President District Board Tongue.

7/2/42

Dated 29th August 1889

Received 5th Sept '99.

Registered — ٢٤٠ —

Enclosures

Spare copies

SUBJECT.

Memorial

The Pres. Dist. Ct. Tampa
lasted 16 petitions

Forwarding a — praying
for a Railway line from
Pannirai on the Rly to run
via Elugudi, Vedaraniam to
Kodiakkarai & requesting that
if the idea of opening up the
above line is not at present
deemed feasible that either of
the roads leading from
Tirularafur to Vedaraniam be

[illegible]

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

Railway
CURRENT No. 1122

From the Ryots and
traders of Vedaraniam
Malka, Tangire &c

No. —

Received 5th Sept '99.

Registered — ٢٤٠ —

Enclosures

Spare copies

SUBJECT.

Memorial

Forwarding a ———— proposal
 for a Railway line from
 Ponnissai on the coast to run
 via Kottagudi, Vedaraniante
 to Kodakkarai & requesting that
 if the idea of opening up the
 above line is not at present
 deemed feasible that either of
 the road ways leading from
 Tirukurupur to Vedaraniante be

MADRAS RAILWAY COMPANY,
LOCOMOTIVE SUPERINTENDENT'S OFFICE,
Perambur Works, 22nd March 1899.

L. S. MOSS Esq.,
Agent and Manager,
Madras Railway.

SIR,

1. I have the honour to submit my report upon the working of the Locomotive, and Carriage and Wagon Departments, for the half-year ending 31st December 1898.

2. A tabular statement is attached, shewing the expenditure in detail, under each of the several sub-heads of account, as compared with similar figures for the previous and corresponding periods, the general totals as shewn in this statement being as follows:—

Half-year ending.	Mileage.	Total cost of Department including all charges.			Total cost per mile.		
		Rs.	As.	P.	Rs.	As.	P.
December 1897	1,616,892	13,90,471	5	7	0	13	9-11
June 1898	1,551,560	11,87,290	3	5	0	12	2-92
December 1898	1,559,578	12,90,399	14	6	0	13	2-86

3. From a comparison of the figures, the final results of the half-years' working will be found to be—

	Half-year ending 31st December 1898 compared with:—	
	Preceding half-year.	Corresponding half-year.
Miles run	Per cent. Increase 0-52	Per cent. Decrease 3-54
Total cost of Department, including working and repairs of engines, and vehicles, together with loss by exchange, carriage of Revenue Stores, &c.	Increase 8-68	Decrease 7-20
Total cost as above, per mile	Increase 8-13	Decrease 3-79.

which, bearing all the facts in mind, may be said to be fairly satisfactory.

4. A reduction in the mileage worked of 57,314 miles has occurred, and although a corresponding decline in the gross cost of working must necessarily therefore be looked for, there are certain fixed, and non-fluctuating, charges which cannot follow fluctuations in mileage, the effect of which is ordinarily, and as they are distributed over a shorter mileage, to bring about a correspondingly higher gross mileage rate.

5. It is satisfactory therefore to note that, in the half-year in question, the contrary has resulted, and that the gross cost per mile of working has, as a matter of fact, decreased to a greater degree, than has the total mileage run, or rather the total work done, the figures being—

Gross cost of working per mile	 Decrease 3-79 per cent.
Mileage run	 Decrease 3-54 per cent.

Locomotive Engines: Running.

6. In wages and salaries a reduction is seen under each head, the wages of Drivers and Firemen having fallen by 4.6 per cent., while the total wages of the Running Staff is 3.9 per cent. less than during the corresponding half year.

7. In Fuel there is, I am sorry to say, an increase more or less all round, and this increase may be attributed to several causes.

8. With regard to the Coal, the increase in total consumption per mile amounts to .68 lbs. the cost being enhanced by pies .58, and in explanation of this, I would refer to the unfortunate fire that broke out in the coal stacks at Raichur in May 1898.

9. As is recorded in correspondence, a total quantity of 822 tons of coal was destroyed in this fire, the value of this having been written off against the Fire Insurance Fund. You will however probably remember, I mentioned at the Official Meeting in July, when the matter was discussed, that considerable damage had also been done to the rest of the coal in the stacks, which had been on fire, and from the consumption sheets of the Engines which had been using the burnt, or rather scorched, coal, I estimated that it had deteriorated by probably 15 per cent. (Subsequent experience shewed that the more correct figure was probably 30 per cent.)

10. I suggested that a further debit should be passed to the Fire Insurance Fund on its account, but it was held that this could not be done, and the coal has therefore been used up as it was, and without allowance.

11. Undamaged coal was issued to all Mail train Engines, the damaged coal being used entirely on the Goods, and Mixed trains. The total quantity so scorched was about 1,855 tons, and as the greater part of this was issued during the half year under reference, this fact will more than account for the increase in the total consumption per mile, appearing in the statement. The increase in the cost, is of course due to the increase in the quantity burnt.

12. There still remained at the close of the half-year, a balance of about 680 tons of the burnt coal which had not then been used, but which is still being issued to all Goods and Mixed trains on the Division. Owing however to the cancelment of the second Mixed train, between Gooty and Raichur, the number of Engines using this coal is reduced, and the coal is therefore lasting longer, but I am hoping that, in any case, before the windy season begins, it will all be gone; if not, arrangements will have to be made to eke it out with a larger proportion of good coal.

13. The increase, both in quantity burnt, and cost per mile, under wood is somewhat larger, and in explanation of this I would cite, in the first place, the following figures:—

		Half-year ending December 1898.	Half-year ending December 1897.	Increase per cent.
Total number of vehicles in a Goods train.	Tons.	28.44	27.40	3.80
Average load of a loaded Goods vehicle.	"	6.15	6.07	1.32
Average weight of a Goods train.	"	373.03	367.12	1.61

from which it will be observed, that an appreciable increase in the weight of the trains handled has to be allowed for, and since the greater part of this extra loading has, it is understood, been upon the heavy coal trains working over the Ghaut, and Jalarpet and Bangalore Division, where wood is exclusively used, the effect is naturally felt upon the wood mileage consumption.

14. An immense amount of trouble has been experienced for many months past, in regard to the wood supply, both at Jalarpet, and on the Western Coast.

15. On the Jalarpet District, partly due to the plague, and partly to other reasons, there has been the greatest difficulty in keeping up the supplies, and for months we have been living, so to speak, entirely from hand to mouth. On two or three occasions, the stocks ran down to under a fortnight's consumption, and it was only by taking the most vigorous, and prompt action with the Contractors, that I succeeded in staving off a wood famine.

16. The result of course has been that, not only have we been obliged, in order to keep things going, to accept inferior wood, which had the stocks been larger would have been rejected, but the wood that has come in has perforce had to be burnt green and wet, and as a consequence, in order to maintain steam, the Engines have had to be "flogged," which in its turn has meant considerable waste of fuel.

17. On the West Coast again, due in some measure to the abnormally heavy monsoon, and also to the extension in the use of wood fuel, in Mills and other Factories, which have been established in the Coimbatore and Palghat Districts, and to which reference has been made in previous reports, the supplies have been falling off continually.

18. The Contractors have over and over again demanded increases in their rates, and as the Government Forest Department have never been able to help us, in the matter of the wood supplies in Malabar, it has been a difficult matter to stand against the demands made.

19. Practically the whole of our supplies, on this District, are drawn from the jungles between Podanur and a little west of Olavakkot, and we have never been able to get wood, in any quantity, although several attempts to do this have been from time to time made, on the West Coast itself.

20. In December 1897 I succeeded in getting an offer for a large quantity of wood fuel, which was to be delivered by the back water at Kadalundi, and Feroke, and I hoped by this that I had succeeded in at last tapping a fresh source of supply. Unfortunately however, after a few months working, the quality of the back water wood became so bad, that a very large quantity of it had to be rejected, and the final outcome was that in the new contracts, which were entered into in December 1898, increased rates have had to be given. The new contracts are now working fairly well, and, although the wood, now coming in, is costing more, it is of first rate quality.

21. Although, upon the western half of the S. W. Line, wood fuel will probably, for some years to come, still continue to be used, the opening of the Bezwada-Madras Railway has rendered it possible to bring coal into Madras at a rate, which will enable it to finally oust wood elsewhere. Under the existing arrangements with the Government Forest Department, and with the Native Wood Contractors, we shall have to continue the use of wood on a part of the Jalarpet Division for some few months still, but I am arranging to introduce Singareni coal entirely, on the Arkonam-Nundalur District at once, and will also, so soon as the necessary alterations can be made in the engines, and stocks of coal can be worked up, substitute coal for wood between Jalarpet and Bangalore.

22. A series of trials was conducted during January and February last, to arrive at the relative value, of sea-borne coal from the Gourangdhi Field, and rail-borne Singareni coal, delivered over the B. M. Railway direct from the Mines.

23. The result of these trials is reported in my letter No. B. 2718/210 dated 1st March 1899, to your address, and they seem to shew that the quality of the two fuels is, for locomotive purposes, as nearly as possible similar.

24. It is hoped that the outcome of the new coal contract which has now been entered into, will be a very considerable reduction in the fuel bill in future half years.

25. Under Oil, Tallow, and Waste a slight increase occurs, which is fully accounted for by the still abnormally high price of castor oil.

26. So far as possible, mineral oils of different kinds have been substituted for castor oil, but it seems to be a very difficult thing to ensure that the supplies of these mineral oils shall be of an equable quality.

27. The Vacuum Oil Company, who have a practical monopoly of, at any rate, the Indian Mineral Oil Market, introduces from time to time, with a more or less loud flourish of trumpets, new brands of oil, each and all of which is, when produced, said to be superior to all its predecessors, but, so far as my own experience goes, they all seem to suffer from the same complaint, and each and all sooner or later merges into a more or less, generally a good deal more, unsatisfactory lubricant.

28. Our present brand of Mineral Oil is known as Crank Case Oil, and, as being now delivered, is better than the later shipments of Engine Axle Oil, which it succeeded.

29. So long as Castor Oil maintains its present very high market price, the use of a cheaper oil, for wagon and other stock so far as possible, is compulsory, but there is absolutely no question but that if Castor Oil could only be obtained at a fair price, it is infinitely superior for use in this country to any other oil, whether vegetable, or mineral.

Locomotive Engines: Repairs.

30. A saving in Wages amounting to Rs. 10,509, is found under this head, and, although the total cost of repairs is Rs. 6,447 greater, than the expenditure for the corresponding half-year, the excess is entirely in Materials.

31. During the half-year, 30 engines passed through the Shops, as compared with 31 during the second half of 1897. It had been hoped that two of the new K. C.₂ engines which are under order, would have arrived in India in time to have allowed of their being charged off, during the half-year, but owing to a question that had arisen, as to certain alterations which were thought advisable in the design, their construction was delayed, and the engines have not yet been received.

32. It was found necessary to issue from Stores a larger quantity of material than usual, the following being the chief items:—

	Rs.
Four new locomotive boilers	31,998
Boiler plates, iron and copper	11,135
Boiler tubes, chiefly copper, to replace red metal tubes in the K. C. ₂ and other engines.	45,162
Engine tyres	10,327

33. The necessity for replacing the red metal tubes with tubes of other material, has formed the subject of correspondence, and, until the whole of these are replaced, I fear a somewhat heavy expenditure under this head must be looked for. The new boilers, and the remainder of the boiler material, have been issued to the older engines, of chiefly the K. A. and K. B.₂ Classes, many of which having now been running since 1877, must be expected to require heavy repairs.

34. The total expenditure upon Engines, Repairs, and Running is, it will be seen, Rs. 1,917 less than the amount for the corresponding term.

Carriages and Wagons: Running.

35. Special remark does not seem to be necessary under this head, although it is noted that there is a reduction under both Material and Wages, the cost per mile, during the half-year, being less by 5.77 per cent. than that during the half-year with which comparison is being made.

Carriages and Wagons: Repairs.

36. 2,620 vehicles were dealt with in the shops during the half-year, as compared with 3,017, which passed through during the second half of the previous year.

37. The last 12 of the Wooden Covered Goods Wagons, and one Low-Sided Wagon, were built, at the cost of Revenue, and the first of the three 58-feet bogie carriages, being built at the cost of Capital, was further completed, and handed over for use on the S. W. Line Mails between Madras and Bangalore.

38. The remaining two carriages are well in hand, and one of them at any rate will, I anticipate, be finished in time for the Easter traffic. The one Carriage that is running is, I believe, much appreciated by the travelling public, many of whom, as it runs of course on alternate days only, time their journeys so as to travel in it, in preference to the ordinary four-wheeled Carriages.

39. Sanction was given for the construction of 46 third class carriages, for which the Traffic Department had applied, as well as for the renewal of some 20 of the Engineering Department Ballast Wagons, in the form of Rail Trucks; but, owing to the proposition that has been put forward by the Consulting Engineer, with regard to the conversion of the gauge of the West Coast District, work upon both these sanctions has been postponed, and it was fortunate therefore that the construction of the Carriage Stock for the B. M. Railway so fitted in, as to have allowed of the utilization of the Carriage Building Shops upon it.

40. Had this not been so, it would have been necessary to temporarily largely reduce hands, pending the settlement of the West Coast Conversion question, and this I should have been most loth to do, since experienced Carriage builders cannot be picked up when wanted, and the body of men whom we have trained from their boyhood in the Workshops, if once dispersed, could probably never have been got together again.

41. The total amount spent under Carriages and Wagons Repairs is Rs. 64,298 less than that for the corresponding half-year, and, since the renewal of the whole of the old 8-ton wagon stock has now been completed, the expenditure under this head is not likely to again vary much.

Staff.

42. Mr. Pilkington, the Deputy Loco. Superintendent, was granted 3 months' privilege leave, from July 1898.

43. Mr. H. J. Stanley, 1st Assistant Loco. Superintendent, was granted furlough for 16 months, and left for England on the 3rd November 1898.

44. Mr. E. Outon, Lathe Shop Foreman, who, as recorded in my last half-year's report, was granted 6 months' leave, returned to duty on the 21st October 1898.

45. Covenanted Drivers Howard, and Malthouse, who were engaged by the Board on agreements for 3 years, arrived in India, and reported themselves for duty on the 5th December last.

46. Mr. O. Horrocks, who had been in the Company's service since August 1864, resigned his appointment at the close of the year. Mr. Horrocks was granted leave for two months during November and December and finally made over charge, and retired, on the 31st December 1898. In consideration of his long and faithful service, a special recommendation has been submitted in his behalf, for a gratuity of 12 months' pay of which, as advised, the Board have been good enough to approve.

I have the honour to be,

Sir,

Your most obedient servant,

C. E. PHIPPS,

Locomotive Superintendent.

MADRAS RAILWAY.

Abstract of Expenditure for working and maintaining Locomotive Engines, Carriages and Wagons for the Half-year ending 31st December 1898.
LOCOMOTIVE DEPARTMENT.

HALF-YEAR ENDING	Total Engine Miles worked.	LOCOMOTIVE ENGINES—Running.																																									
		WAGES AND SALARIES.												COAL AND PATENT FUEL.								FIREWOOD.								Average Cost per Mile of Coal, Patent Fuel and Fire- wood.	OIL, TALLOW, WASTE, &C.						Total Cost.	Cost per					
		Drivers and Firemen.				Cleaners, Water and Fuel Coolies.				Total.				Cost per Mile.				Total Consumption.				Per Mile.				Total Consumption.					Per Mile.												
																		Quantity.		Cost.		Quantity.		Cost.		Quantity.		Cost.			Quantity.		Cost.										
		RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	CWTS.	RS.	A.	P.	LBS.	RS.	A.	P.	LBS.	RS.	A.	P.	LBS.	RS.	A.	P.		RS.	A.	P.	RS.	A.	P.			RS.	A.	P.	RS.	A.
Dec. 1897	1,616,892	1,48,726	0	7	41,628	6	10	1,90,354	7	5	0	1	10-60	368,566	2,54,073	8	9	49-59	0	4	10-60	100,631,750	2,13,842	7	6	128-29	0	4	4-34	0	4	7-56	32,981	11	1	0	0	3-92	6,91,252	2	9	0	6
June 1898	1,551,560	1,43,660	0	2	41,155	0	8	1,84,815	0	10	0	1	10-87	362,375	2,44,618	5	0	49-26	0	4	8-99	92,202,525	1,95,930	5	10	126-72	0	4	3-70	0	4	6-52	36,842	11	4	0	0	4-56	6,62,206	7	0	0	6
Dec. 1898	1,559,578	1,41,943	10	1	41,065	7	8	1,83,009	1	9	0	1	10-53	379,972	2,60,909	3	5	50-27	0	4	11-18	99,812,950	2,12,102	8	3	139-99	0	4	9-11	0	4	10-23	34,380	7	10	0	0	4-23	6,90,401	5	3	0	7

HALF-YEAR ENDING	Total Engine Miles worked.	LOCOMOTIVE ENGINES—Repairs.												LOCOMOTIVE ENGINES—Gross Cost of Running and Repairs.																				
		COST OF						Total Cost.	Cost per Mile.	Running, Total Cost.	Repairs, Total Cost.	Proportion of Supervision and Office Expenses.	Total Cost.	Deduct for K. G. F. Ry., Madras-Ennur Ry., and Fire In- surance Fund.	Nett Total.	Cost per Mile.																		
		Material.		Wages of Work- men.																														
		RS.	A. P.	RS.	A. P.	RS.	A. P.										RS.	A. P.	RS.	A. P.	RS.	A. P.	RS.	A. P.	RS.	A. P.	RS.	A. P.	RS.	A. P.	RS.	A. P.	RS.	A. P.
Dec. 1897	1,616,892	1,28,546	0	1	1,38,035	5	10	2,66,581	5	11	0	2	7-66	6,91,252	2	9	2,66,581	5	11	66,341	9	2	10,24,175	1	10	27,534	0	7	9,96,641	1	3	0	9	10-00
June 1898	1,551,560	74,672	5	5	1,21,257	5	5	1,95,959	10	10	0	2	0-25	6,62,206	7	0	1,95,959	10	10	71,008	15	2	9,29,175	1	0	22,840	14	8	9,06,328	2	4	0	9	4-00
Dec. 1898	1,559,578	1,45,501	1	4	1,27,526	14	8	2,73,028	0	0	0	2	9-61	6,90,401	5	3	2,73,028	0	0	71,975	7	7	10,35,304	12	10	40,550	8	0	9,94,724	4	10	0	10	2-00

Figures in red show actual ex-
penses after deducting value
of two locomotive engines re-
placed at cost of Revenue in
the corresponding half-year.

Figures in red show actual expenses after deducting value of two locomotive engines replaced at cost of Revenue in the corresponding half-year.

HALF-YEAR ENDING	Total Engine Miles worked.	LOCOMOTIVE ENGINES—Repairs.												LOCOMOTIVE ENGINES—Gross Cost of Running and Repairs.																								
		COST OF												Running, Total Cost.	Repairs, Total Cost.	Proportion of Supervision and Office Expenses.	Total Cost.	Deduct for K. G. F. Ry., Madras-Ennur Ry. and Fire In- surance Fund.	Nett Total.	Cost per Mile.																		
		Material.			Wages of Work- men.			Total Cost.			Cost per Mile.																											
		RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	
Dec. 1897	...	1,616,892	1,28,546	0	1	1,38,035	5	10	2,66,581	5	11	0	2	7-66	6,91,252	2	9	2,66,581	5	11	66,341	9	2	10,24,175	1	10	27,534	0	7	9,96,641	1	3	0	9	10-10	0	9	10-10
June 1898	...	1,551,560	74,672	5	5	1,21,287	5	5	1,95,959	10	10	0	2	0-25	6,62,206	7	0	1,95,959	10	10	71,008	15	2	9,29,175	1	0	22,840	14	8	9,06,328	2	4	0	9	4-11	0	9	4-11
Dec. 1898	...	1,559,578	1,45,501	1	4	1,27,526	14	8	2,73,028	0	0	0	2	9-61	6,90,401	5	3	2,73,028	0	0	71,975	7	7	10,35,304	12	10	40,580	8	0	9,94,724	4	10	0	10	2-4	0	10	2-4

CARRIAGE AND WAGON DEPARTMENT.

HALF-YEAR ENDING	Total Engine Miles worked.	CARRIAGES AND WAGONS—Running.												CARRIAGES AND WAGONS—Repairs.												CARRIAGES AND WAGONS—Gross Cost of Running and Repairs.																																																																	
		COST OF												COST OF																																																																													
		Material.						Wages of Workmen.						Total Cost.						Cost per Mile.						Material.						Wages of Workmen.						Total Cost.						Cost per Mile.						Running, Total Cost.						Repairs, Total Cost.						Proportion of Supervision and Office Expenses.						Total.						Deduct for K. G. F. Ry., Madras-Ennur Ry. and Fire Insurance Fund.						Nett Total.						Cost per Mile.					
		RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.																																							
1897 ...	1,616,892	17,885	10	3	1,102	0	5	37,987	10	8	0	0	4-51	1,38,299	14	8	97,716	2	6	2,36,016	1	2	0	2	4-03	37,987	10	8	2,36,016	1	2	19,816	5	7	2,93,820	1	5	8,061	3	7	2,85,753	13	10	0	2	9-9																																													
June 1898 ...	1,551,560	17,482	4	4	20,248	5	2	37,730	9	6	0	0	4-67	88,986	8	3	73,685	13	0	1,62,672	5	3	0	1	8-13	37,730	9	6	1,62,672	5	3	22,423	14	0	2,22,826	12	9	5,405	8	4	2,17,421	4	5	0	2	2-9																																													
Dec. 1898 ...	1,559,578	14,831	1	10	19,756	12	10	34,587	14	8	0	0	4-25	96,052	2	2	75,865	13	4	1,71,717	15	6	0	1	9-14	34,587	14	8	1,71,717	15	6	17,968	13	11	2,24,274	12	1	6,215	4	10	2,18,059	7	3	0	2	2-8																																													

SUMMARY—Total Gross Cost of Working the Locomotive and Carriage and Wagon Department.

HALF-YEAR ENDING	Locomotives, Total Cost.	Carriages & Wagons, Total Cost.	Total Cost.	Cost per Mile.	Loss by Exchange and Carriage of Revenue Stores.	Final Total Cost of Working.	Final Total Cost per Mile.
December 1897	9,96,641	2,85,758	12,82,399	12 8-28	1,08,071	13,90,471	13 11
June 1898	9,06,328	2,17,421	11,23,749	11 7-06	63,540	11,87,290	11 7-06
December 1898	9,94,724	2,18,059	12,12,783	12 10-30	77,616	12,90,399	12 10-30

PERAMBUR WORKS,
22nd March 1899.

C. E. PHIPPS

Loc.

No. 8806/615.

MADRAS RAILWAY COMPANY,
TELEGRAPH ENGINEER'S OFFICE,
ARCONAM, 21th February 1899.

THE AGENT AND MANAGER,
Madras Railway.

DEAR SIR,

REPORT FOR THE HALF-YEAR ENDING 31st DECEMBER 1898.

I beg to submit my report for the half-year ending 31st December 1898.

OFFICES AND FITTINGS.

Telegraph instruments, fittings, &c., were shifted and refixed at the following stations in consequence of alterations to station buildings by the Engineering Department:—

Ambattur.
Oorgaum.
Tirur.
Koduru.
Razampeta.

Needle and block instruments were fixed at the undermentioned stations on the Nilgiri Mountain Railway and brought into use on the 1st October 1898:—

Mettupalaiyam.
Kullar.
Adderley.
Hill Grove.
Runnymede.
Coonoor.

The block instruments and the telephones were transferred from the wooden bunk into the new block cabin at Rayapuram.

Tangal Station on the Ennur Line was closed and the needle instrument there transferred to Korukkupett, which was re-opened.

ELECTRIC STARTING SEMAPHORES.

The Electric Starting Semaphores at the undermentioned stations were renewed:—

South-West Line.

Arcot	...	Down.
Tiruvallam	...	Up.
Lakkiti	...	Down.
Ottapalam	...	Down.

North-West Line.

Kamalapuram	...	Down.
Rayalcheru	...	Up.
Tungabhadra	...	Down.

The levers of the undermentioned Electric Starting Semaphores were shifted into new pits owing to alterations of station buildings:—

Erode Down.
Olavakkot Up.

The terminal post of the Up Electric Semaphore at Feroke was renewed.

Comparative statement of percentage of semaphore failures for the half-year ending 31st December 1898.

	Half-year ending 31st December 1897.	Half-year ending 31st December 1898.
Total number of semaphore operations (not including those for ballast and locomotive wood trains)	154,364	146,907
Number of failures—		
(a) Due to Station Staff	89	55
(b) Due to faults in apparatus caused by lightning and interference without Inspector's knowledge ...	36	41
(c) Due to faults in apparatus	98	99
Total ...	223	195
Percentage of failures to number of operations	0.14	0.13

LINE WORK.

Telegraph alignments at the undermentioned stations were altered:—

Buddireddipatti.
Mettupalaiyam.
Nandalur.

The office standard at Bangalore City was shifted and cross-over wires were altered to enable the Engineering Department to erect covering over the passenger platform at that station.

A telegraph post was erected and wires raised at Mulanur in order to prevent the water coolies interfering with them.

Telegraph rail posts at $\frac{25}{9, 10 \& 11}$ near Trivellore were lengthened and wires raised to enable the Engineering Department to extend ballast siding.

Telegraph posts $\frac{257}{4 \& 5}$ were shifted to enable the Engineering Department to carry out the alteration to locomotive sidings at Gooty.

Insulators on No. 2 needle circuit were renewed between Salem and Podanur.

Time signal wires which were led to the old telegraph workshops were dismantled and new wires erected from 43/3 mile to the new telegraph workshops at Arkonam.

The following telegraph posts were renewed:—

South-West Line, $\frac{336}{3}$, $\frac{348}{11}$, $\frac{365}{13}$, & $\frac{387}{1}$.

Nilgiri Branch, $\frac{306}{2}$ & $\frac{310}{20}$.

Lakkiti Station yard, 1 post.

North-West Line, $\frac{110}{8}$, $\frac{167}{1}$, $\frac{169}{1 \& 13}$, $\frac{169}{1 \& 11}$, $\frac{173}{10}$, $\frac{176}{8 \& 9}$, $\frac{178}{4}$, $\frac{179}{3 \& 10}$, $\frac{183}{4 \& 5}$, $\frac{191}{4 \& 15}$, $\frac{193}{18}$, $\frac{194}{4}$, $\frac{196}{7}$, $\frac{199}{15}$, $\frac{202}{11}$, $\frac{204}{10 \& 12}$, $\frac{205}{9}$, $\frac{207}{7 \& 12}$ & $\frac{227}{5 \& 11}$.

LIGHTNING CONDUCTORS.

A lightning conductor with finial was erected on the Locomotive Foreman's bungalow at Nandalur.

BELL CIRCUIT.

The gate bell fixed in the station bunk was shifted to the adjacent Gateman's bunk at Veyasarpady.

The following are comparative statements of interruptions on the telegraph and block circuits:—

INTERRUPTIONS ON TELEGRAPH LINES.

	Interruptions caused by the neglect and carelessness of Signallers.	Accidental interruptions.	Total.
Half-year ending 31st December 1898 ...	8	39	47
Half-year ending 31st December 1897 ...	1	48	49

Of the accidental interruptions—

14 were due to instrumental faults.
12 „ „ to line faults.
8 „ „ to unknown causes.
3 „ „ to weak signals.
2 „ „ to battery faults.

INTERRUPTIONS OF BLOCK SECTIONS.

	Miles open.	No. of Circuits.	Interruptions caused by the neglect and carelessness of Signallers.	Accidental interruptions.	Total.
Half-year ending 31st December 1898...	874½	131	17	82	99
Half-year ending 31st December 1897...	857½	126	12	66	78

Of the accidental interruptions—

35 were due to instrumental faults.
13 „ „ to line faults.
4 „ „ to battery faults.
30 „ „ to lightning.

INTERCOMMUNICATION.

The undermentioned vehicles were fitted with electrical intercommunication appliances at Perambur Works:—

	Vehicles newly fitted.	Vehicles refitted.
Bogie composite	1	...
Covered goods	12	6
Third-class carriages	...	34
First-class carriages	...	7
Engines	...	12
Second-class carriages	...	2
Brake vans	...	5
Baggage vans	...	3
Horse boxes	...	19
Ballast wagon	...	1
Carriage trucks	...	6
Tank wagon	...	1
Post office vans	...	4
Bogie engine	...	1

Statement showing the working of electrical intercommunication in trains.

	Half-year ending 31st December 1897.	Half-year ending 31st December 1898.
Total mileage of fitted trains	1,278,243	1,265,172
Mileage of fitted trains with complete communication ...	1,272,915	1,256,951
Percentage of interruption	0.41	0.65

List of cases in which electrical intercommunication was used and trains stopped during the half-year.

Date.	Particulars taken from the Guard's Journals.
1898.	<i>Fire.</i>
August 17	The 4-45 o'clock train was stopped near Kulipalaiyam Station to extinguish fire on O. G. 271.
September 13	The 4-45 o'clock train was stopped at $\frac{259}{18}$ mile to extinguish fire on C. G. 116.
December 5	The 18-15 o'clock mail train was stopped at $\frac{213}{18}$ mile to extinguish fire on A. 24.
	<i>Safety of Passengers and Public Property.</i>
July 7	The 20-0 o'clock train was stopped at Avadi immediately after being put in motion, in consequence of the Gateman opening the door of a third-class brake van and trying to push in two third-class passengers while the train was in motion.
August 25	The 9-0 o'clock train was stopped at 193rd mile owing to a large bundle of wool having dropped from O. G. 865.
September 21	The 18-30 o'clock mail train was stopped at Jalarpot west points to detect a passenger who jumped into brake van while the train was in motion.
" 29	The 18-30 o'clock mail train was stopped near Erode to detect three passengers who jumped into train while the train was in motion.
October 19	The 12-45 o'clock train was stopped at Bisanattam after being started to pick up the Collector on Plague Duty, who could not catch the train in time.
November 5	The 13-43 o'clock train was stopped after starting from Mulanur owing to another train having been sighted in the opposite direction.

ELECTRIC CLOCKS.

Statement showing the working of the electric clocks during the half-year.

	1898.						Mean of six months.
	July.	August.	September.	October.	November.	December.	
Clock failures. { Caused through circumstances beyond Signaller's control. } per cent.	0.00	0.19	0.78	1.52	0.39	0.00	0.48
{ Caused through the negligence of Signallers. } "	0.76	0.00	1.18	1.14	0.57	0.76	0.90
Clock errors 2 minutes and over ... "	0.19	0.00	0.39	0.00	0.00	0.00	0.10
Do. under 2 minutes but 1 minute and over. }	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Do. under 1 minute ... "	99.05	99.81	97.65	97.34	98.04	98.86	98.46
Clock stopped ... "	0.00	0.00	0.00	0.00	0.00	0.38	0.06
	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Appended is a statement showing the total cost of maintenance of the Electric Telegraph during the half-year under report.

Yours faithfully,
JOHN B. DUNCAN,
Ag. Telegraph Engineer.

No. 301.

MADRAS RAILWAY COMPANY,
MEDICAL OFFICER'S OFFICE,
RAYAPURAM, 3rd March 1899.

To

THE AGENT AND MANAGER.

Madras Railway.

SIR,

I have the honor to forward you my report on the health of the Company's employés and on the conservancy of stations on both lines for the half-year ending 31st December 1898.

2. 3,003 admission sick certificates were granted during the half-year, as against 5,794 issued in the corresponding half of last year. I must explain that it was formerly the practice for some Apothecaries to include in their returns the cases of out-patients, *i.e.*, those receiving medicine while remaining at duty, but such cases are not now included in my half-yearly report, and that circumstance partly accounts for the large diminution of 2,791 in the cases treated during the half-year under review, compared with last year.

3. *Mortality.*—The number of deaths amongst the Company's employés during the half-year reported to me is 27, and this number includes only those who were being treated by the Company's staff at the time of their decease. No doubt there are others, mostly of the menial class, who go away in serious sickness to their villages to be among their relations, some of whom are never again seen or heard of, and no record can be obtained of the mortality amongst that class. The causes of death were various, the chief one being cholera of which there were six cases. There appear to me to be two noteworthy points in the mortality list *viz.*, no case of mortality from small-pox and only one from malarial fever. There were no less than 1,265 admissions for malarial fever during the half-year, with only one death, and considering that it is malarial fever that contributes so heavily to swell the death roll of Indian towns and villages, it is some satisfaction to me to be able to draw your attention to the solitary instance of mortality, out of 1,265 cases, on the Company's line, and to suggest that this happy record is largely owing to the skill and devotion to patients, which the Apothecary staff exercise in the conduct of their cases. The other circumstance to which I invite your kind notice is the absence of any mortality from small-pox during the half-year, and it has been my privilege, for several successive half-years, to record the same pleasing event. The number of cases of small-pox during each half-year is always small, and the cases are invariably of a benign type, and these circumstances are no doubt to be attributed to the strict manner in which the Company insists that every employé in their service, and every woman and child living on their premises, shall be vaccinated against small-pox. Employés to their credit recognise the beneficent character of the Company's vaccination rules, and not one of those misguided persons called "conscientious objectors," so numerous in some enlightened English towns, are to be found on the Madras Railway.

4. *Cholera.*—There have been thirteen cases of cholera amongst employés during the half-year, five of them at Renigunta, the only town on the line where the disease may be said to have been epidemic. The remaining eight cases were scattered over the line, each one at a different station.

5. *Plague.*—This epidemic had been raging in Bombay, and on the Great Indian Peninsula and Southern Mahratta Railways, for about two years before it invaded any station on the Madras Railway. Unhappily it appeared at Bangalore City Station, obviously imported from

some station on the Southern Mahratta Railway, in the beginning of September 1898. Several employes and members of their families were attacked, both at the Bangalore City and Cantonment Stations, but beyond these few instances no case of plague has occurred at any other station on the Railway. It has only as yet touched the fringe of the Company's system, and it is to be hoped that the active disinfecting measures which the Company's Apothecaries in the infected area are carrying out will prevent any further invasion of Railway premises. Employes on the Bangalore Branch came forward eagerly to be inoculated against plague when the disease was threatening their stations, but at other stations, remote from the infected district, the staff, for various reasons, put off the operation. If the epidemic unfortunately reaches their doors, they, in their turn, will, I am sure, immediately apply for the undoubted benefits of inoculation. I obtained some statistics a few weeks ago at Malur, a village on the Bangalore Branch of the Railway, which show its unquestionable efficacy against plague, and I think they are worth recording. They correspond, I may say, with statistics obtained as to the efficacy of inoculation from all other districts where the operation is practised, and they are perfectly reliable and accurate.

Malur population	...	...	...	...	3,180
Persons inoculated	...	...	...	...	377
Do. uninoculated	...	...	...	...	2,803
Attacks among inoculated	...	...	...	4 = 1.06%	
Do. uninoculated	...	...	...	228 = 8%	

If the inoculated had been attacked at the same rate as the uninoculated, 30 should have been seized, but only 4 were.

Of the 4 inoculated persons attacked none died, all recovered.

Of the 228 uninoculated attacked 198 died = 87%.

If the inoculated had died at the same rate as the uninoculated, $3\frac{1}{2}$ of them should have died, but they all recovered.

6. *Quarantine.*—It was found necessary during the half-year to place 18 persons in quarantine at an expenditure in wages of Rs. 148-13-10, on account of the appearance of small-pox in their houses, and one person through plague having appeared in his home, the latter drawing Rs. 19-13-0.

7. *Staff.*—The medical and conservancy staff have, as a rule, acquitted themselves in the discharge of their duties to my complete satisfaction.

8. I have inspected all the dispensaries and conservancy arrangements on the line and found the same in good order.

I have the honor to be,

Sir,

Your most obedient servant,

J. CURRIE,

Medical Officer,
Madras Railway.

Comparative statement of cases treated during the half-years ending 31st December 1897 and 31st December 1898.

Date.	Small-pox.	Measles.	Influenza.	Plague.	Simple Fever.	Malarial Fever.	Remittent Fever.	Cholera.	Choleraic Diarrhoea.	Dysentery.	Diarrhoea.	Accidents and other diseases.	Total Treated.
1897.													
July ...	1	...	...	...	22	226	3	2	...	33	57	514	858
August ...	...	...	...	...	26	296	...	5	...	44	77	503	951
September ...	...	...	...	...	47	373	2	9	...	52	69	478	1,030
October ...	...	...	...	...	38	455	...	3	...	38	44	514	1,092
November ...	...	...	...	...	33	403	...	1	...	36	47	479	959
December ...	1	...	...	...	34	327	2	...	...	20	30	450	864
Grand Total ...	2	...	...	...	200	2,080	7	20	...	223	324	2,938	5,794
1898.													
July ...	...	1	5	...	9	191	1	1	...	24	39	178	449
August ...	...	...	4	...	24	233	...	2	...	36	41	241	584
September ...	2	...	3	...	21	214	1	2	...	24	25	172	464
October ...	...	2	2	...	22	217	1	1	...	21	23	204	493
November ...	...	1	5	4	14	219	...	4	...	28	23	269	567
December ...	...	...	2	...	13	191	...	3	...	18	30	189	446
Grand Total ...	5	1	21	4	103	1,265	3	13	...	151	181	1,256	3,003

Return of vaccination for the half-year ending 31st December 1898.

No. vaccinated.	Traffic Department.				Locomotive Department.				Engineer Department.			
	Sex.				Sex.				Sex.			
	Children.				Children.				Children.			
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
770	1	...	44	...	1	1	...	...	708	15	...	...

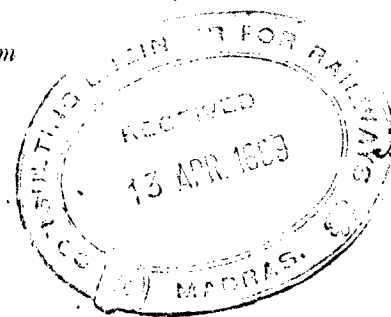
No. 11545386

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE,

Madras, 11th April 1899.1891
13.4.99

From



The Agent and Manager.

M. A. C.

To

The Consulting Engineer for Railways.

Madras.

SIR,

In continuation of my letter No. 11545
337
dated 28th March 1899. I have the honour
to forward herewith 32 copies each of my
Report and that of the Traffic Manager for
the half year ending 31st December 1898.

Copies of the Report of the Commandant,
Madras Railway Volunteers will follow.

I have the honour to be,

Sir,

Your most obedient servant,

Edmund
Agent & Manager.

Encls:

32 copies of my report = }
32 --- of J. M. report }
(with 10 Encls.)

No. 2406.

MADRAS RAILWAY COMPANY,
MADRAS, 6th April 1899.

To

JULIAN BYRNE, Esq.,
Secretary,
Madras Railway Company,
LONDON.

SIR,

I have the honor to submit, for the information of the Directors, the following summary of the operations of the Company for the half-year ended 31st December 1898. The detailed reports by the Heads of Departments were sent to you on the undermentioned dates:—

The Chief Engineer	... 23rd March 1899.	The Loco. Supt.	... 30th March 1899.
„ Chief Auditor	... „ „ „	„ Ag. Telegraph Engr.	„ „ „
„ Medical Officer	... 30th „ „	„ Traffic Manager	... 6th April „

2. The **Financial** results of the last two years are shown in the annexed table:—

Half-year ended	Gross earnings.	Total expenditure.	Net revenue.	Working expenses per cent.	Receipts per mile per week.	Half-yearly dividend.
	Rs.	Rs.	Rs.			
1897, June ...	57,89,562	26,99,926	30,89,636	46·63	265·61	2·56
„ December ...	56,75,752	27,63,201	29,12,551	48·63	260·77	2·41
Total ...	1,14,65,314	54,63,127	60,02,187	47·65	263·19	4·97
1898, June ...	56,34,736	24,77,847	31,56,889	43·97	258·61	2·62
„ December ...	50,85,747	27,40,731	23,45,016	53·89	233·26	1·92
Total ...	1,07,20,483	52,18,578	55,01,905	48·68	245·94	4·54

The decrease in gross earnings for December 1898, as compared with the earnings for the corresponding half-year of 1897, amounts to Rs. 5,90,005 and the decrease in working expenses to Rs. 22,470. The net revenue shows a decrease of Rs. 5,67,535, equivalent to 19·49 per cent.

3. During the half-year 1,270,984 train miles were run as against 1,318,652 during the corresponding period. 3,636,128 passengers and 581,312 tons of goods were carried as against 4,918,869 passengers and 613,550 tons of goods.

MADRAS RAILWAY.

From

The Agent and Manager.

To

The Consulting Engineer

for Railways.

Dated

188

Recd.

No.

4. The result of the half-year's working is a dividend at the rate of £3-17-0 per cent. per annum on the capital bearing interest. Loss by exchange amounts for the half-year to Rs. 1,72,337, or Rs. 19,414 more than during the corresponding half-year.

5. The number of **passengers** (excluding troops and police) carried in each class and the gross receipts therefrom, during the second halves of the last four years, are shown in the following table:—

Half-year ended	First Class.		Second Class.		Third Class.		Total.	
	No. carried.	Money earned.	No. carried.	Money earned.	No. carried.	Money earned.	No. carried.	Money earned.
		Rs.		Rs.		Rs.		Rs.
31st December 1895 ...	11,538	1,07,505	47,034	1,06,013	4,327,774	17,36,777	4,386,346	19,50,295
Do. 1896 ...	12,273	92,263	42,830	1,01,940	4,727,779	16,99,951	4,782,882	18,94,154
Do. 1897 ...	11,189	83,571	45,403	98,665	4,821,593	16,63,222	4,878,185	18,45,458
Do. 1898 ...	9,978	88,358	39,008	95,981	3,554,861	12,39,576	3,603,847	14,23,915

There is a decrease in the number of first-class passengers carried, as compared with the corresponding half-year of 1,211, or very nearly 11 per cent., and in the money earned there is an increase of Rs. 4,787, or 5·7 per cent.

There is a decrease in the number of second-class passengers carried of 6,395, or 14 per cent., and in the money earned there is a decrease of Rs. 2,684, or 2·7 per cent.

There is a decrease in the number of third-class passengers carried of 1,266,732, or nearly 27 per cent., and in the money earned there is a decrease of Rs. 4,23,646, or over 25 per cent.

The large falling off in the passenger traffic is entirely due to plague and plague restrictions.

Additional plague examining stations have been opened since the June half-year closed, and as plague broke out very seriously at Bangalore during the half-year, the measures adopted by Government to check the disease have had a far-reaching effect as will be seen from the Traffic Manager's table showing the percentage of passengers travelling over the several districts of the line.

The disease while breaking out spasmodically in places seems to move slowly but steadily to the south and the east, and it seems quite impossible to say where the disease will extend, or when we may expect to get rid of its influence.

6. The progress of the **goods traffic** during the same four half-years was—

Half-year ended	Goods traffic exclusive of Madras Railway material and revenue stores.	Government stores and Foreign Railway material.	For the public.		Average receipt per ton lifted.
			Weight.	Receipts.	
	Rs.	Rs.	Tons.	Rs.	Rs.
31st Dec. 1895 ..	29,63,744	39,010	430,313	29,24,734	6·87
Do. 1896 ...	29,67,007	74,087	441,688	28,92,920	6·55
Do. 1897 ...	31,96,980	37,260	501,005	31,59,720	6·30
Do. 1898 ...	31,02,852	46,171	467,389	30,56,681	6·54

The total tonnage carried over the Railway during the past half-year, exclusive of Railway materials for construction and revenue stores, was 471,761 tons as against 509,286 tons during the corresponding period, while the receipts were Rs. 31,02,852, and Rs. 31,96,980, respectively.

I alluded in my summary for the June half-year to the falling off in the grain traffic owing to the cessation of the famine of 1897, and a reference to the figures included in the Traffic Manager's report for December will show that we had again during the past half-year to compare with heavy movements of grain carried during the closing months of 1897 to the north.

The movement of wet skins was checked during the half-year by plague precautions, but the increased tonnage of coal, timber, salt, oil and oil-seeds helped us to show a better result than we at one time anticipated.

I do not propose to follow the Traffic Manager in the remarks he has submitted with his report on the acute stage of competition for southern traffic and the compulsory reduction of rates brought about by the opening of the Marmugoa Sea route and the withdrawal of the Southern Mahratta Railway from what was known as the shortest route agreement.

The whole question is in the hands of the several Boards, and I purposely refrain from adding remarks which might possibly make the position of my Directors more difficult.

7. The **maintenance charge** per mile, compared with the three previous half-years, is as follows:—

Half-year.	Ordinary.	Extra.	Total.
	Rs.	Rs.	Rs.
1897, June ...	562	48	610
„ December...	587	33	620
1898, June ...	484	49	533
„ December...	670	24	694

Compared with December 1897, the *ordinary* expenditure for the past half-year shows an increase of Rs. 83 a mile, while the *extraordinary* expenditure shows a decrease of Rs. 9 per mile. A sum of Rs. 14,621, it will be noticed, was charged to revenue on account of covering portions of the line with broken stone.

The Chief Engineer draws special attention to the protective works that have been in hand along the foreshore opposite to our Rayapuram Terminus for some months past. These works are now so far advanced that the safety of the main offices may be said to be secured.

Weak bridges are having attention, and the statement given on page 2 of the Chief Engineer's Report will show that the work connected with the partial renewing and strengthening of various bridges is well in hand.

The special attention of the Board is directed to Mr. Stoney's remarks on the Nilgiri Railway printed on page 7 of his Report. Detailed reports have from time to time been sent home, but the magnitude of the work to be grappled with can best be realised by a perusal of Mr. Stoney's pithy summary.

8. The total cost of the **Locomotive Department** during the last four half-years has been as under:—

Half-year.	Total mileage.	Total cost including all charges.	Total cost per mile run.
		Rs.	Rs. A. P.
1897, June	1,535,936	13,28,234	0 13 10-04
„ December	1,616,892	13,90,471	0 13 9-11
1898, June	1,551,560	11,87,290	0 12 2-92
„ December	1,559,578	12,90,400	0 13 2-86

Compared with the corresponding period of 1897, the expenses of the Locomotive Department may be stated as follows:—

Locomotive	Running	decrease	Rs. 851.
„	Repairs and renewals	increase	„ 6,442.
Carriage and Wagon	Running	decrease	„ 3,400.
„	Repairs and Renewals	„	„ 64,298.

The decrease in the mileage worked of some 57,314 miles is reported, and of roughly a lakh of rupees in the total cost of working the Department. The tendency is for coal, as its cost becomes lower, to push wood for locomotive purposes out of the market, and the effect of the new contract which has been entered into from the 1st of April 1899, will doubtless be to show a further decrease in the cost of fuel burnt. Mr. Phipps on page 3 of his report submits a full statement of his difficulties with the wood contractors.

Owing to plague and plague restrictions the passenger trains on several sections of the line are not so heavily loaded as formerly, but unfortunately the coal bill is but little affected by the loss of three or four carriages on light passenger trains.

As explained by the Locomotive Superintendent, the heavy renewals of passenger and goods stock upon which we have been engaged for many years, are now practically ended.

It is understood that the Calicut-Cannanore Line is to be proceeded with as a standard gauge railway; and this being so, the extra stock sanctioned for the open line and for the new extension and held back for a settlement of the gauge question will now be proceeded with.

During the half-year 2,620 vehicles were repaired and none renewed as against 3,017 and 46, respectively, during the corresponding half-year.

9. The **Electric telegraph** wires, block, needle and Morse instruments, electric starting semaphores and intercommunication in trains were maintained satisfactorily during the half-year. Thirteen engines and 101 vehicles were fitted or re-fitted with electrical intercommunication appliances during the half-year.

10. The **Medical Officer** reports that there was a decrease of 2,791 in the number of employes, to whom it was found necessary to grant sick certificates. There were in all during the half-year 3,003 cases of sickness dealt with against a total of 5,794 cases for the corresponding half-year; but, as the Medical Officer explains in para. 2 of his report, out-patients are not now recorded in the official returns. There were 13 cases of cholera, of which 6 proved fatal, and 5 and 4 non-fatal cases of small-pox and plague respectively. The Medical Officer's remarks on plague cases and the result of inoculation will be read with interest. There were in all 27 deaths reported by the Apothecaries.

11. Colonel C. E. Phipps, Commandant, has been unable up to date to send me his report upon the **Madras Railway Volunteers** for the past year, but I may state

that the regiment was successful in winning the Bangalore Cup, the chief prize of the South of India Rifle Association, at the meeting held at Bangalore in September.

12. **Railway schools** were maintained at eight of the important stations on the line. The total number of children on the register at 31st December was 403 and the average attendance 341. The cost to the Company of maintaining these schools during the period under review was Rs. 6,066.

13. The Company's contribution to the **Provident Institution** amounted for the half-year to Rs. 19,792-2-4, and this sum will be found entered in Abstract G of the Capital and Revenue Accounts. The total amount at credit of the institution at the end of the year was Rs. 9,22,865-11-3. When the revised rules, accepted by the Board, have been sanctioned by the Government of India, an additional contribution of Rs. 40,385 will be made to the fund, and this amount will be found entered in the Net Revenue Account.

14. Lines worked by the Company—

Net earnings of

1. The Mysore State Kolar Gold Fields Railway are for the half-year Rs. 28,212-9-11, equal to a return of 7 per cent. upon the Capital outlay.

Net earnings of

2. The Madras-Ennur Section of the Bezwada-Madras Railway for the half-year are Rs. 5,490-10-9, equal to a return of 1-83 per cent. per annum on the total Capital outlay.

NEW PROJECTS.

The **Arcot-Ranipet** Branch is ready to be opened, and we are only now waiting for Government sanction to place the branch at the disposal of the public.

The estimate for re-aligning and improving the **Kolar Gold Fields Railway** has been sanctioned and the work connected with it will be taken in hand without delay.

The **Beach Line Extension** will be vigorously proceeded with as soon as the plans have been sanctioned by the Madras Municipality. All works within municipal limits require the approval of the President of the Municipality, and that officer's sanction is awaited before we cross the main public road near Rayapuram and remove or extend various drains and man-holes connected with the Madras drainage system.

The survey of the **Shoranur-Cochin Railway** is practically completed, and if the Rajah of Cochin decides that the work of construction of the branch is to be carried out by the Madras Railway, the necessary staff will be posted without delay.

15. The following movements in the **Company's Staff** in India during the half-year are recorded:—

Mr H. C. West, Chief Engineer, retired from the Company's service on the 3rd October 1898.

Mr. E. W. Stoney, District Engineer, returned from furlough leave and assumed charge of the office of Chief Engineer on the 3rd October 1898.

Mr. H. J. Stanley, Assistant Loco. Superintendent, proceeded on sixteen months' furlough leave on the 3rd November 1898.

Loco. Foreman O. Horrocks retired from the Company's service on the 31st December 1898.

Latheshop Foreman E. Outon returned from leave and resumed charge of his duties on the 24th October 1898.

Covenanted Engine Drivers Howard and Malthouse arrived and reported themselves for duty on the 5th December 1898.

Mr. G. Wallington, Assistant Traffic Manager, proceeded home on twelve months' furlough leave on the 27th July 1898.

I have the honor to be,

Sir,

Your most obedient servant,

LOUIS S. MOSS,

Agent and Manager.

MADRAS RAILWAY COMPANY,

TRAFFIC MANAGER'S OFFICE,

MADRAS, 1st April 1899.

To

THE AGENT AND MANAGER,

Madras Railway Company,

RAYAPURAM.

SIR,

I have the honor to submit my report upon the traffic of the Madras Railway for the half-year ending 31st December 1898.

2. OPEN MILEAGE.—The open mileage (including the Kolar Gold Fields and Madras-Ennur Railways worked by the Madras Railway Company) on the 31st December 1898 was the same as on the 30th June 1898, viz., 859 miles.

3. TRAIN SERVICE.—A revised train service was introduced on the 16th November 1898.

Down Trains—S. W. Line.

No. 75 a new Local Passenger train leaves Madras at 5-45 for Trivellore.

No. 111 Local Passenger train leaves Madras at 17-35 instead of 17-30 and is cancelled from Trivellore to Arkonam.

No. 31 Mixed train leaves Salem at 18-40 instead of 19-0.

No. 87 Mail train leaves Madras at 18-15 instead of 18-30, Mettupalaiyam arrival 9-24 instead of 9-40 and Calicut 14-9 instead of 14-22.

No. 83 Mixed train leaves Arkonam at 4-50 instead of 5-0, Jalarpet arrival 11-50 instead of 12-15.

No. 17 Mixed train leaves Madras at 5-0 instead of 4-45 and arrives at Coimbatore 18-47 instead of 18-17.

No. 73 Mixed train leaves Madras at 19-0 instead of 13-0 and arrives at Katpadi 1-55 instead of 20-45.

No. 121 Mixed train leaves Podanur at 18-45 instead of 18-30 and arrives at Olavakkot at 21-5 instead of 20-48.

Up Trains—S. W. Line.

No. 208 a new Local Passenger train leaves Trivellore at 7-20 for Madras.

No. 172 Local Passenger train is cancelled from Arkonam to Trivellore and leaves Trivellore at 19-40 instead of 20-50 and arrives at Madras 21-0 instead of 22-5.

No. 102 Mixed train leaves Mettupalaiyam at 20-25 instead of 21-25 and arrives at Madras 18-45 instead of 19-0.

No. 30 Mixed train leaves Coimbatore at 5-20 instead of 5-40 and arrives at Arkonam 11-30 instead of 11-42 and is cancelled beyond Arkonam.

No. 42 Mail train leaves Calicut at 9-40 instead of 9-15 and arrives at Madras 7-0 instead of 6-30.

No. 132 Mixed train leaves Calicut at 12-20 instead of at 12-30 and arrives at Podanur at 22-10 instead of 22-11.

No. 8 Mixed train leaves Jalarpet at 8-0 as before and is extended to Madras where it arrives at 20-45.

Down Trains—Bangalore Branch.

No. 149 Mixed train leaves Jalarpet at 14-30 as before but does not run beyond Bowringpet.

No. 151 Mixed train leaving Bangalore Cant. at 6-0 is cancelled.

Up Trains—Bangalore Branch.

No. 50 Mixed train leaves Bangalore City at 12-45 as before but does not run beyond Bowringpet.

Down Trains—N. W. Line.

No. 37 Passenger train leaves Madras at 9-0 as before and arrives at Gooty at 4-4 instead of 4-26.

No. 39 Mixed train leaves Madras at 13-30 instead of 18-40 and arrives at Raichur at 1-15 instead of 5-45.

No. 181 Mixed train leaves Arkonam at 9-10 instead of 9-15 and arrives at Renigunta at 12-24 instead of 12-30.

No. 81 Mail train leaves Madras at 18-45 instead of 20-45 and arrives at Raichur as before stopping at 14 additional stations.

Up Trains—N. W. Line.

No. 14 Mail train leaves Raichur at 15-0 as before and arrives at Madras at 6-15 instead of 5-45.

No. 32 Mixed train leaves Gooty at 21-10 instead of 20-42 and arrives at Madras at 15-20 instead of 16-0.

No. 4 Mixed train leaves Raichur at 0-5 instead of 0-45 and arrives at Arkonam at 3-20 instead of 3-35.

No. 28 Mixed train leaves Arkonam at 7-0 instead of 6-50 and arrives at Madras at 9-25 as before.

Rayapuram, Palghat and Nilgiri Branches.

Rayapuram, Palghat and Nilgiri Branch trains have been re-timed to connect with the altered main line trains.

Down Trains—Madras-Ennur Railway.

No. 195 Mixed train leaves Rayapuram at 18-5 instead of 18-0 and arrives at Ennur at 18-47 instead of 18-45.

4. FARES AND RATES—The **PASSENGER FARES** were not altered during the half-year ending 31st December 1898. They are shown below:—

First class	...	...	...	12	pies.
Second class	...	...	...	6	"
Third class	{ Mail	...	...	2½	"
	{ Other trains	...	...	2	"

The following changes in the **GOODS RATES** were made during the half-year:—

JULY.

Commodities.	Conditions.	Rates per md. per mile.	Alterations.	Rates per md. per mile.	Remarks.
Wool, Loose	In wagon loads of 81 mds.	0-666 pie.	In wagon loads from Bangalore to via Itarsi for Traffic to Cawnpore, Agra and via.	0-333 pie.	To create new traffic.

AUGUST.

Commodities.	Conditions.	Rates per md. per mile.	Alterations.	Rates per md. per mile.	Remarks.
Chillies, Dry	In wagon loads Madras to Bombay at O. R.	4 annas per wagon per mile.	In wagon loads between Madras and Bombay.	3 annas per wagon per mile.	In competition with sea traffic.
Flour	O.R.	0-370 pie.	In wagon loads of (270 mds.) at O. R. between Bombay and Madras.	0-132 pie.	Do.
Grain and Seeds	In wagon loads of (270 to 324 mds.) at O.R.	0-200 pie.	In wagon loads of 270 to 324 mds. at O. R. from via Raichur to Bangalore for traffic from G.I.P. and connected Railways.	0-128 pie.	Equalization of rates.
Horns	At O.R. from Madras to Bombay.	0-296 pie.	Between Madras & Bombay.	0-180 pie.	In competition with sea traffic.
Oats	In wagon loads of 8 tons at O.R. for distances of 350 miles and over.	0-204 pie.	Via Raichur to Bangalore for traffic from Poona.	0-131 pie.	Equalization of rates.
Twist	From Bombay to Madras.	0-353 pie.	Between Bombay & Madras.	0-262 pie.	In competition with sea traffic.

DECEMBER.

Cotton, Pressed to 25 lb. and over.	From Devangiri to to Madras via Bangalore City.	0-592 pie.	Cotton pressed to over 25 lb.	0-356 pie.	To Equalise with the longer route.
Grain and Seeds, Common.	In wagon loads of 270 to 324 mds at O.R. between via Raichur and Bangalore.	0-128 pie.	For traffic from I. M. Ry. Stations via Raichur.	0-118 pie.	Equalization with the rate via Guntakul.
Cotton, Loose in Borahs.	At O. R. in wagon loads of 90 mds. from Raichur to Guntakul.	1-111 pie.	At O. R. wagon loads of 90 mds. from Raichur to Guntakul.	0-888 pie.	To bring down loose cotton to be pressed there and rebooked.

The rates here given do not include the many rapid and temporary changes which have taken place in consequence of the Marmagao dispute, as the commodities and rate lists which would have to be included to make them intelligible, even to a Traffic Officer, would necessitate an appendix.

5. TRAFFIC TRAIN MILES—The traffic train mileage for the December half-years of 1897 and 1898 is shown in the following table:—

Allocation.	Description of train.	December 1897.				December 1898.			
		Madras Railway.	K. G. F. Railway.	Madras-Ennur Railway.	Total.	Madras Railway.	K. G. F. Railway.	Madras-Ennur Railway.	Total.
		Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
Coaching...	Mail	322,736	...	...	322,736	322,736	...	...	322,736
	Passenger	169,698	...	...	169,698	170,866	...	...	170,866
	Special	1,570	...	...	1,570	3,995	...	64	4,059
	Troops	6,490	...	...	6,490	1,799	...	...	1,799
Mixed	Ordinary	616,020	14,750	12,000	642,770	573,657	14,720	12,000	600,377
	Extra	46,943	...	1,607	48,550	47,839	...	...	47,839
Goods	Ballast trains for construction.	92,914	4,214	...	97,128	94,534	4,674	...	99,208
	Light engines	...	...	...	...	459	...	...	459
	Maintenance	36,795	360	76	37,231	26,863	530	...	27,393
	Fuel	8,991	...	974	9,965	10,892	...	...	10,892
Total		1,318,652	19,324	14,657	1,352,633	1,270,984	19,924	12,064	1,302,972

Excluding maintenance and fuel mileage the total train mileage of the Madras Railway was 1,242,748 against 1,293,166 for the corresponding period of 1897 or a decrease of 50,418 miles, equivalent to 3-90 per cent.

Taking the figures as shown in the Capital and Revenue accounts where Mixed and Light Engine mileage is divided between the Coaching and Goods traffic, a decrease of 28,311

occurs in Coaching and 22,107 in Goods train mileage on the Madras Railway, a decrease of 1,428 in Coaching and an increase of 2,028 in Goods on the K. G. F. S. Railway, and an increase of 852 in Coaching and a decrease of 2,471 in Goods on the Madras-Ennur Railway.

6. GROSS AND NET TRAFFIC FOR YEARS 1889 to 1898.—The following table is designed to show the gross traffic receipts, total expenses, net receipts, number of passengers, tonnage of goods, traffic expenses, and percentage of traffic expenses on gross receipts, for 10 years ending 31st Dec. 1898.

Years.	Gross Receipts.	Total Expenses.	Net Receipts.	No. of Passengers carried including Troops and Police.	Tons of Goods carried including Railway Material and Revenue Stores.	Expenses of Traffic Department.	Percentage of Traffic Expense on Gross Receipts.
	Rs.	Rs.	Rs.	No.	No.	Rs.	Rs.
1889 ...	91,10,895	53,72,473	37,38,422	8,528,953	1,097,441	7,99,976	8.7
1890 ...	95,06,134	49,84,654	45,21,480	8,433,081	1,193,415	8,20,687	8.6
1891 ...	93,44,688	54,38,158	39,06,530	8,240,222	1,177,910	8,54,582	10.9
1892 ...	96,24,670	53,32,537	42,92,133	8,889,950	1,118,857	8,43,744	8.8
1893 ...	1,05,05,036	50,83,294	54,21,742	9,826,256	1,156,894	8,99,985	8.6
1894 ...	1,03,21,012	53,73,150	49,47,862	10,160,062	1,076,542	8,69,955	8.4
1895 ...	1,12,08,407	53,29,676	58,78,731	8,983,791	1,129,221	8,31,875	7.4
1896 ...	1,08,80,251	54,94,961	53,85,290	9,723,265	1,117,213	8,61,827	7.9
1897 ...	1,14,65,314	54,63,126	60,02,188	10,073,753	1,239,848	8,25,838	7.2
1898 ...	1,07,20,433	52,18,578	55,01,905	8,331,703	1,166,416	8,49,896	7.9

7. GROSS AND NET EARNINGS.—Compared with the corresponding period of 1897 the earnings from all sources for the half-year ended December 1898 were Rs. 50,85,747 against Rs. 56,75,752 or a decrease of Rs. 5,90,005 equivalent to 10.40 per cent.

The net earnings were Rs. 23,45,016 against Rs. 29,12,551 or 46.11 per cent. of Revenue.

The working expenses were Rs. 27,40,731 against Rs. 27,63,200 or 53.89 per cent. of Revenue.

The average receipts per train mile were Rs. 4.00 against Rs. 4.30 in consequence of light trains owing to plague.

8. The increases and decreases in the gross earnings are shown in the following table:—

Heads.	EARNINGS.		Increase.	Decrease.	Net decrease.
	Half-year ending Dec. 1897.	Half-year ending Dec. 1898.			
	Rs.	Rs.	Rs.	Rs.	Rs.
Passengers ...	18,45,458	14,23,915	...	4,21,543	...
Troops and Police ...	78,222	61,544	...	16,678	...
Passengers' luggage ...	86,995	66,226	...	20,769	...
Parcels ...	1,69,623	1,49,232	...	20,391	...
Parcels (Revenue) ...	3,370	3,178	...	192	...
Horses, carriages and dogs.	37,901	34,520	...	3,381	...
Special trains ...	366	2,570	2,204	...	...
Goods ...	31,96,980	31,02,852	...	94,128	...
Goods (Revenue) ...	64,929	86,966	22,037	...	...
Railway material ...	871	5,423	4,552	...	...
Live stock ...	19,588	12,370	...	7,218	...
Rents and demurrage ...	7,025	6,862	...	163	...
Miscellaneous ...	5,015	5,755	740	...	...
Haulage of postal vans ...	24,917	24,470	...	447	...
Sundries ...	1,24,723	91,277	...	33,446	...
Telegraph ...	9,769	8,587	...	1,182	...
Total ...	56,75,752	50,85,747	29,533	6,19,538	5,90,005

9. The net decrease in the working expenses is explained as follows:—

Heads.	EXPENDITURE.		Increase.	Decrease.	Net decrease.
	Dec. 1897.	Dec. 1898.			
	Rs.	Rs.	Rs.	Rs.	Rs.
Permanent way ...	6,27,504	7,03,741	76,237	...	...
Locomotive ...	10,79,084	10,55,342	...	23,742	...
Repairs to carriages and wagons.	3,11,387	2,35,053	...	76,329	...
Traffic ...	4,21,155	4,29,914	8,759	...	...
General charges ...	2,82,841	2,72,281	...	10,560	...
Special and miscellaneous ...	41,229	44,395	3,166	...	...
Total ...	27,63,200	27,40,731	83,162	1,10,631	22,469

10. PASSENGER TRAFFIC.—The receipts from passengers (exclusive of troops and police) were Rs. 14,23,914 against Rs. 18,45,459 or a decrease of Rs. 4,21,545 equivalent to 22.84 per cent. The lowest class contributed in money 87.05 per cent. against 90.12 per cent. and in number 98.64 per cent. against 98.84 per cent.

11. The receipts from each class of passengers are shown in the following table:—

Half-years ending	First class.	Second class.	Third class.	Total.
	Rs.	Rs.	Rs.	Rs.
31st Dec. 1898 ...	88,357	95,981	12,39,576	14,23,914
Do. 1897 ...	83,571	98,665	16,63,223	18,45,459
Increase in 1898 ...	4,786	...	...	...
Decrease in 1898 ...	...	2,684	4,23,647	4,21,545
Increase per cent. ...	5.73	...	...	...
Decrease do. ...	...	2.72	25.47	22.84

12. The numbers carried in each class were:—

Half-years ending	First class.	Second class.	Third class.	Total.
	No.	No.	No.	No.
31st Dec. 1898 ...	9,978	39,008	3,554,861	3,603,847
Do. 1897 ...	11,189	45,403	4,821,593	4,878,185
Increase in 1898 ...	...	...	...	...
Decrease in 1898 ...	1,211	6,395	1,266,731	1,274,337
Increase per cent. ...	...	...	...	...
Decrease do. ...	10.82	14.08	26.27	26.12

13. The percentage of numbers and average mileage of each class were as follows:—

Periods.	Percentage of numbers.			Average mileage.		
	First class.	Second class.	Third class.	First class.	Second class.	Third class.
Half-year ending 31st Dec. 1898.	0.28	1.08	98.64	*149	95	32
Do. do. 1897.	0.23	0.93	98.84	155	110	32

* What would seem to be an consistency in the decreased average mileage of 1st class passengers is due to decrease of Rs. 2,139-6-6 in 1st class periodical ticket receipts, and to the manner in which, under Government orders a periodical ticket-holder is counted as 40 single journey passengers.

14. The average fare paid by each class of passenger was:—

Period.	First class.	Second class.	Third class.
	Rs. A. P.	Rs. A. P.	Rs. A. P.
Half-year ending 31st December 1898...	8 13 9	2 7 4	0 5 7
Do. do. 1897...	7 7 6	2 2 9	0 5 6

15. The following statement shows numbers of and receipts from Troops and Police for the two half years:—

Half-years.	First class.		Second class.		Third class.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
31st Dec. 1898 ...	521	5,859	4,604½	18,306	27,155	87,379	32,280½	61,544
Do. 1897 ...	594	5,458	6,102½	28,216	33,988	44,549	40,684½	78,223
Increase in 1898 ...	...	401	...	...	...	...	...	...
Decrease in 1898 ...	73	...	1,498	9,910	6,833	7,170	8,404	16,679
Increase per cent. ...	...	7·35	...	...	...	...	...	...
Decrease per cent. ...	12·29	...	24·55	35·12	20·10	16·09	20·66	21·32

16. In the first class passenger traffic there was a decrease of 10·82 per cent. in number and an increase of 5·73 per cent. in money. In the 2nd class there was a decrease of 14·08 per cent. in number and 2·72 per cent. in money. In the 3rd class there was a decrease of 26·27 per cent. in number and 25·47 per cent. in money. The average sum paid by a third class passenger by *all* trains was annas 5·7 against annas 5·6. The average value by *Mail* trains was annas 11·8 against annas 11·10. The percentage of numbers carried by the *Mail* trains was 18 against 17 and by *other* trains 82 against 83.

It is difficult to explain the increase in 1st class passenger receipts, unless it is due to Periodical ticket-holders, (whose tickets were not renewed owing to plague in Bangalore) being compelled to travel a larger number of times than they anticipated, giving the Railway more revenue from single fares than would have accrued from the Periodical tickets.

The decreases in 2nd and 3rd class passenger traffic were both due to plague, and plague restrictions, particularly the latter, but although it is very discouraging to see passengers frightened away from the Railway, and to receive the weekly returns shewing a regular decrease in revenue while additional labour and anxiety are imposed upon the Railway Staff, and while, instead of a corresponding reduction in Staff the reverse is demanded by the circumstances of the case, still the only reasonable course open to Government seems clearly to be that which is being followed.

17. The Return fare and Festival traffic is shewn in the following table:—

Half-years ending.	First class.		Second class.		Third class.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
31st Dec. 1898...	724	2,431	9,052	3,879	194,971	9,034	204,747	15,344
Do. 1897...	2,556	3,785	14,193	6,142	225,208	11,488	241,957	21,415
Increase in 1898...	...	...	...	...	...	...	...	...
Decrease in 1898...	1,832	1,354	5,141	2,263	30,237	2,454	37,210	6,071

18. The number of 3rd class passengers booked by all trains on different sections of the line, in the second half-years of 1897 and 1898, is shown in the following table:—

Between	Half-year ending Dec.		Increase per cent.	Decrease per cent.
	1897.	* 1898.		
Madras to Jalarpet ...	1,630,493	1,247,801	...	23·47
Tirupattur to Podanur ...	664,286	486,138	...	26·82
Bangalore Branch ...	544,072	320,624	...	41·07
Nilgiri Branch ...	272,333	195,030	...	28·39
Madukarai to Calicut ...	575,631	481,245	...	16·39
Tiruttani to Cuddapah ...	463,738	333,404	...	28·11
Krishnapuram to Raichur ...	445,834	222,302	...	50·14
Ex-Great Indian Peninsula, Southern Mahratta, South Indian, Kolar Gold Fields and Madras-Ennur Railways ...	...	73,347	...	...
Total ...	4,596,387	3,359,891	...	26·90

* As the Audit Department have discontinued the compilation of sectional figures, it is impossible to do more than give approximate figures in this form; but, although the present percentage comparisons are vitiated, the figures will be useful for corresponding periods at a later date.

19. The heavy percentages of decrease in the 3rd class passenger traffic, as shewn in para. 18, although general, do not hide the two Madras Railway Districts in which the most serious epidemics have existed, viz., in the Bangalore and Krishnapuram to Raichur Districts where the approximate decreases appear as 41·07 and 50·14, respectively.

20. **PARCELS.**—Compared with the corresponding period of 1897 there was a decrease of 1·53 per cent. in number, and of 12·02 per cent. in money. The average receipt per parcel was Rs. 0·76 against Rs. 0·85. The decrease both in the number and receipts from local parcels traffic is partly due to the introduction of conference rates under the mileage system which has led to a proportion of the parcels being sent as Goods, and a further decrease is attributed to the plague.

21. The following table shows the number and revenue derived from parcels for the December half-years of the last ten years:—

Half-years ending December.	Number.		Receipts.		Total.	
	Local.	Foreign.	Local.	Foreign.	Number.	Receipts.
	No.	No.	Rs.	Rs.	No.	Rs.
1889 ...	75,506	51,251	78,504	43,543	126,757	1,22,052
1890 ...	78,803	54,935	76,235	46,952	133,738	1,23,187
1891 ...	69,218	50,683	74,587	41,056	119,906	1,18,643
1892 ...	78,515	55,926	84,815	49,280	134,441	1,34,095
1893 ...	93,638	62,524	99,415	50,007	156,162	1,49,422
1894 ...	108,140	75,382	1,10,192	56,864	183,522	1,67,056
1895 ...	91,015	84,720	85,755	62,170	175,735	1,47,925
1896 ...	89,228	92,931	82,027	62,493	182,159	1,44,520
1897 ...	96,760	103,844	94,659	74,963	200,604	1,69,622
1898 ...	70,375	127,165	70,827	78,405	197,540	1,49,232

22. **GOODS TRAFFIC.**—Compared with the corresponding period of 1897, the receipts from Goods Traffic (exclusive of Railway Material and Revenue Stores) were Rs. 31,02,852 against Rs. 31,96,980, or a decrease of 2·94 per cent., the tonnage being 471,761 against 509,286 or a decrease of 7·37 per cent. The average sum earned per ton carried was Rs. 6·58 against Rs. 6·28 and the average sum per ton per mile was 8·41 pies against 8·36 pies. The fluctuations in the commodities which contributed to this result are shown in para 25.

23. The following table is designed to show the weight and revenue of the public goods traffic for the last ten years:—

Years.	Goods traffic exclusive of Madras Railway material and Revenue stores.	Government stores and Foreign Railway material.	For the Public.	
			Weight.	Receipts.
	Rs.	Rs.	Tons.	Rs.
1889	49,78,001	2,13,405	763,428	47,64,596
1890	51,37,890	2,35,771	830,527	49,02,119
1891	53,11,395	2,34,601	840,032	50,76,794
1892	54,68,885	1,07,988	795,128	53,60,897
1893	61,18,911	78,837	878,194	60,40,074
1894	58,10,094	86,071	815,834	57,24,023
1895	60,81,879	77,109	861,067	60,04,770
1896	59,01,797	1,11,687	865,497	57,90,110
1897	64,93,499	84,423	999,413	64,09,076
1898	62,76,681	87,725	947,197	61,88,956

24. Statement showing earnings from and tonnage of goods traffic for the December half-years of 1897 and 1898:—

Details.			Half-year ending Dec. 1897.	Half-year ending Dec. 1898.
Receipts from goods	Rs.		31,96,980	31,02,852
Tonnage of goods	Tons		509,286	471,761
Average receipt, per ton carried	Rs.		6.28	6.58
Do. per ton per mile	Pies		8.36	8.41

25. The increase and decrease in each important commodity composing the goods traffic for half-year ending 31st December 1898 is detailed in the following statement:—

Description.	Increase.		Description.	Decrease.	
	Tons.	Rs.		Tons.	Rs.
Coal and Coke	33,444	1,29,465	Cotton, Manufactured	1,252	16,847
Cotton, Unmanufactured..	5,505	55,685	Dyes and Tans	3,358	21,524
Drugs and Chemicals	345	4,856	Grain and Pulse	33,861	1,01,878
Oils	405	17,685	Hides and Skins... ..	6,789	96,628
Oil Seeds	...	13,476	Jute	1,116	10,647
Railway Plant and Rolling Stock.	...	6,164	Liquors	952	5,958
Salt	1,165	10,977	Metals	4,507	36,365
Sugar	5,470	12,845	Oil Seeds ..	1,868	...
Tea	31	1,249	Paper and Paste Board ...	76	1,578
Wool, Raw	74	1,400	Provisions	2,623	3,926
Commodities which yielded a total revenue of less than Rs. 1,000 each during the half-year.	63	529	Railway Plant and Rolling Stock.	3,985	...
			Spices	1,320	4,069
			Stone and Lime	9,089	1,339
			Timber	5,798	9,856
			Tobacco	787	2,032
			All others Articles of Merchandise.	6,565	85,011
By Decrease	37,525	94,128	Commodities which yielded a total revenue of less than Rs. 1,000 each during the half-year.	81	801
Total	84,027	3,48,459	Total	84,027	3,48,459

26. The total quantity of Grain carried over the whole system was 92,673 tons, yielding a receipt of Rs. 6,56,708 against 126,534 tons and a receipt of Rs. 7,58,586 or a decrease of 26.76 per cent. in weight and of 13.43 per cent. in money. The average receipt per ton carried was Rs. 7.09 against Rs. 5.99.

A reference to para. 25 will shew an approximate decrease of two lakhs of rupees in grain and skins. The decrease in the revenue from skins was undoubtedly due to plague, and there is evidence that, owing to plague and plague restrictions, local stocks of grain were used in the place of grain ordinarily imported from other Districts. The fortunate increases in our coal and cotton traffic, however, largely helped to balance these decreases.

27. The following table is designed to show the tonnage of Grain sent from and received at each district during the half-years ending 31st December 1897 and 1898:—

Districts.	1897.				1898.			
	Sent from		Received in		Sent from		Received in	
	Tons.	Percentage of tons.	Tons.	Percentage of tons.	Tons.	Percentage of tons.	Tons.	Percentage of tons.
Madras	7,022	5.55	11,055	8.74	12,741	13.75	13,304	14.36
North Arcot	20,714	16.37	6,954	5.50	10,190	11.00	10,405	11.23
Salem	18,244	14.42	4,084	3.23	5,975	6.45	16,009	17.28
Coimbatore	15,458	12.22	11,244	8.88	1,066	1.15	19,419	20.95
Malabar	8,263	6.53	23,964	18.94	6,041	6.52	5,512	5.95
Cuddapah	2,766	2.18	5,334	4.21	2,059	2.22	2,467	2.66
Bellary	11,017	8.71	15,936	12.59	21,115	22.78	2,687	2.90
South Indian Railway...	9,386	7.42	2,526	2.00	2,558	2.76	5,118	5.52
Great Indian Penin- sula Railway. }	1,259	0.99	15,942	12.60	15,103	16.30	175	0.19
Mysore Dominions ...	14,366	11.35	10,703	8.46	7,560	8.16	8,769	9.46
Intra	18,039	14.26	18,792	14.85	8,265	8.91	8,808	9.50
Total	126,534	100.00	126,534	100.00	92,673	100.00	92,673	100.00

28. The following table shows the tonnage of Grain brought into Madras during the two periods by Sea, by Buckingham Canal, and by the Madras Railway:—

Means of Transport.					1897.	1898.
					Tons.	Tons.
Sea	...	...	...	...	12,930	33,628
Buckingham Canal ...	...	...	...	...	11,207	25,416
Madras Railway	...	...	...	...	10,600	13,159
Total					34,737	72,203

29. The Cotton was contributed by the following Railways and Local stations:—

Stations.	Half-year ending 31st Dec. 1897.			Half-year ending 31st Dec. 1898.		
	Pressed.	Loose.	Total.	Pressed.	Loose.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Southern Mahratta Railway ...	231	2	233	2,590	2	2,592
Adoni ...	693	150	843	2,183	180	2,363
Raichur ...	118	22	140	761	48	809
Tadpatri ...	173	19	192	385	...	385
Guntakal ...	...	...	...	988	5	993
Yerraguntla ...	261	1	262	270	10	280
Krishnapuram ...	19	...	19	...	...	...
Muddanuru ...	...	...	...	...	...	...
Great Indian Peninsula Railway...	55	52	107	...	24	24
Mysore State Railway ...	112	...	112	392	...	392
Tiruppur ...	1,135	54	1,189	912	...	912
Coimbatore...	94	21	115	60	26	86
Somanur ...	472	...	472	187	4	191
Singanallur ...	17	...	17	79	...	79
Erode ...	138	29	167	134	18	152
Sankaridrug ...	...	...	...	...	...	...
Minor Stations ...	18	27	45	4	156	160
Total ...	3,536	377	3,913	8,945	473	9,418

30. And was distributed as follows:—

Stations.	Half-year ending 31st Dec. 1897.			Half-year ending 31st Dec. 1898.		
	Pressed.	Loose.	Total.	Pressed.	Loose.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Madras ...	2,660	20	2,680	7,787	15	7,802
Tadpatri ...	...	2	2	...	...	...
Adoni ...	...	58	58	...	47	47
Raichur ...	...	...	...	26	...	26
Malabar ...	388	81	469	272	...	272
Guntakal ...	...	111	111	73	201	274
Southern Mahratta Railway ...	98	23	121	37	1	38
Great Indian Peninsula Railway...	52	30	82	696	...	696
South Indian Railway ...	13	13	26	31	32	63
Coimbatore District ...	...	10	10	14	29	43
Bangalore ...	321	28	349	7	23	30
Minor Stations ...	4	1	5	2	125	127
Total ...	3,536	377	3,913	8,945	473	9,418

31. The condition in which the Cotton was carried is shown in the following table:—

Condition.	December 1897.		December 1898.	
	Tons.	Rs.	Tons.	Rs.
Loose ...	377	5,585	473	3,973
Full pressed ...	3,536	53,507	8,945	1,10,804
Total ...	3,913	59,092	9,418	1,14,777

32. The following table shows the quantity of Cotton brought into Madras during the two half-years under comparison:—

Districts.	1897.	1898.
	Tons.	Tons.
Coimbatore and Salem ...	1,254	1,078
Bangalore City ...	...	7
North-West Line ...	1,028	3,748
Southern Mahratta Railway...	343	2,969
Great Indian Peninsula Railway ...	55	...
Total ...	2,680	7,802

33. Tonnage of Cotton delivered by Railway and the tonnage exported from Madras during the last and corresponding half-years:—

Periods.	Delivered by Railway at Madras.	Exported at Madras.
	Tons.	Tons.
Half-year ending December 1897 ...	2,680	1,648
Do. do. 1898 ...	7,802	5,590

34. The following statement shows the Cotton traffic during the December half of the last ten years:—

Half-years ending.	Pressed.	Loose.	Total.		Average Receipts per ton carried.
			Weight.	Receipts.	
	Tons.	Tons.	Tons.	Rs.	Rs.
December 1889 ...	10,050	3,123	13,173	1,66,786	12½
Do. 1890 ...	12,857	4,054	16,911	2,14,792	12½
Do. 1891 ...	9,635	2,632	12,267	1,51,268	12½
Do. 1892 ...	5,343	2,118	7,461	1,10,056	14½
Do. 1893 ...	11,792	3,814	15,606	2,16,645	13½
Do. 1894 ...	8,420	2,375	10,795	1,56,986	14½
Do. 1895 ...	8,245	1,562	9,807	1,38,341	14½
Do. 1896 ...	8,621	1,611	10,232	1,37,714	13½
Do. 1897 ...	3,536	377	3,913	59,092	15½
Do. 1898 ...	8,945	473	9,418	1,14,777	12½

35. The following figures show the Ground-nut traffic during the last ten half-years:—

Periods.	Total Weight.		Total Receipts.	
	Tons.	Rs.	Tons.	Rs.
Half-year ending 30th June 1894 ...	7,476	26,997	...	...
Do. 31st December 1894 ...	3,378	15,101	...	...
Do. 30th June 1895 ...	5,769	17,772	...	...
Do. 31st December 1895 ...	2,326	7,576	...	...
Do. 30th June 1896 ...	5,765	19,055	...	...
Do. 31st December 1896 ...	2,401	6,418	...	...
Do. 30th June 1897 ...	2,245	7,744	...	...
Do. 31st December 1897 ...	2,184	7,915	...	...
Do. 30th June 1898 ...	2,790	7,513	...	...
Do. 31st December 1898 ...	1,182	3,927	...	...

36. Tonnage of Salt carried out of Madras to the various districts during the half-years ending 31st December 1897 and 1898:—

Districts.	1897.		1898.	
	Tons.	Tons.	Tons.	Tons.
Between Madras, Arkonam and Conjeveram	...	1,587	...	2,366
Cuddapah ...	59	...	35	...
Other Stations on North-West Line	2,581	...	2,885	...
Arcot and Katpadi ...	...	2,640	...	2,920
Between Gudiyattam and Vaniyambadi ...	...	2,693	...	3,004
Bangalore ...	...	1,320	...	1,499
Other Stations on Bangalore Branch	...	...	...	...
Salem ...	365	...	307	...
Other Stations in Salem District	1,047	...	1,444	...
Erode, Tiruppur and Coimbatore	...	1,412	...	1,751
Southern Mahratta Railway	...	...	114	...
South Indian Railway	258	...	3,091	...
Kolar Gold Fields State Railway	2,729	...	...	...
Total ...	...	16,569	...	18,798

37. The following statement shows the Salt carried from certain South West line stations, and the districts to which it was sent:—

Stations.	Half-year ending 31st Dec. 1897.		Half-year ending 31st Dec. 1898.	
	Sent from	Received at	Sent from	Received at
	Tons.	Tons.	Tons.	Tons.
Calicut ...	5,828	...	5,531	...
Feroke ...	1,182	...	807	...
Kallayi ...	143	...	51	...
Tirur ...	1,227	...	1,429	...
Erode ...	87	...	60	...
Coimbatore ...	16	...	24	...
Palghat ...	...	...	2	...
Salem ...	12	...	...	...
Vencatachellum ...	981	...	815	...
Nellore ...	614	...	251	...
North Arcot District	...	142	...	66
Salem District	...	2,730	...	2,768
Coimbatore District	...	3,043	...	3,074
Malabar District	...	2,594	...	2,025
Cuddapah District	...	1,435	...	1,000
Bellary District	...	18	...	...
Mysore Dominions	...	128	...	37
Total ...	10,090	10,090	8,970	8,970

38. The total quantity of Salt carried over the whole system was 29,327 tons yielding a revenue of Rs. 1,61,526 against 28,162 tons with the revenue of Rs. 1,50,549 in money. The sum earned per ton hauled was Rs. 5.5 against 5.3. The exports from Madras amounted to 18,798 tons or 64 per cent. of the traffic carried.

39. The following table shows the Salt traffic carried out of Madras in each year for the five years ending 31st December 1898:—

Districts.	1894.	1895.	1896.	1897.	1898.
	Tons.	Tons.	Tons.	Tons.	Tons.
Between Madras and Conjeveram	1,963	1,696	1,333	2,244	4,947
Cuddapah ...	1,497	1,143	310	119	127
Other Stations on North-West Line	6,402	5,443	3,986	4,846	5,341
Arcot and Katpadi ...	6,146	5,043	4,614	5,014	5,907
Gudiyattam and Vaniyambadi ...	3,294	3,081	2,437	2,562	3,056
Bangalore ...	2,281	1,511	556	488	402
Mysore State Railway...	24	30	10	...	...
Other Stations on Bangalore Branch	1,707	1,748	1,463	1,980	2,352
Salem ...	823	149	260	306	126
Other Stations in Salem District	5,026	4,621	3,274	4,559	5,560
Erode, Tiruppur and Coimbatore	7,897	5,812	4,287	5,852	6,529
Malabar ...	10	...	...	...	...
Great Indian Peninsula Railway	5	70	...	...	...
Southern Mahratta Railway	1,004	428	231	159	342
South Indian Railway	700	858	674	629	785
Kolar Gold Fields State Railway	...	...	...	2	8
Total ...	38,779	31,638	23,465	28,760	35,482

40. Approximate Statement of traffic to the Gold Mines for the two half-years ending December 1897 and 1898.

Staples.	Half-year ending Dec. 1897.						Half-year ending Dec. 1898.					
	Total traffic at Bisanatam, Kamasamudram and Bowringpet.		Total traffic at Stations on the K. G. F. S. Ry.		Total.		Total traffic at Bisanatam, Kamasamudram and Bowringpet.		Total traffic at Stations on the K. G. F. S. Ry.		Total.	
	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
Coal and Coke	4,400	17,191	60,133	2,55,356	64,533	2,72,547	1,363	6,013	88,493	3,80,310	89,856	3,86,323
Timber	9,003	24,399	6,682	53,543	15,685	82,942	768	6,018	9,613	87,791	10,381	93,809
Firewood	5,429	5,359	13,027	17,652	18,456	23,011	6,035	7,125	11,415	12,246	17,450	19,371
Machinery	242	2,630	2,336	34,026	2,578	36,706	653	301	1,849	25,412	2,502	25,713
Unclassified Articles...	2,498	28,487	8,431	52,231	10,929	80,718	7,252	51,541	9,214	60,644	16,466	1,12,185
Total ...	21,572	78,116	90,609	4,17,803	112,181	4,95,924	16,071	70,938	120,584	5,66,403	136,655	6,37,401

41. A brief explanation of the variations in the commodities referred to in para. 25 is given below:—

	From	To
Coal and Coke—Increase.	Larger despatches of Rayapuram	... K. G. F. S. Ry.
	Coal and Coke.	... Madras
	Do.	... Madras-Ennur Ry.
Cotton, Unmanufactured—Increase.	Larger despatches of Guntakal	... G. I. P. Railway.
	Cotton Pressed.	... Adoni
	Do.	... Raichur
		... S. M. Railway
		... Do.

		From	To
Drugs and Chemicals— Increase...	Larger despatches of Chinchona Bark.	Bowringpet ... S. M. Railway ... Madras ...	Madras. Coimbatore District. Salem District.
	Larger despatches of Other Drugs and Chemicals.	Do. ... Do. ... Do. ... S. M. Railway ... Do. ...	Coimbatore District. Bangalore Branch. S. M. Railway. Madras. Coimbatore District.
	Larger despatches of Kerosine Oil.	Rayapuram ... Do. ... Tirur ... Do. ... G. I. P. Railway ... Do. ...	Bangalore Branch. G. I. P. Railway. Coimbatore District. Malabar District. Madras. Bangalore City.
	Larger despatches of Coconut Oil.	Shoranore ... Malabar District ... Do. ...	Malabar District. Bangalore Branch. S. M. Railway.
	Larger despatches of Refined Sugar.	Arcot ... Bowringpet ... Do. ... Do. ... Tiruppur ... Do. ...	Madras. Do. North Arcot District. S. M. Railway. Malabar District. Bellary District.
Sugar—Increase	Larger despatches of Unrefined Sugar.	Do. ... S. I. Railway ... S. M. do. ... Do. ...	S. M. Railway. North Arcot District. Bellary District. Raichur.
	Larger despatches of Tea, Indian.	Madras ... Coimbatore District ... Do. ... Do. ...	Bangalore. Madras. Malabar District. G. I. P. Railway.
Wool, Raw—Increase	Larger despatches of Wool, Raw.	Madras ... Adoni ... Do. ...	Bangalore. Do. G. I. P. Railway
Cotton, Manufactured— Decrease.	Smaller despatches of Twist and Yarn (European).	Madras ... Bangalore City ... Do. ... G. I. P. Railway ... Do. ...	Salem District. Madras, Coimbatore. Madras. Bellary District.
	Smaller despatches of Twist and Yarn (Indian).	Madras ... Do. ... S. M. Railway ...	North Arcot District. Bellary District. Do.
	Smaller despatches of Piece Goods (European).	Madras ... Do. ... G. I. P. Railway ...	Bangalore Branch. G. I. P. Railway. Madras.
	Smaller despatches of Piece Goods (Indian).	Salem ... Do. ... Coimbatore ...	Coimbatore District. S. M. Railway. Malabar District.
	Smaller despatches of Myrabolams.	Madras ... Do. ... Bangalore City ... Salem ... Do. ...	North Arcot District. G. I. P. Railway. Madras. Do. S. I. Railway.
Dyes and Tans—Decrease.	Smaller despatches of Other Dyes and Tans.	Madras ... Bangalore ... Do. ... Do. ... Vaniyambadi ... Do. ... G. I. P. Railway ...	North Arcot District. Madras. Salem District. Coimbatore District. S. I. Railway. Madras. North Arcot District. Coimbatore District. Madras.

		From	To
Grain and Pulse— Decrease.	Smaller despatches of Wheat.	S. M. Railway ... Do. ... Madras ...	Raichur. Bellary District. Coimbatore District.
	Smaller despatches of Rice in the Husk, (Paddy.)	Morappur ... Palghat ... S. I. Railway ... Do. ...	Do. Malabar District. North Arcot District. Coimbatore District. Malabar District.
	Smaller despatches of Rice, not in the Husk.	Arcot ... Katpadi ... Do. ... Jalarpet ... Tirupattur ... Do. ...	Do. Bangalore Branch. Do. Do. Malabar District. Coimbatore.
	Smaller despatches of Jawar and Bajra (Cholum and Cumbu).	Salem District ... Do. ... S. M. Railway ... S. I. do. ... Salem ... Do. ...	Bellary District. Malabar District. Bellary District. G. I. P. Railway. Salem District. Salem.
	Smaller despatches of Gram and Pulse.	Tiruppur ... Do. ... Do. ... S. M. Railway ... Do. ... Salem District ...	G. I. P. Railway. S. M. Railway. Salem District. Bellary District. Madras. Bangalore Branch.
Hides and Skins— Decrease...	Smaller despatches of Cattle Hides, Dressed or Tanned.	Do. ... Vaniyambadi ... Coimbatore ... Do. ...	Madras. Do. Do. Malabar District.
	Smaller despatches of Cattle Hides, Raw.	Madras ... G. I. P. Railway ... S. M. do. ... Do. ...	North Arcot District. Madras. North Arcot District. Madras.
	Smaller despatches of Sheep Skins, Dressed or Tanned.	Mailpatti ... Bangalore ... G. I. P. Railway ...	Madras. Do. Do.
	Smaller despatches of Jute, Raw.	S. M. Railway ... Do. ... Coimbatore District ...	Madras. Raichur. S. I. Railway.
	Smaller despatches of Gunny Bags and Cloth.	Madras ... Do. ... S. M. Railway ... Do. ...	North Arcot District. Bangalore Branch. S. M. Railway. Katpadi. Coimbatore District.
Liquors—Decrease	Smaller despatches of Beer.	Mettupalaiyam ... Do. ... Arcot ...	Madras. Bangalore Branch. Madras.
	Smaller despatches of Spirits.	Do. ... Do. ... Do. ... S. M. Railway ...	Cuddapah District. Bellary District. S. I. Railway Bellary District.
	Smaller despatches of Wines.	Madras ... Do. ...	Mettupalaiyam. Bangalore.
	Smaller despatches of Copper, Unwrought.	Madras ...	Coimbatore District.
	Smaller despatches of Brass, Unwrought.	Do. ... Do. ... Coimbatore ...	Katpadi. Salem District. Coimbatore District.
Metals—Decrease	Smaller despatches of Copper, Wrought.	Do. ... North Arcot District ...	Salem. Tiruppur.
	Smaller despatches of Brass, Wrought.	Do. ... Coimbatore ... Do. ...	S. I. Railway. Bangalore Branch. Malabar District. S. M. Railway.

	From	To
Metals—Decrease (contd.)	Smaller despatches of Cast Iron and Steel.	Madras ... Mettupalaiyam. Do. ... Bangalore Branch. Do. ... S. M. Railway. K. G. F. S. Railway ... Madras. S. M. Railway ... Do.
	Smaller despatches of Unwrought Iron and Steel.	Do. ... Gooty. Bangalore Branch... Madras. Do. ... K. G. F. S. Railway.
	Smaller despatches of Wrought Iron and Steel.	Madras ... Bangalore Branch. Do. ... K. G. F. S. Railway. Rayapuram ... Madras-Ennur Ry.
	Smaller despatches of Manufactured Iron and Steel.	Madras ... Bangalore. Do. ... S. M. Railway. Rayapuram ... Mettupalaiyam.
	Smaller despatches of Other Metals.	Do. ... K. G. F. S. Railway. Madras ... Coimbatore District. Malabar District ... Do.
	Smaller despatches of Til or Gingelli seeds.	Tiruppur ... Madras. Do. ... Malabar District. S. M. Railway ... Madras.
		Do. ... Erode. Do. ... Malabar District. G. I. P. Railway ... Madras.
		Do. ... North Arcot District. Tiruttani ... Madras. Do. ... S. I. Railway.
	Smaller despatches of Earthnuts (Ground-nut seeds).	Nagari ... Do. Salem District ... Madras. Do. ... Coimbatore District.
	Smaller despatches of Castor seeds.	Do. ... Bellary District Coimbatore District. Madras. Do. ... Sankaridrug.
Paper and Paste Board—Decrease	Smaller despatches of Paper and Paste Board.	Madras ... Bangalore Branch. G. I. P. Railway ... Madras. Do. ... Mettupalaiyam.
	Smaller despatches of Dried Fruits and Nuts.	Vaniyambadi ... Madras. Do. ... Adoni. Do. ... Raichur. Malabar District ... Adoni.
Provisions—Decrease	Smaller despatches of Other Provisions.	Madras ... Bangalore Branch. Tiruppur ... Madras. Do. ... Malabar District. Do. ... S. I. Railway. Mettupalaiyam ... Madras.
		Do. ... Coimbatore District. Do. ... S. I. Railway. Feroke ... S. M. Railway. Do. ... Bangalore Branch.
		S. M. Railway ... Madras. Do. ... Bellary District.
	Smaller despatches of Steel Rails and fish plates.	Rayapuram ... Madras-Ennur Ry.
		Do. ... Madras-Ennur Ry.
		Do. ... Madras-Ennur Ry.
		Do. ... Madras-Ennur Ry.
		Do. ... Madras-Ennur Ry.
Spices—Decrease	Smaller despatches of Betel Nuts.	Madras ... North Arcot District. Do. ... S. I. Railway. S. M. Railway ... Madras. Do. ... Cuddapah District. Do. ... Bellary District.
		Do. ... North Arcot District. Do. ... Madras. Do. ... Cuddapah District. Do. ... Bellary District.
		Do. ... North Arcot District. Do. ... Madras. Do. ... Cuddapah District.
		Do. ... Bellary District. Do. ... North Arcot District. Do. ... S. I. Railway.
		Do. ... Salem District. Do. ... Bangalore Branch. Do. ... Madras.
	Smaller despatches of Other Spices.	Do. ... G. I. P. Railway.
		Do. ... G. I. P. Railway.
		Do. ... G. I. P. Railway.
		Do. ... G. I. P. Railway.
		Do. ... G. I. P. Railway.

	From	To
Stone and Lime—Decrease...	Smaller despatches of Stone and Lime.	Rayapuram ... Madras-Ennur Ry. Ambattur ... Madras. Avadi ... Do. Do. ... Madras-Ennur Ry. Tirupattur ... K. G. F. S. Railway. Do. ... Bangalore Branch.
	Smaller despatches of Timber.	Madras ... Bangalore Branch. Do. ... K. G. F. S. Railway. Puttur ... Madras. Renigunta ... Do. Mullanur ... Kamasamudram. Devankundi ... K. G. F. S. Railway. Malur ... Do. Palghat ... S. I. Railway. Do. ... Salem
Timber—Decrease	Smaller despatches of Tobacco.	Coimbatore ... Malabar District. Razampeta ... Madras. S. M. Railway ... Do. Do. ... Bellary District. Do. ... Bangalore Branch.
Tobacco—Decrease	Smaller despatches of Manufactured Tobacco, Cigars.	Coimbatore ... Madras. Do. ... Bangalore Branch. S. I. Railway ... Do.
All other Articles of Merchandise—Decrease.	Smaller despatches of All Other Articles of Merchandise.	Madras ... K. G. F. S. Railway. Bowringpet ... Bangalore Branch. Bangalore ... Madras. Do. ... K. G. F. S. Railway. Sankaridrug ... S. I. Railway. Palghat ... K. G. F. S. Railway. Do. ... Coimbatore. Do. ... Bangalore Branch. Calicut ... Coimbatore.

42. The interchange of the principal commodities with Foreign Railways during the two half-years under review, was as follows:—

Commodities.	1897.		1898.	
	Tons.	Rs.	Tons.	Rs.
Coal and Coke ...	57,278	2,20,734	90,538	3,51,257
Cotton, unmanufactured ...	731	8,383	3,887	33,139
Do. manufactured ...	3,680	44,416	3,886	46,009
Dyes and Tans ...	6,929	58,053	5,501	46,383
Grain and Pulse ...	57,294	3,19,336	43,171	2,90,050
Hides and Skins ...	12,689	1,60,323	7,194	89,442
Liquors ...	1,888	18,016	1,443	16,633
Metals ...	3,811	37,377	2,452	29,798
Oils ...	2,957	26,573	3,279	36,376
Oil Seeds ...	10,074	52,871	9,677	68,713
Provisions ...	10,204	71,464	9,227	72,158
Railway Plant and Rolling Stock..	7,380	1,931	2,173	6,167
Salt ...	2,651	9,946	2,716	16,731
Spices ...	4,911	47,934	3,357	38,039
Sugar ...	8,827	40,977	13,528	48,756
Timber ...	23,985	97,684	24,040	1,11,336
Tobacco ...	2,056	18,760	1,948	19,503
All other Articles of Merchandise.	13,187	1,47,807	13,204	1,57,763
Total ...	230,532	13,83,590	241,221	14,78,303

* See paras 4 and 29 of the Madras Railway note on the Marmagoa question.

45. GENERAL.—The competitive trouble is again with us, having made its re-appearance in September, 1898 (as explained in para. 19 of a Madras Railway note on the Marmagao question) but in a much more serious form than previously.

(b). The revenue of the Madras Railway during the half-year under review was practically unaffected by the competition which took place in December. This competition was dealt with in para. 22 of the Marmagoa note. But an additional complication has since presented itself, the Southern Mahratta Railway having refused to forward traffic from their Stations to Madras by the Madras Railway routes *via* Guntakal or *via* Bangalore, even when so consigned by the senders. This position has been taken up openly by the Southern Mahratta Railway with European as well as Native* senders, and is believed to be without parallel in the history of either English or Indian Railways, at least during the last 25 years. In England it would certainly be illegal. The Government Solicitor, Madras, states that, in his opinion, it is also illegal in India unless the sender accepts a receipt note indicating the route by which the traffic is to be compulsorily diverted instead of the route shewn on the forwarding note. In England such receipt notes are not issued by Railways. In India they are absolutely necessary though it is self-evident that their introduction was not intended to permit any Railway to evade the spirit if not the letter, of the law by forcibly diverting traffic from a route by which the sender desired it to be forwarded. If the Madras and other Railways concerned decided to follow the example set by the Southern Mahratta Railway it is difficult to see where the matter would end. The Agent and Manager has requested the Madras Government to refer this new feature to the Government of India.

All special Class Goods.	For all other Class Goods 1 to 5, inclusive.
$\frac{1}{10}$ pie	$\frac{1}{6}$ pie
per maund, per mile	per maund, per mile

compelled to adopt to minimise, as far as possible, any loss in revenue from Goods traffic, which may be expected to take place during the first half of 1899. As an illustration of this the cotton rates from Adoni may be taken both with Bombay and with Madras :—

* The via Raichur rate will be reduced to Annas 19.8 per maund.

Immediately Madras merchants hear of these reductions in the Bombay rates they will expect the same rates per maund per mile as *via* Raichur to be applied to Madras and the Bombay shipping freights being lower than from Madras it seems probable this concession will have to be made to prevent all the cotton from going to Bombay. The through rate from Adoni to Madras will then stand at Rs. 0—6—8 per maund instead of Rs. 0—8—6, as at present. The action of the Southern Mahratta Railway in these matters scarcely seems to accord with the idea of a truce which it was understood had been temporarily arranged between the Great Indian Peninsula and Southern Mahratta Railway Boards.

		S. M. Ry. proportion.	
	Miles	Through rates per Maund for Grain.	Per Maund per Mile.
<i>Mysore to Madras.</i>			
Via Bangalore	86	Rs. 0 2 11	0·333 pie
Via Dharmavaram	197	„ 0 1 9	0·104 „
<i>Paschamvahini to Madras.</i>			
Via Bangalore	78	Rs. 0 2 8	0·333 pie
Via Dharmavaram	189	„ 0 1 7	0·101 „
<i>Hospet to Madras.</i>			
Via Guntakal	71	Rs. 0 2 6	0·333 pie
Via Dharmavaram	134	„ 0 1 4	0·119 „
<i>Bellary to Madras.</i>			
Via Guntakal	31	Rs. 0 1 4	0·333 pie
Via Dharmavaram	94	„ 0 0 9	0·100 „

If, therefore, the average loss to the Southern Mahratta Railway in revenue is say one anna per maund and if it is correctly reported that 40 wagons per day have been diverted to the Dharmavaram route for 48 days at an average of 108 maunds or 4 tons per wagon, there would be a loss of Rs. 12,960. That the Southern Mahratta Railway staff have received direct instructions to send traffic *viâ* Dharmavaram at the lower proportions is clear from their Circular No. R 13, dated 10th March 1899, a copy of which reached me, apparently from Dharwar, and 15 copies of which are sent herewith. In the majority of cases the rate obtained by the Southern Mahratta and South Indian Railways for carrying this diverted traffic *viâ* Dharmavaram is $\frac{1}{10}$ th of a pie per maund per mile, whereas by the shorter routes the Southern Mahratta Railway would obtain normal rates.

(e) If the Boards of the Great Indian Peninsula, Southern Mahratta, South Indian and Madras Railways could agree that pending a final settlement of the question there shall be no lower rates either through or by re-booking than those in force by the shortest route between any forwarding and receiving station or place, on either of the four Railways (except that the *viâ*, Marmagoa through or local rates, to or from Southern Mahratta Railway Stations only, with shipping and all other charges included shall be fixed at, say, 4 pies per maund less than the all rail route or such other sum as the Southern Mahratta and Great Indian Peninsula Boards could agree to as a temporary measure equal class and other conditions to apply) the truce could be fairly and satisfactorily applied until controversial points had been disposed of subsequently. The present temporary arrangement is all in favor of the Southern Mahratta Railway.

NILGIRI MOUNTAIN RAILWAY.—The Nilgiri Mountain Railway was worked experimentally for Goods traffic from 1st until 28th October, with results which have already been communicated to the Board.

46. APPENDICES—

The undermentioned statements are enclosed:—

1. Coaching traffic Receipts in each month.
2. Goods do. do.
3. Comparison of Coaching Receipts for 1897 and 1898.
4. Do. Goods do. do.
5. Average Receipts per mile open and per mile run during 1897 and 1898.
6. Expenditure table for 1897 and 1898.
7. Percentage of Working Expenses for 1897 and 1898.
8. Do. Revenue do. do.
9. Passenger traffic exclusive of return fares and soldiers for 1898.
10. Average Receipts per mile open do. do.
11. Passenger traffic inclusive of return fares but exclusive of soldiers for 1898.
12. Average Receipts per mile open do. do.
13. Return fare traffic for 1898.
14. Comparison of Passenger traffic inclusive of return fares but exclusive of soldiers for 1897 and 1898.
15. Comparison of Passenger traffic exclusive of return fares and soldiers for 1897 and 1898.
16. Comparison of Return fare traffic for 1897 and 1898.
17. Parcels, Treasure and Passengers' luggage for 1897 and 1898.
18. Gross Earnings and Tonnage of Goods traffic.
19. Comparison of Goods traffic for 1897 and 1898.
20. Comparative statement of Traffic Expenses for 1897 and 1898.
21. Table of Coaching traffic in and out at stations for 1897 and 1898.
22. Table of Goods do. do. do. do.

I have the honor to be,

Sir,

Your most obedient servant,

(Signed) F. W. READ,

Traffic Manager.

APPENDIX

TO

TRAFFIC MANAGER'S HALF-YEARLY REPORT FOR 31st December 1898.

1. Coaching Traffic receipts in each month for the half-year ending 31st December 1898.

Months.	Passengers.		Passengers' luggage.		Carriages, horses and dogs.		Parcels.		Special trains.	Miscellaneous.	Haulage of Post Office vehicles.	Total.
	Passengers and season tickets.	Troops and Police.	Ordinary.	Military.	Ordinary.	Military.	Ordinary.	Revenue.				
	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
July ...	2,99,092	6,495	9,110	463	4,701	263	27,169	637	...	763	4,077	3,53,070
August ...	2,94,007	9,127	9,749	913	4,933	543	30,079	579	...	313	4,064	3,54,312
September ...	2,22,076	11,515	7,727	868	4,610	420	20,918	512	1,080	70	4,058	2,73,884
October ...	1,98,672	9,453	9,400	1,787	8,806	354	22,718	512	210	14	4,080	2,56,036
November ...	1,89,014	13,189	12,231	2,057	4,194	591	21,670	470	1,080	126	4,064	2,48,636
December ...	2,21,054	11,815	9,860	2,526	3,807	1,298	26,343	468	200	134	4,127	2,81,137
Total...	14,23,915	61,544	57,607	8,619	31,051	3,469	1,49,232	3,178	2,570	1,420	24,470	17,67,075

2. Goods Traffic receipts in each month for the half-year ending 31st December 1898.

Months.	Merchandise and military stores and coal for the public.	Railway materials for construction.	Revenue stores.	Live stock.		Rents and demurrage.	Miscellaneous.	Total.
				Ordinary.	Military.			
	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
July ...	5,78,819	600	9,547	949	...	1,277	809	5,92,001
August ...	5,48,081	912	21,251	1,397	61	1,041	1,075	5,73,818
September ...	4,88,482	1,125	13,997	1,870	52	882	662	5,07,070
October ...	4,84,142	2,083	15,681	1,954	551	1,090	461	5,05,962
November ...	4,77,050	352	20,956	2,300	232	945	802	5,02,637
December ...	5,26,278	351	5,534	1,981	1,023	1,627	526	5,37,320
Total ...	31,02,852	5,423	86,966	10,451	1,919	6,862	4,335	32,18,508

3. Comparison of the Coaching traffic for the half-years ending December 1897 and June and December 1898.

Half-years.	Passengers.		Passengers' luggage.		Carriages, horses and dogs.		Parcels.		Special trains.	Miscellaneous.	Haulage of Post Office vehicles.	Total.
	Passengers and season tickets.	Troops and Police.	Ordinary.	Military.	Ordinary.	Military.	Ordinary.	Revenue.				
	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
December 1897 ...	13,45,453	73,222	62,783	24,207	33,467	4,434	1,69,623	3,370	366	971	24,917	22,47,823
June 1898 ...	13,39,135	81,765	70,428	19,870	41,560	5,289	1,56,591	2,992	...	1,002	24,434	22,46,066
December 1898 ...	14,23,915	61,544	57,607	8,619	31,051	3,469	1,49,232	3,178	2,570	1,420	24,470	17,67,075

4. Comparison of the Goods traffic for the half-years ending December 1897 and June and December 1898.

December 1898.

Half-years.	Merchan- dise and military stores and coal for the public.	Railway material for construc- tion.	Revenue stores.	Live stock.				Rents and de- murrage.	Miscel- laneous.	Total.
				Ordinary.		Military.				
				Horses.	Other live stock.	Horses.	Other live stock.			
	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
December 1897...	31,96,980	871	64,929	3,359	6,543	9,686	...	7,025	4,044	32,93,437
June 1898...	31,73,829	3,903	67,883	2,162	6,350	8,618	...	6,190	3,531	32,72,466
December 1898...	31,02,852	5,423	86,966	3,684	6,767	1,919	...	6,862	4,335	32,18,808

5. Average receipt per "mile open" and per "mile run" for the same periods.

Period.										Per mile open.	Per mile run.
										Rs.	Rs.
Half-year ending December 1897	...	...	...	...	...	...	...	...	...	6,756.85	4.30
Do. do. June 1898	...	...	...	...	...	...	...	...	...	6,708.02	4.45
Do. do. December 1898	...	...	...	...	...	...	...	...	...	6,054.46	4.00

6. Table of expenditure for the half-years ending December 1897 and June and December 1898.

Period.	Permanent way.	Locomotive.	Repairs to carriages and wagons.	Traffic.	General charges.	Special and miscellaneous.	Total.
Half-year ending December 1897...	Rs. 6,27,504	Rs. 10,79,084	Rs. 3,11,387	Rs. 4,21,155	Rs. 2,82,841	Rs. 41,229	Rs. 27,63,200
Do. do. June 1898...	5,41,515	9,57,248	2,30,042	4,19,982	2,86,478	42,582	21,77,847
Do. do. December 1898...	7,03,741	10,55,342	2,35,058	4,29,914	2,72,281	44,305	27,40,731

7. Percentage of working expenses for the same periods.

Period.	Permanent way.	Locomotive.	Repairs to carriages and wagons.	Traffic.	General charges.	Special and miscellaneous.	Total.
Half-year ending December 1897...	Rs. 22.71	Rs. 39.05	Rs. 11.27	Rs. 15.24	Rs. 10.24	Rs. 1.49	Rs. 100.00
Do. do. June 1898...	21.86	38.63	9.23	16.95	11.56	1.72	100.00
Do. do. December 1898...	25.69	38.50	8.58	15.69	9.93	1.62	100.00

8. Percentage of revenue for the same periods.

Period.	Permanent way.	Locomotive.	Repairs to carriages and wagons.	Traffic.	General charges.	Special and miscellaneous.	Profits.	Total.
Half-year ending Dec. 1897...	Rs. 11.05	Rs. 19.01	Rs. 5.49	Rs. 7.42	Rs. 4.98	Rs. 0.73	Rs. 51.82	Rs. 100.00
Do. do. June 1898...	9.61	16.99	4.08	7.45	5.08	0.76	56.03	100.00
Do. do. Dec. 1898...	13.84	20.75	4.62	8.45	5.36	0.87	46.11	100.00

9. Passenger traffic, exclusive of return fares and soldiers, in each month for the half-year ending December 1898.

Months.	First class.		Second class.		Third class.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
July	1,456½	13,556	5,265½	16,792	701,354	2,66,008	708,076	2,96,356
August	1,473½	12,510	4,700½	13,384	714,971	2,64,270	721,145	2,90,164
September	1,413	12,105	4,837	13,885	530,238½	1,93,672	536,488½	2,19,662
October	1,655	15,410	5,035½	15,136	457,348	1,65,969	464,038½	1,96,515
November	1,425	14,216	4,292	13,704	461,752½	1,59,496	467,469½	1,87,416
December	1,831	18,127	5,825½	19,201	494,226½	1,81,128	501,883	2,18,456
Total	9,254	85,924	29,956	92,102	3,359,890½	12,30,543	3,399,100½	14,08,569

10. Average of passenger traffic, exclusive of return fares and soldiers, for the half-year ending December 1898.

	Average miles open.	First class.	Second class.	Third class.	Total.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Average receipt per mile open	840	102 4 7	109 10 4	1,464 14 11	1,676 13 10
Average percentage of numbers	...	0.27	0.88	98.85	100.00
Average mileage of passengers	...	149	98	33	...
Average percentage of receipts	...	6.10	6.54	87.36	100.00

11. Passenger traffic in each month, inclusive of return fares, but exclusive of soldiers for the half-year ending December 1898.

Months.	First class.		Second class.		Third class.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
July	1,668½	13,835	6,904½	17,531	746,038	2,67,726	754,611	2,99,092
August	1,616½	12,794	6,354½	14,319	739,666	2,66,894	747,667	2,94,007
September	1,551	12,360	6,568	14,649	543,887½	1,95,067	552,006½	2,22,076
October	1,683	15,663	6,491½	15,590	523,642	1,67,419	531,816½	1,98,672
November	1,533	14,609	5,315	14,077	480,072½	1,60,323	486,920½	1,89,014
December	1,896	19,096	7,374½	19,815	521,555½	1,82,142	530,826	2,21,053
Total	9,978	88,357	39,008	95,981	3,554,861½	12,39,576	3,603,847½	14,23,914

12. Average of passenger traffic, inclusive of return fares, but exclusive of soldiers, for the half-year ending December 1898.

	Miles open.	First class.	Second class.	Third class.	Total.
		RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Average receipt per mile open ...	640	105 3 0	114 4 2	1,475 11 0	1,695 2 2
Average percentage of numbers ...	...	0.23	1.08	98.64	100.00
Average mileage of passengers ...	...	149	95	32	...
Average percentage of receipts ...	...	6.21	6.74	87.05	100.00

13. Return fare traffic for the half-year ending 31st December 1898.

Months.	Periodical tickets.						Return tickets.					
	First class.		Second class.		Third class.		First class.		Second class.		Third class.	
	No.		Rs.		No.		No.		Rs.		No.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
July ...	200	122	1,600	473	39,300	490	41,600	1,065	12	157	39	266
August ...	160	181	1,600	611	14,880	215	16,640	1,007	13	102	54	325
September ...	120	121	1,640	343	9,720	189	11,480	653	18	134	91	420
October ...	...	...	1,400	174	63,160	713	64,560	887	28	253	56	281
November ...	80	120	1,000	195	16,040	242	17,120	557	28	273	23	178
December ...	...	...	1,480	222	25,000	395	26,480	617	65	968	69	391
Total ...	560	544	8,720	2018	168,600	2244	177,680	4,806	164	1887	332	1861

14. Comparison of the passenger traffic, inclusive of return fares, but exclusive of soldiers, for the half-years ending December 1897 and June and December 1898.

Half-years.	First class.		Second class.		Third class.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
Half-year ending December 1897	11,189	83,571	45,403	98,665	4,821,593	16,63,223	4,878,185	18,45,459
Do. do. June 1898	10,497	98,440	46,722	1,08,078	4,600,357	16,32,616	4,657,577	18,39,134
Do. do. December 1898	9,973	88,357	39,008	95,981	3,554,361	12,29,576	3,603,847	14,23,914

15. Comparison of the passenger traffic, exclusive of return fares and soldiers, for the half-years ending December 1897 and June and December 1898.

Period.	First class.		Second class.		Third class.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
December 1897 ...	8,633	79,789	31,210	92,522	4,596,985	16,51,731	4,636,228	18,24,042
June 1898 ...	9,406	94,359	32,388	1,02,443	4,356,415	16,16,592	4,398,240	18,13,391
December 1898 ...	9,254	85,924	29,956	92,102	3,359,901	12,30,543	3,399,100	14,08,569

16. Comparison of the return fare traffic for the half-years ending December 1897 and June and December 1898.

Period.	First class.		Second class.		Third class.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
Half-year ending Dec. 1897. Trivellore ...	...	...	...	...	9,087	2,249	9,087	2,249
Half-year ending June 1898. Trivellore ...	...	...	...	...	26,767	6,471	26,767	6,471
Half-year ending Dec. 1898. Trivellore ...	...	...	...	...	11,465	2,766	11,465	2,766
Other excursions ...	2,556	3,785	14,193	6,142	216,121	9,239	232,870	19,166
Other excursions ...	1,091	4,030	14,334	5,635	217,145	9,551	232,570	19,269
Other excursions ...	724	2,431	9,052	3,879	183,596	6,268	193,282	12,578

17. Parcels, treasure and passenger's luggage for the half-years ending December 1897 and June and December 1898.

Period.	Parcels.			Luggage.				
	No.	Rs.	Revenue parcels.	Ordinary.		Military.		Total.
				Public.	Treasure.	By ordinary trains.	By troop trains.	
December 1897 ...	290,604	1,69,622	Rs. 3,370	Rs. 36,331	Rs. 26,457	Rs. 5,351	Rs. 18,856	Rs. 86,995
June 1898 ...	253,188	1,56,591	2,992	39,211	31,217	5,695	14,175	90,298
December 1898 ...	197,540	1,40,232	3,179	32,790	24,817	6,248	2,371	66,226

18. Gross earnings and tonnage of goods, exclusive of Railway materials and Revenue stores, for the half-year ending 31st December 1898.

Months.										Tons.	Rupees.
July ...	...	...	...	...	...	...	...	...	...	88,180	5,78,819
August ...	...	...	...	...	...	...	...	...	...	81,860	5,48,081
September ...	...	...	...	...	...	...	...	...	...	72,499	4,88,482
October ...	...	...	...	...	...	...	...	...	...	72,440	4,84,142
November ...	...	...	...	...	...	...	...	...	...	74,520	4,77,050
December ...	...	...	...	...	...	...	...	...	...	82,262	5,26,278
Total ...	...	...	...	...	...	...	...	...	...	471,761	31,02,852

19. Comparison of the goods traffic, exclusive of Railway materials and Revenue stores, for the half-years ending December 1897 and June and December 1898.

Period.										Tons.	Rupees.
Half-year ending December 1897 ...	...	...	...	...	...	...	...	...	...	509,286	31,96,980
Do. do. June 1898 ...	...	...	...	...	...	...	...	...	...	481,880	31,73,829
Do. do. December 1898 ...	...	...	...	...	...	...	...	...	...	471,761	31,02,852

20. Comparative statement of the traffic expenses for the half-years ending December 1897 and June and December 1898.

Period.	Traffic Manager and Assistants.	Office establishment.	Travelling allowances.	Contingencies.	Station Masters, Clerks and Porters.	Guards and Assistant Guards and Overtime allowances.	Fire, lights, water and general stores.	Wagon covers & ropes.	Office and station fittings and furniture.	Clothing of Guards and Porters.	Printing, stationery and tickets.	Miscellaneous.	Traffic expenses at joint stations.	Loss on exchange.	Carriage of revenue stores.	Charges for delivery and collection of goods.	Deduct Cost of Working K. G. F. S. and Madras Esmer Railways.	Total.
1897	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
Dec. 1897	44,355	23,749	3,660	438	1,98,524	61,972	36,913	2,449	1,514	5,951	36,732	2,728	7,684	2,154	1,765	943	10,376	4,21,155
June 1898	43,015	24,190	4,470	572	1,96,829	62,094	38,008	2,319	511	6,050	36,315	2,974	6,473	3,533	1,165	1,334	9,870	19,982
Dec. 1898	48,997	777	3,494	415	1,94,504	60,800	38,128	6,196	460	5,431	33,541	2,641	8,345	5,888	1,324	1,464	11,491	4,29,914

MADRAS RAILWAY,
TRAFFIC MANAGER'S OFFICE,
Madras, 1st April 1899.

(Signed) F. W. READ
Traffic Manager.

Number of Passengers.

Coaching Receipts.

27

* Opened 5th May 1898.

The following Table shows the Coaching Traffic in and out of the following Stations on the Madras Railway for the half-years ending 31st December 1897 and 1898—continued.

STATIONS.	Number of Passengers.						Coaching Receipts.					
	1897.			1898.			1897.			1898.		
	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	Total.
Kettandipatti	No. 8,102	No. 9,314	No. 17,416	No. 5,968	No. 11,310	No. 17,278	Rs. 690	Rs. 1,185	Rs. 1,875	Rs. 681	Rs. 912	Rs. 1,623
Jalarpet Junction	90,436	86,279	176,715	48,196	46,991	95,187	30,867	31,283	62,150	18,297	18,880	37,177
Patchur	14,662	16,777	31,439	10,002	9,373	19,375	2,904	4,457	7,361	2,441	2,863	4,804
Mulanur	7,602	7,411	15,013	3,653	3,824	7,477	755	921	1,706	465	528	993
Kuppam	36,101	36,435	72,536	22,264	22,875	45,139	9,560	9,237	18,796	6,705	6,595	13,300
Gudupalli	9,921	11,923	21,844	5,327	6,526	11,853	1,239	2,197	3,437	709	1,238	1,947
Bisanattam	14,879	14,562	29,441	13,074	10,934	24,008	4,927	5,541	10,468	4,759	4,556	9,315
Kamasanandram	18,699	18,153	36,852	14,136	12,525	26,661	3,991	3,198	7,189	4,142	2,876	7,018
Bowringpet Junction	81,914	73,623	155,537	47,310	45,204	92,514	44,416	33,165	77,611	28,478	22,755	51,213
Tyakkal	20,667	21,073	41,740	12,884	11,507	24,391	2,775	3,103	5,878	1,782	1,861	3,593
Malur	35,630	34,389	70,019	17,295	16,789	34,084	12,663	12,676	25,339	7,233	8,408	15,701
Devankundi	16,413	16,435	32,848	7,412	8,407	15,819	2,573	2,669	5,242	1,297	1,545	2,842
Whitefield	34,491	31,358	65,849	14,703	13,241	27,944	6,011	5,494	11,505	1,547	2,769	5,736
Krishnarajapuram	16,865	19,986	36,851	7,677	7,955	15,632	2,617	3,285	5,902	1,547	1,423	2,970
Bangalore Cantonment	152,886	93,572	246,458	68,873	50,831	119,704	1,64,714	1,37,375	3,02,089	90,667	78,906	1,69,573
Do. City Junction	28,992	71,691	100,683	15,839	38,704	54,543	28,118	52,311	80,429	15,527	39,289	54,816
Bangalore Pettah	77,336	74,509	151,845	52,374	50,256	102,630	28,847	26,810	55,657	20,565	19,648	40,213
Tirupattur	11,033	12,096	23,129	6,238	6,939	13,197	1,579	2,050	3,629	1,051	1,351	2,402
Kagankarni	16,381	16,800	33,181	11,095	10,557	21,652	4,860	5,270	10,130	3,332	3,210	6,542
Samalpatthi	10,148	10,889	21,037	6,856	7,124	13,980	1,916	2,435	4,351	1,435	1,600	3,035
Kallavi	25,958	25,506	51,464	17,601	16,687	34,288	10,380	10,192	20,572	7,264	6,465	13,729
Morappur	8,059	7,618	15,677	5,152	5,016	10,168	2,176	2,245	4,421	1,431	1,546	2,977
Buddreddipatti	13,151	13,582	26,733	8,695	9,632	18,327	4,206	4,229	8,435	2,962	3,148	6,110
Mallapuram	1,873	1,664	3,537	1,589	1,126	2,715	213	256	469	187	212	399
Lokur	9,489	10,213	19,702	7,321	7,321	14,642	1,890	2,178	4,068	1,368	1,516	2,884
Kadiampatti	13,675	12,546	26,221	7,263	6,644	13,907	1,743	1,787	3,530	1,178	1,165	2,343
Thinnappatti	92,835	91,763	184,598	63,117	62,871	125,988	58,655	59,709	1,18,364	44,482	48,158	92,640
Salem	6,653	9,075	15,728	4,359	5,650	10,009	916	1,455	2,371	823	1,199	2,022
Ariyanur	16,441	17,618	34,059	12,243	12,472	24,715	3,209	4,028	7,237	2,556	2,778	5,334
McDonald's Choultry	31,297	29,735	61,032	23,109	21,716	44,825	7,634	7,697	15,331	5,382	5,156	10,738
Sankaridrug	7,972	7,108	15,080	5,393	5,134	10,527	662	722	1,384	512	531	1,043
Anangur	7,908	9,150	17,058	5,650	6,141	11,791	737	1,115	1,852	650	906	1,556
Cauvery	106,652	104,633	211,285	77,322	75,259	152,581	60,851	58,829	1,16,680	43,325	39,780	83,105
Erode	2,286	2,803	5,089	1,972	2,435	4,407	191	277	468	197	303	500
Totipalayam	...	...	...	...	...	...	...	...	...	...	...	...

N.B.—This statement is intended to show the relative importance of each station on the Madras Railway, but the actual total receipts for any particular section of the railway cannot be obtained from it.

* Opened 9th March 1898.

22. The following Table shows the Goods Traffic in and out of the following Stations on the Madras Railway, for the half-years ending 31st December 1897 and 1898, together with the gross traffic receipts.

These figures are compiled from the Chief Auditor's Returns T. A. No. 44, the Public Merchandise and Railway Materials being included in one total, and maunds converted into tons.

STATIONS.	TONNAGE OF GOODS AND RAILWAY MATERIALS.				GOODS RECEIPTS.				GROSS RECEIPTS, COACHING & GOODS, INWARDS AND OUTWARDS.	
	1897.		1898.		1897.		1898.		1897.	1898.
	Inwards.	Outwards.	Total.	Tons.	Inwards.	Outwards.	Total.	Tons.		
Madras	83,855	53,637	137,492	77,418	3,213	1,652	4,865	4,459	Rs. 6,722	Rs. 5,85,528
Salt Coftars	1,232	82,941	84,173	2,410	651,292	563,765	12,15,057	6,52,035	5,17,025	11,69,060
Rayapuram	...	...	...	...	1,017	336,170	3,37,187	2,836	5,04,912	5,07,748
Veyasarpady	67	...	67	...	...	...	...	...	...	...
Washermenpet Junction	1,476	146	1,622	1,109	2,369	2,154	4,523	2,599	2,755	5,354
Perambur	11	23	34	47	91	130	231	85	105	5,907
Villivakkam	...	...	...	...	...	...	...	...	...	...
Ambattur	378	7,257	7,635	2,099	2,022	6,384	8,406	1,103	1,953	1,974
Avadi	61	7,381	7,442	1,114	281	8,260	10,282	263	2,411	30,909
Tinnur	102	516	618	109	278	5,629	5,910	252	222	17,529
Sevaypet Road	1,243	883	2,126	986	6,233	381	6,614	5,094	1,174	6,268
Trivellore	278	981	1,259	256	1,011	4,365	5,376	905	1,991	14,431
Kadambattur	66	282	348	53	245	514	759	252	330	4,578
Manur	123	1,305	1,428	103	418	2,746	3,164	352	2,379	8,265
Chinnampet	...	...	...	...	...	...	...	...	...	...
Mosur	1,178	2,589	3,767	1,317	5,362	11,139	16,501	5,230	6,774	12,004
Arkonam Junction	1,453	1,829	3,282	1,120	7,791	7,271	15,062	6,335	4,257	10,592
Tiruttani	24	129	153	42	127	551	678	170	213	388
Ponpadi	897	1,818	2,715	975	4,522	7,735	12,257	4,972	3,022	7,994
Nagari	16	189	205	23	67	965	1,032	98	299	397
Vepagunta	562	3,050	3,612	583	2,153	10,362	12,515	2,631	6,067	8,701
Pattur	...	...	...	...	...	...	...	...	...	...
Taduku	215	1,303	1,518	1,141	710	6,661	7,401	325	2,404	2,729
Pudi	766	3,169	3,935	1,038	4,805	11,536	16,341	7,082	9,659	17,341
Renigunta Junction	...	...	...	...	...	...	...	...	...	...
Mananduru	1	332	333	8	5	1,096	1,101	23	1,139	1,161
Peddapadu	43	1,855	1,898	41	144	7,573	7,717	180	8,766	8,946
Koduru	404	923	1,327	624	1,706	4,355	6,061	3,401	2,826	6,237
Urampadu	47	377	424	53	262	2,208	2,470	206	1,532	1,738
Reddipalle	48	323	371	46	659	2,063	2,722	291	1,783	2,074
Razampeta	1,261	1,506	2,767	1,227	6,568	10,744	17,312	7,190	1,0737	17,927
Nandalur	343	154	497	171	1,112	745	1,857	653	1,609	2,292

Vontimitta	110	260	370	53	331	434	571	2,428	2,999	3,138	3,438	12,441	11,152
Siddharattam	...	...	...	...	...	...	...	...	...	...	...	...	420
Cuddapah	6,800	3,959	10,759	3,617	3,101	6,718	38,868	28,294	67,162	20,903	46,703	1,27,706	91,288
Krishnapuram	406	229	695	167	202	409	2,551	1,845	4,396	1,265	2,163	8,135	5,881
Gangayapalli	99	186	285	125	200	325	1,054	861	1,915	1,025	1,137	4,181	4,051
Kamalapuram	534	200	734	843	354	1,197	2,718	904	3,622	2,559	6,092	11,533	13,542
Yerragudi Padu	32	18	50	27	21	43	125	80	205	134	229	363	1,491
Yerragudi Padu	2,521	2,998	5,519	1,273	4,410	5,683	14,351	18,047	32,398	26,826	36,353	52,628	56,927
Kalamala	16	16	32	10	59	69	52	142	194	414	452	1,774	2,160
Muddanuru	2,425	675	3,100	773	281	1,054	19,397	4,488	23,885	2,682	8,613	35,325	17,292
Mangapattanam	601	73	960	87	551	638	4,800	2,704	7,564	4,610	5,040	13,506	9,495
Kondapuram	...	...	...	...	...	...	...	...	...	...	...	...	13,58
Regadipalli	87	...	...	29	4	75	366	391	757	80	242	2,999	1,905
Vanganur	3,427	1,206	4,633	2,178	1,721	3,899	25,702	8,871	34,573	15,047	15,779	30,826	44,995
Tadpatri	168	269	437	18	315	333	659	753	1,412	79	804	883	3,083
Pennuru	677	249	926	169	121	290	3,764	1,494	5,258	1,018	831	1,849	5,865
Rajalacheruvu	...	...	...	...	...	...	...	...	...	...	...	...	985
Jakkalacheruvu	1805	658	2,463	33	22	4	117	21	138	94	50	1,224	43,027
Goody	45	65	110	2	18	18	130	215	315	17	185	202	1,392
Patakottacheru	574	441	1,015	279	1,258	1,537	5,433	2,741	8,174	2,465	13,726	16,191	18,626
Timmancherla	490	294	784	926	993	1,919	6,866	1,605	8,471	10,670	5,868	16,338	43,161
Guntakal Junction	161	84	245	121	564	685	1,355	233	1,608	524	6,139	3,366	7,973
Nancherla	124	21	145	51	816	867	369	147	516	193	9,242	9,435	10,316
Molagavalli	931	125	1,056	21	464	485	11,923	302	12,225	107	5,831	5,938	7,012
Aspari	...	...	...	...	...	...	...	...	...	...	...	...	875
Nagarur	11,520	4,305	15,825	5,610	6,148	11,758	69,554	27,635	97,189	33,566	69,431	1,02,997	1,28,235
Adoni	117	104	221	85	583	668	450	1,632	2,082	201	6,187	6,388	7,664
Kuppal	942	360	1,302	281	219	500	9,625	2,060	11,685	1,978	3,764	18,384	7,822
Tungabhadra	20	151	171	38	86	124	164	437	601	178	566	744	4,906
Matnari	61	151	212	25	524	519	178	607	785	103	7,095	7,198	8,336
Raichur Junction	7,067	912	7,979	2,470	9,609	12,079	73,339	10,178	83,517	27,301	1,09,173	1,36,474	1,73,254
Munnal	366	373	739	305	184	489	1,536	1,649	3,185	1,112	725	1,837	6,944
Sholinghur	546	1,568	2,114	723	2,220	2,943	2,300	5,464	7,764	3,137	4,605	7,742	23,161
Thalanganai	...	...	...	...	...	...	...	...	...	...	...	...	766
Arcoot	14,318	12,492	26,810	26,160	9,232	35,392	59,587	86,985	1,46,572	54,797	1,33,661	2,08,686	1,85,608
Ponnai Road	12	13	25	33	69	102	76	68	144	222	357	5,379	1,962
Tiruvallam	106	204	310	182	225	407	673	1,147	1,820	1,171	1,350	2,521	11,220
Katpadi Junction	6,615	15,218	21,833	...	6,362	14,094	51,198	1,11,304	1,62,502	52,372	42,952	95,324	2,05,098
Latteri	89	68	157	91	76	167	637	465	1,102	832	483	1,315	8,270
Vinchipuram	...	...	...	...	...	...	...	...	...	...	...	...	1,421
Kavanur	2,933	2,228	5,161	3,559	1,792	5,351	17,824	12,907	30,731	24,628	10,186	34,814	60,724
Vallathoor	138	101	239	180	143	323	962	725	1,687	1,352	905	2,257	6,183
Mailpatti	1,318	1,392	2,740	1,220	1,365	2,555	6,355	9,398	15,753	5,359	9,555	14,914	24,997
Ambur	1,714	2,956	3,800	2,431	1,853	4,334	10,899	11,990	22,889	15,768	11,367	27,135	55,059
Vinamangalam	4	66	70	6	19	25	35	684	719	61	166	227	1,365
Vaniyambadi	4,202	3,246	7,448	4,559	3,584	8,143	26,857	19,281	46,158	28,662	19,598	48,260	79,675
Kettandapatti	25	99	124	31	67	98	92	719	811	125	344	469	2,686

The following Table shows the Goods Traffic in and out of the following Stations on the Madras Railway, for the half-years ending, &c.—contd.

STATIONS.	TONNAGE OF GOODS AND RAILWAY MATERIALS.				GOODS RECEIPTS.				GROSS RECEIPTS, COACHING and GOODS INWARDS and OUT WARDS.	
	1897.		1898.		1897.		1898.		Total.	1897.
	Inwards.	Outwards.	Total.	Tons.	Inwards.	Outwards.	Total.	Inwards.	Outwards.	
Jalarpet Junction...	370	997	1,367	498	2,149	4,016	6,165	2,665	4,871	Rs. 7,536
Patchur ...	306	543	849	483	962	1,749	2,711	1,781	2,258	Rs. 4,039
Mulanur ...	16	1,545	1,561	36	47	1,407	1,454	138	1,216	Rs. 1,354
Kuppam ...	809	2,779	3,588	767	4,260	9,539	13,799	4,161	6,899	Rs. 11,060
Gudupalli ...	7	88	95	10	66	405	471	62	918	Rs. 1,010
Bisanattam ...	3,790	18	3,808	4,336	5,470	79	5,549	7,090	100	Rs. 7,190
Kamasamudram ...	2,415	475	2,890	2,134	2,064	763	2,827	2,016	3,141	Rs. 10,016
Dowringpet Junc...	15,365	6,343	21,708	9,602	70,771	32,975	1,03,746	61,892	18,502	Rs. 80,394
Tyakal ...	79	1,604	1,683	72	451	4,184	4,635	468	3,898	Rs. 4,366
Malur ...	569	7,116	7,685	890	3,586	22,005	25,591	5,932	13,640	Rs. 19,572
Devankundi ...	107	3,224	3,331	170	557	7,182	7,739	1,114	5,523	Rs. 6,637
Whitefield ...	352	8,599	8,951	654	3,661	17,582	21,243	5,216	16,320	Rs. 21,536
Krishnarajapuram...	207	1,049	1,256	199	1,932	4,324	4,324	2,172	4,409	Rs. 4,409
Bangalore Cant. ...	15,183	4,275	19,458	12,246	1,34,310	51,768	1,86,078	1,27,390	39,882	Rs. 1,67,272
Do. City Junc.	12,748	10,822	23,570	8,819	1,24,589	91,307	2,15,896	1,04,635	54,856	Rs. 2,96,325
Bangalore Pettah...	...	...	...	...	...	...	...	...	...	Rs. 13,319
Tirupattur ...	4,118	10,620	14,738	5,389	25,657	45,629	71,286	34,892	30,300	Rs. 65,192
Kagankarai ...	13	122	135	22	39	819	858	3,113	282	Rs. 395
Samalpatiti ...	198	1,005	1,203	251	1,444	5,724	7,168	1,995	3,288	Rs. 5,283
Kallavi ...	46	739	785	120	220	4,729	4,949	620	1,196	Rs. 1,816
Morappur ...	1,442	4,156	5,598	1,925	10,792	24,474	35,266	14,643	13,836	Rs. 28,479
Baddiredippatti...	30	538	568	80	193	5,190	5,383	473	1,067	Rs. 1,540
Mallapuram ...	116	587	703	107	647	3,770	4,417	528	1,703	Rs. 2,231
Lokur ...	...	36	36	1	7	203	210	4	121	Rs. 125
Kadiampatti ...	266	569	835	139	1,889	2,596	4,485	977	2,111	Rs. 3,088
Thinnappatti ...	2	23	25	563	28	38	66	6,018	1,034	Rs. 7,052
Salem ...	12,088	11,832	23,920	18,440	92,694	1,03,438	1,96,132	1,59,325	31,433	Rs. 1,90,808
Aniyannur ...	6	130	136	13	39	1,593	1,632	68	1,656	Rs. 1,724
McDonald's Choultry	525	586	1,111	474	4,078	4,852	8,930	3,498	2,392	Rs. 5,890
Sackaridrug ...	2,410	3,868	6,278	2,201	13,302	17,704	31,006	18,282	10,347	Rs. 28,629
Anangur ...	...	2	2	...	...	14	14	...	21	Rs. 21
Cauvery ...	145	863	1,007	47	702	3,649	4,351	340	1,764	Rs. 2,104
Erode ...	5,066	4,055	9,121	7,602	36,580	38,115	74,695	62,021	22,898	Rs. 84,919
Totyalalaiyam ...	...	19	19	1	6	193	199	8	187	Rs. 195
Perundurai ...	233	201	434	234	2,320	1,732	4,052	1,637	1,333	Rs. 2,970
Ingur ...	...	5	5	1	...	...	...	...	...	Rs. 2,516
Vizianagalam ...	...	131	134	4	302	356	387	29	712	Rs. 741
Uttukuli ...	441	466	907	327	410	1,836	3,429	2,064	1,849	Rs. 3,913
Kulipalaiyam ...	9	104	113	11	129	1,040	1,111	71	1,199	Rs. 1,270
Tiruppur ...	5,934	12,675	18,609	9,141	4,795	1,23,918	1,72,867	82,262	48,953	Rs. 1,31,215
Dharmapuri out-Agency*	...	...	...	109	204	...	...	1,320	2,592	Rs. 3,912
Mangalam ...	2,467	382	2,849	4,427	373	3,119	19,907	40,502	2,469	Rs. 42,971
Somanur ...	217	712	929	242	327	9,565	10,429	856	4,315	Rs. 5,171
Sulur ...	138	817	955	202	775	8,548	9,334	1,473	7,109	Rs. 8,582
Singánallur ...	112	300	412	73	283	2,239	2,444	749	3,197	Rs. 3,946
Podanur Junction...	2,029	1,037	3,066	647	815	8,335	17,401	3,162	5,351	Rs. 8,513
Coimbatore ...	17,249	9,031	26,280	18,490	4,346	80,625	1,61,188	1,25,504	31,998	Rs. 1,60,502
Tudiyalur ...	173	296	469	30	182	1,199	1,481	104	571	Rs. 675
Periyannayakkanpalayam	1	6	7	1	6	16	22	7	18	Rs. 25
Karamadai ...	313	319	632	309	140	2,838	4,071	1,763	764	Rs. 2,527
Metupalaiyam ...	10,135	4,948	15,083	10,941	4,348	47,534	1,37,199	92,131	40,743	Rs. 1,32,874
Madukarai ...	69	251	320	133	579	1,347	1,645	580	2,213	Rs. 2,793
Walayar ...	2	412	414	2	537	590	605	16	493	Rs. 509
Kanyikod ...	162	4,072	4,234	239	1,214	5,936	7,160	1,712	1,935	Rs. 3,647
Olavakkot Junction.	633	4,582	5,215	1,000	4,923	21,516	23,263	2,824	21,674	Rs. 24,498
Palghat ...	8,892	10,973	19,865	7,146	6,695	56,652	1,09,513	53,277	45,322	Rs. 98,599
Parli ...	348	2,823	3,171	249	1,831	8,626	10,142	1,086	6,797	Rs. 7,883
Mankarai ...	209	466	675	270	551	2,130	2,911	920	3,412	Rs. 4,332
Lakkiti ...	299	508	807	355	467	2,028	3,320	1,472	1,892	Rs. 3,764
Ottappalam ...	546	1,125	1,671	508	924	6,374	8,876	1,748	4,026	Rs. 5,774
Shoranur ...	3,267	1,715	4,982	1,575	1,739	11,299	25,516	11,133	14,328	Rs. 25,461
Pattambi ...	477	805	1,283	314	924	6,352	8,667	1,476	7,461	Rs. 8,937
Pallipuram ...	34	112	146	34	72	981	1,164	132	1,294	Rs. 1,294
Kuttippuram ...	551	197	548	219	142	1,642	3,213	1,133	1,294	Rs. 2,527
Edakkolam ...	174	812	986	59	680	6,266	6,988	252	4,851	Rs. 5,103
Tirur ...	8,809	6,301	15,110	2,573	6,475	39,839	94,425	17,311	40,229	Rs. 57,540
Tanore ...	2,016	2,216	4,232	1,182	1,589	21,765	28,007	4,421	13,425	Rs. 22,849
Parpanangudi ...	2,086	1,842	3,928	1,162	1,352	14,937	24,160	3,954	11,534	Rs. 15,488
Kadalundi ...	149	448	597	45	239	2,325	3,141	158	1,233	Rs. 1,391
Feroke ...	3,265	3,338	6,603	1,836	3,571	22,315	46,356	12,798	23,308	Rs. 36,106
Kallayi ...	1,674	10,509	12,183	1,206	12,703	89,036	96,960	4,264	1,08,079	Rs. 1,12,343
Calicut ...	20,005	11,991	31,996	8,222	20,514	5,528	24,941	75,837	93,559	Rs. 1,09,393
S. M. Railway ...	17,231	43,405	60,636	8,887	50,966	2,23,377	3,91,406	1,14,054	3,91,259	Rs. 5,65,313
G. I. P. do. ...	26,163	12,307	38,470	9,989	19,986	1,31,311	4,28,915	1,15,082	2,00,751	Rs. 3,15,833
S. I. do. ...	23,275	25,153	48,428	22,805	19,498	1,40,166	2,49,803	1,26,550	81,813	Rs. 2,83,663
K. G. F. S. Ry. ...	87,131	465	87,616	1,20,321	386	2,479	3,70,849	5,14,958	2,166	Rs. 5,17,124
Madras-Ennur Ry.	13,566	9,351	22,917	1,906	1,812	30,283	33,900	1,532	3,348	Rs. 4,880

* Opened 9th March 1898.

N. B.—This statement is intended to show the relative importance of each station on the Madras Railway, but the actual total receipts for any particular section of the Railway cannot be obtained from it.

SOUTHERN RAILWAY,
Traffic Manager's Office,
CHENNAI, 10th March, 1939.

CIRCULAR LETTER No. R 13.

To

ALL STATION MASTERS,
S. M. RAILWAY.

With reference to para 6 of Rate Circular No. of 20th December 1938, the staff are informed that Madras Railway have reduced their rates between Bangalore and Madras and Bangalore and Madras as shown in the margin (They have still further reduced their rates in through booking but these do not come in force till 1st April and you will be duly advised of the change by next Rate Circular). For consignments not in wagon loads the ordinary rates apply and there is no inducement in such cases for booking to Madras Railway station and rebooking from there.

In the case however of consignments in wagon loads of 270 to 324 maunds to which the lower rates do apply there is a direct inducement to rebook, and to prevent this the following procedure should be followed in the case of consignments in wagon loads of 270 to 324 maunds.

The local rates between the S. M. Railway stations and the Junction and the Junction and Madras should be added together and divided in mileage proportion on the through distance to Madras via Dharmavaram and the S. M. Railway; the proportions thus arrived at being the rate chargeable in local booking (provided of course they do not fall below the minimum chargeable to and from Dharmavaram) for traffic which it is intended to rebook to and from Madras. The consignment should then be booked to Dharmavaram freight being calculated at the rate stated in the preceding sentence. Receipts should then be issued for the consignment as follows:-

- I. For all goods classified in the Special and 1st class including salt, sugar, jaggery, kerosine oil, piece goods, grain and seeds at owner's risk in wagon loads of 324 maunds.
 - II. For all goods classified in the 2nd, 3rd, 4th and 5th classes at owner's risk in wagon loads of 324 maunds.
- Between Salt Cottairs, Rayapuram and Bangalore annas 2-1 per maund. Between Salt Cottairs, Rayapuram, Gooty, Timmencherla and Guntakal annas 2-7 per maund.
- Between Salt Cottairs, Rayapuram and Bangalore annas 2-4 per maund. Between Salt Cottairs, Rayapuram, Gooty, Timmencherla and Guntakal annas 4-1 per maund.

(a) For the journey to Dharmavaram. The consign^usignor should be required to endorse and sign his instructions as to rebooking on this, and the receipt should be sent attached to the invoice to Dharmavaram.

(b) For the journey Dharmavaram to Madras a second receipt should be issued on behalf of the S. I. Railway and should be headed Dharmavaram and signed " For Station Master Dharmavaram ". On this receipt, the freight to Dharmavaram should be shewn " Paid on ", and the freight from Dharmavaram to Madras " To pay ", the latter being the difference between the sum of the local rates and the S. M. Railway proportion. Thus, Bellary has 270 maunds of onions to book to Madras.

The sum of the local rates is,

Bellary to Guntakal	-	As.1-4
Guntakal to Madras	-	As.2-7
Total		As.3-11

The total amount of 47 pies divided in mileage proportion on the through distance of 472 miles via Dharmavaram to Madras makes the S. M. and S. I. Railways proportions 9 and 38 pies respectively. As these are not below the minimum chargeable, the consignment should be booked to Dharmavaram the charge over the S. M. Railway being calculated at 9 pies a maund; the charge over the S. I. Railway being calculated at 38 pies a maund.

In the case of consignments thus booked between Dharmavaram and Madras terminals need not be taken into account at all either on the S. M. or S. I. Railway.

At Dharmavaram fresh invoices will be issued for the consignments, the labels will be altered, and the wagons sent on without delay.

If these orders are not clearly understood and the station has any traffic to book to Madras, I should be asked for an explanation of the points about which there is doubt.

(Signed) NEVILLE PRIESTLEY.

Traffic Manager.

(No. II.)

No. 11545

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE,

Madras, 14th April 1899.

From

The Agent and Manager.

M. R. Co.

To

The Consulting Engineer for Railways.

Madras.

SIR,

In continuation of my letter No. 11545
dated 11th April 1899, I have the honour to
forward herewith 32 copies of the Report
by the Commandant, Madras Railway
Volunteers, for the Official year ending
31st March 1899.

I have the honour to be,

Sir,

Your most obedient servant.

Edmund
Agent & Manager.

Encls:
(32 copies)

MADRAS RAILWAY VOLUNTEERS,
PERAMBUR WORKS,
MADRAS, 4th April 1899.

From

LIEUT.-COLONEL C. E. PHIPPS, A.D.C.,
Commandant, Madras Railway Volunteers,

To

THE AGENT AND MANAGER,
Madras Railway Company.

SIR,

I have pleasure in reporting, for your own information and for that of the Board of Directors, upon the work and progress of the Madras Railway Volunteers during the official year just closed.

2. The following figures give the customary comparison as to the strength, number of efficient, etc., of the Regiment, and I also enclose the usual statements giving this information in each Company, and also the Roll of Officers :—

	1897-98.	1898-99.
Greatest strength during the year	1,005	998
Strength at close of the year	952	955
Number of extra-efficient	363	480
„ of efficient	571	441
„ of non-efficient	13	34
Percentage of extra-efficient and efficient to strength	98	96
Number on rolls who have passed Proficiency test	123	126

3. The number of extra-efficient shows a very satisfactory increase, these being 50·26 per cent. of the strength of the Regiment as compared with 38·65 per cent., the result of the last year's work. The number of non-efficient has somewhat increased, although it is at the same time less than was recorded for 1896 and other preceding years, while the total percentage of efficient and extra-efficient to the total strength has fallen by ·02.

4. The Regimental figure of merit works out to 48 as against 44 for last year, which being as it is an improvement in the special direction where it is most important improvement should take place, is a matter for congratulation.

5. It was unfortunately not possible to arrange for a Camp of Exercise during the year since, although the special grant made for this purpose by Government covers the greater part of the expenditure incurred, there are many expenses in connection with the holding of a Camp of Exercise which are not included in this special grant, and which have consequently to be met from Regimental funds, and much as I should have liked to have been able to have held the Camp, I was not of opinion that the funds at my disposal were sufficient to justify my doing so in view of certain other charges which it was anticipated would fall upon them during

MADRAS RAILWAY.

From

The Agent and Manager.

To

The Consulting Engineer
for Railways.

Dated
Recd.

188

No.

the year. The fact that the Camp was not held has probably conduced in some way to the slight increase in the number of the non-efficients.

6. The Head-Quarter Companies were inspected at Perambur on the 14th February by Brigadier-General E. Brooke-Anderson, and the out-station Companies being inspected by Officers detailed from the several commands between the 27th February and 9th March. The reports which have reached me are all very favourable.

7. Two Brigade parades have been attended during the season, at the last of which specially ordered by Brigadier-General T. Cummins, D.S.O., shortly before his departure on leave, I had the honour of commanding the Brigade while the Regiment was commanded for me by Major D. Ross-Johnson.

8. The competition for the "Moss Medal" has not yet been completed, but the keen interest taken in it by all ranks is as great as ever, the more so since Lieut. Heaton, who has now won it for two years, stands well forward in the scores made, and if again successful this year will, under the conditions laid down, win it for good.

9. The Chief Engineer's Challenge Shield, owing to the regretted retirement of Mr. West from the Company's service, has not again been fired for. Great interest was in past years taken in this Inter-company match, and although unfortunately the annual competition for it has now ceased, the Shield will remain as evidence of the great interest always taken by Mr. West in the Railway Regiment, and his ever willing aid in furthering its welfare.

10. An exceedingly handsome Challenge Cup has been presented by Mr. F. J. E. Spring, C.I.E., for competition between teams selected from each of the three Railway Volunteer Regiments which come within the circle of control of the Consulting Engineer to the Madras Government.

11. The conditions of the match are such as to make it an eminently instructive practice in field-firing. Each man in each team is represented at the targets by an earthen pot filled with water, and on each pot being hit, the man bearing the corresponding number in the opposing team is fallen out.

12. The competition took place on the 13th January last at Acharapakam between a team of this Regiment and a team of the South Indian Railway Volunteers, with the result that the Madras Railway Volunteer team were successful in winning the Cup for the year with a list of 25 casualties as against 32, the loss inflicted by them upon their opponents. The conditions of the competition are entirely new, and the match was an exceedingly interesting and instructive one.

13. The Parade grounds, Ranges and Armouries have all been maintained in good order and are complete and meet all requirements.

14. The re-construction of the Jalarpet Range has not yet been commenced as the Revenue Authorities have not yet been able to make over the necessary land. Permission to continue the use of the old Range in its present condition has been extended for another year, and it is hoped that the difficulty with regard to the land will be got over shortly when the much-needed alterations of the Range will be at once commenced.

15. There have been no changes in the Permanent Staff during the year.

16. Lieut. R. B. Ward was awarded the V. D. Medal, which was presented by H. E. the Governor of Madras at a special parade held on the 17th September 1897, and during the year, 5 Volunteers and Non-Commissioned Officers have been granted the Volunteer Long Service Medal.

17. Lieut. W. Ward has been fortunate enough to win the Command Medal for the year 1897-98 awarded by Government to him as the best shot in the Madras Command for the year.

18. It also gives me very much pleasure to record that the Regimental team which attended the Meeting of S. I. R. A. in Bangalore in September last were able to win and bring back to Perambur once more that much-coveted trophy, the Bangalore Cup. From 1885 to 1891, or for 7 years in succession, this Cup was won by the Madras Railway Volunteer team, but until the year now under review, although on several occasions our team has been well up in the scores, the prize has gone elsewhere.

19. The success was the more gratifying since it was the first year in which the team had been armed with the Lee Metford Rifle, and further the new rifles had only been served out to the men for about a fortnight before the meeting.

20. I regret to have to record the resignation of two Officers of standing in the Regiment Major T. Wake and Captain E. R. Ross. Major Wake's resignation was the more to be regretted, since he had only lately been specially promoted to Field rank, and I had hoped to have been able to rely upon him for Field Officers' duty at the Head Quarters parades.

21. The Band has been maintained throughout the year up to full strength and has derived much benefit from the careful instruction it has received from Band Sergeant Taylor.

22. In conclusion I must express my appreciation of the cordial assistance I have at all times received from yourself and from the heads of the several Departments, without which the difficulty of securing general and individual efficiency would be greatly enhanced.

I have the honour to be,

Sir,

Your most obedient Servant,

C. E. PHIPPS, LIEUT.-COLONEL,

Commandant, Madras Railway Volunteers.

MADRAS RAILWAY VOLUNTEERS.

Roll of Railway Officers showing efficiency, 1898-99.

Rank and Name.		Drills.	Musketry.	Qualification.			REMARKS.
				E. E.	E.	N. E.	
Lt.-Col.	Phipps, C. E., A. D. C.	27	(a) 44	1			
"	Taylor, J. L. ...	19	(a) 35	1			
Major	Ross-Johnson, D. ...	15	(a) 30	1			
Capt.	Chisholm, R. ...	12	(a) 31	1			
"	Ewing, J. M. ...	12	(a) 33	1			
"	Pigott, R. E. ...	...	...	...	...		1 On leave.
"	Pilkington, A. ...	9	(a) 45	1			
"	Pawley, F. A. ...	11	(a) 16	...	1		
"	Duncan, J. B. ...	10	102	1			
"	Greenall, R. ...	10	(a) 30	1			
"	Corben, A. ...	12	(a) 42	1	...	...	(a) Revolver course.
"	Stanley, H. J. ...	9	(a) 39	1			
Lieut.	Ward, R. B., V. D. ...	16	(a) 38	1			
"	Heaton, W. ...	16	140	1			
"	Currie, J. ...	18	(a) 33	1			
"	Driver, E. C. V. ...	20	(a) 38	1			
"	Wright, S. ...	41	(a) 34	1			
"	Bamford, R. G. ...	14	(a) 38	1			
"	Davies, J. T. ...	37	128	1			
"	Ward, W. ...	11	129	1			
2nd "	Walters, F. I. ...	13	(a) 44	1			
"	Gale, A. C. ...	...	114	...	...	1	
"	Porteous, P. G. ...	14	(a) 41	1			
"	Francis, A. H. ...	36	(a) 33	1			
"	Dinwoodie, J. F. ...	34	104	...	1		
"	Evans, E. C. ...	9	(a) 34	1			
"	Giles, G. W. ...	18	(a) 93	1			
Total ...				23	2	2	

PERAMBUR,
4th April 1899. }C. E. PHIPPS, LIEUT.-COLONEL,
Commandant, Madras Railway Volunteers.

MADRAS RAILWAY VOLUNTEERS.

Statement showing the enrolled strength and the number of efficient in each
Company on the 31st March 1899.

Company.	Enrolled strength.	EFFICIENTS.				Non-efficient.	Head Quarters.
		Officers.	N. C. Officers.	Volunteers.	Total.		
"A" Co:	62	6	9	45	60	2	Perambur Works.
"B" "	66	2	7	57	66	...	Do.
"C" "	66	3	6	57	66	...	Do.
"D" "	60	2	5	53	60	...	Do.
"E" "	106	1	9	85	95	11	Do.
"F" "	97	5	8	71	84	13	Do.
Cadets.	67	...	5	62	67	...	Do.
"G" Co:	84	2	8	69	79	5	Arkonam.
"H" "	83	4	4	74	82	1	Gooty.
"I" "	82	1	10	69	80	2	Jalarpet.
"K" "	84	2	13	69	84	...	Bangalore
"L" "	98	1	12	85	98	...	Podanur.
Total ...	955	29	96	796	921	34	

PERAMBUR,
4th April 1899. }C. E. PHIPPS, LIEUT.-COLONEL,
Commandant, Madras Railway Volunteers.

MADRAS RAILWAY VOLUNTEERS.*Return of Non-Efficients in each Railway Department on the 31st March 1899.*

Locomotive Department	...	...	...	...	1
Traffic Department	...	...	...	...	21
Engineer's do.	...	...	...	...	5
Telegraph Engineer's Department	...	...	...	...	1
Medical Department	...	...	...	...	0
Audit do.	...	...	...	...	2
Non-Railway Employés	...	...	...	...	4
Total					34

MADRAS RAILWAY VOLUNTEERS.*Statement showing the number of Volunteers in each Railway Department on the 31st March 1899.*

Locomotive Department	...	...	...	...	491
Traffic do.	...	...	...	...	308
Engineer's do.	...	...	...	...	43
Telegraph Engineers' Department	...	...	...	...	34
Medical Department	...	...	...	...	3
Audit do.	...	...	...	...	11
Non-Railway Employés	...	...	...	...	65
Total					955

PERAMBUR, }
 4th April 1899. }

C. E. PHIPPS, LIETT.-COLONEL,
 Commandant, Madras Railway Volunteers.

MADRAS RAILWAY.

REPORTS BY HEADS OF DEPARTMENTS FOR THE
 HALF-YEAR ENDING 31st DECEMBER 1898.

No. 2406.

MADRAS RAILWAY COMPANY,
MADRAS, 6th April 1899.

To

JULIAN BYRNE, Esq.,
Secretary,
Madras Railway Company,
LONDON.

SIR,

I have the honor to submit, for the information of the Directors, the following summary of the operations of the Company for the half-year ended 31st December 1898. The detailed reports by the Heads of Departments were sent to you on the undermentioned dates :—

The Chief Engineer	... 23rd March 1899.	The Loco. Supt.	... 30th March 1899.
„ Chief Auditor	... „ „ „	„ Ag. Telegraph Engr.	„ „ „
„ Medical Officer	... 30th „ „	„ Traffic Manager	... 6th April „

2. The **Financial** results of the last two years are shown in the annexed table :—

Half-year ended	Gross earnings.	Total expenditure.	Net revenue.	Working expenses per cent.	Receipts per mile per week.	Half-yearly dividend.
	Rs.	Rs.	Rs.			
1897, June ...	57,89,562	26,99,926	30,89,636	46·63	265·61	2·56
„ December ...	56,75,752	27,63,201	29,12,551	48·68	260·77	2·41
Total ...	1,14,65,314	54,63,127	60,02,187	47·65	263·19	4·97
1898, June ...	56,34,736	24,77,847	31,56,889	43·97	258·61	2·62
„ December ...	50,85,747	27,40,731	23,45,016	53·89	233·26	1·92
Total ...	1,07,20,483	52,18,578	55,01,905	48·63	245·94	4·54

The decrease in gross earnings for December 1898, as compared with the earnings for the corresponding half-year of 1897, amounts to Rs. 5,90,005 and the decrease in working expenses to Rs. 22,470. The net revenue shows a decrease of Rs. 5,67,535, equivalent to 19·49 per cent.

3. During the half-year 1,270,984 train miles were run as against 1,318,652 during the corresponding period. 3,636,128 passengers and 581,312 tons of goods were carried as against 4,918,869 passengers and 613,550 tons of goods.

4. The result of the half-year's working is a dividend at the rate of £3-17-0 per cent. per annum on the capital bearing interest. Loss by exchange amounts for the half-year to Rs. 1,72,337, or Rs. 19,414 more than during the corresponding half-year.

5. The number of **passengers** (excluding troops and police) carried in each class and the gross receipts therefrom, during the second halves of the last four years, are shown in the following table:—

Half-year ended	First Class.		Second Class.		Third Class.		Total.	
	No. carried.	Money earned.	No. carried.	Money earned.	No. carried.	Money earned.	No. carried.	Money earned.
		Rs.		Rs.		Rs.		Rs.
31st December 1895 ...	11,538	1,07,505	47,034	1,06,013	4,327,774	17,36,777	4,386,346	19,50,295
Do. 1896 ...	12,273	92,263	42,830	1,01,940	4,727,779	16,99,951	4,782,882	18,94,154
Do. 1897 ...	11,189	83,571	45,403	98,665	4,821,593	16,63,222	4,878,185	18,45,458
Do. 1898 ...	9,978	88,358	39,008	95,981	3,554,861	12,39,576	3,603,847	14,23,915

There is a decrease in the number of first-class passengers carried, as compared with the corresponding half-year of 1,211, or very nearly 11 per cent., and in the money earned there is an increase of Rs. 4,787, or 5·7 per cent.

There is a decrease in the number of second-class passengers carried of 6,395, or 14 per cent., and in the money earned there is a decrease of Rs. 2,684, or 2·7 per cent.

There is a decrease in the number of third-class passengers carried of 1,266,732, or nearly 27 per cent., and in the money earned there is a decrease of Rs. 4,23,646, or over 25 per cent.

The large falling off in the passenger traffic is entirely due to plague and plague restrictions.

Additional plague examining stations have been opened since the June half-year closed, and as plague broke out very seriously at Bangalore during the half-year, the measures adopted by Government to check the disease have had a far-reaching effect as will be seen from the Traffic Manager's table showing the percentage of passengers travelling over the several districts of the line.

The disease while breaking out spasmodically in places seems to move slowly but steadily to the south and the east, and it seems quite impossible to say where the disease will extend, or when we may expect to get rid of its influence.

6. The progress of the **goods traffic** during the same four half-years was—

Half-year ended	Goods traffic exclusive of Madras Railway material and revenue stores.	Government stores and Foreign Railway material.	For the public.		Average receipt per ton lifted.
			Weight.	Receipts.	
	Rs.	Rs.	Tons.	Rs.	Rs.
31st Dec. 1895 ..	29,63,744	39,010	430,313	29,24,734	6·87
Do. 1896 ...	29,67,007	74,087	441,688	28,92,920	6·55
Do. 1897 ...	31,96,980	37,260	501,005	31,59,720	6·30
Do. 1898 ..	31,02,852	46,171	467,389	30,56,681	6·54

The total tonnage carried over the Railway during the past half-year, exclusive of Railway materials for construction and revenue stores, was 471,761 tons as against 509,286 tons during the corresponding period, while the receipts were Rs. 31,02,852, and Rs. 31,96,980, respectively.

I alluded in my summary for the June half-year to the falling off in the grain traffic owing to the cessation of the famine of 1897, and a reference to the figures included in the Traffic Manager's report for December will show that we had again during the past half-year to compare with heavy movements of grain carried during the closing months of 1897 to the north.

The movement of wet skins was checked during the half-year by plague precautions, but the increased tonnage of coal, timber, salt, oil and oil-seeds helped us to show a better result than we at one time anticipated.

I do not propose to follow the Traffic Manager in the remarks he has submitted with his report on the acute stage of competition for southern traffic and the compulsory reduction of rates brought about by the opening of the Marmugoa Sea route and the withdrawal of the Southern Mahratta Railway from what was known as the shortest route agreement.

The whole question is in the hands of the several Boards, and I purposely refrain from adding remarks which might possibly make the position of my Directors more difficult.

7. The **maintenance charge** per mile, compared with the three previous half-years, is as follows:—

Half-year.	Ordinary.	Extra.	Total.
	Rs.	Rs.	Rs.
1897, June ...	562	48	610
„ December...	587	33	620
1898, June ...	484	49	533
„ December...	670	24	694

Compared with December 1897, the *ordinary* expenditure for the past half-year shows an increase of Rs. 83 a mile, while the *extraordinary* expenditure shows a decrease of Rs. 9 per mile. A sum of Rs. 14,621, it will be noticed, was charged to revenue on account of covering portions of the line with broken stone.

The Chief Engineer draws special attention to the protective works that have been in hand along the foreshore opposite to our Rayapuram Terminus for some months past. These works are now so far advanced that the safety of the main offices may be said to be secured.

Weak bridges are having attention, and the statement given on page 2 of the Chief Engineer's Report will show that the work connected with the partial renewing and strengthening of various bridges is well in hand.

The special attention of the Board is directed to Mr. Stoney's remarks on the Nilgiri Railway printed on page-7 of his Report. Detailed reports have from time to time been sent home, but the magnitude of the work to be grappled with can best be realised by a perusal of Mr. Stoney's pithy summary.

8. The total cost of the **Locomotive Department** during the last four half-years has been as under:—

Half-year.	Total mileage.	Total cost including all charges.	Total cost per mile run.
		Rs.	Rs. A. P.
1897, June	1,535,936	13,28,234	0 13 10-04
„ December	1,616,892	13,90,471	0 13 9-11
1898, June	1,551,560	11,87,290	0 12 2-92
„ December	1,559,578	12,90,400	0 13 2-86

Compared with the corresponding period of 1897; the expenses of the Locomotive Department may be stated as follows:—

Locomotive	Running	decrease	Rs. 851.
„	Repairs and renewals	increase	„ 6,442.
Carriage and Wagon	Running	decrease	„ 3,400.
„	Repairs and Renewals	„	„ 64,298.

The decrease in the mileage worked of some 57,314 miles is reported, and of roughly a lakh of rupees in the total cost of working the Department. The tendency is for coal, as its cost becomes lower, to push wood for locomotive purposes out of the market, and the effect of the new contract which has been entered into from the 1st of April 1899, will doubtless be to show a further decrease in the cost of fuel burnt. Mr. Phipps on page 3 of his report submits a full statement of his difficulties with the wood contractors.

Owing to plague and plague restrictions the passenger trains on several sections of the line are not so heavily loaded as formerly, but unfortunately the coal bill is but little affected by the loss of three or four carriages on light passenger trains.

As explained by the Locomotive Superintendent, the heavy renewals of passenger and goods stock upon which we have been engaged for many years, are now practically ended.

It is understood that the Calicut-Cannanore Line is to be proceeded with as a standard gauge railway; and this being so, the extra stock sanctioned for the open line and for the new extension and held back for a settlement of the gauge question will now be proceeded with.

During the half-year 2,620 vehicles were repaired and none renewed as against 3,017 and 46, respectively, during the corresponding half-year.

9. The **Electric telegraph** wires, block, needle and Morse instruments, electric starting semaphores and intercommunication in trains were maintained satisfactorily during the half-year. Thirteen engines and 101 vehicles were fitted or re-fitted with electrical intercommunication appliances during the half-year.

10. The **Medical Officer** reports that there was a decrease of 2,791 in the number of employes, to whom it was found necessary to grant sick certificates. There were in all during the half-year 3,003 cases of sickness dealt with against a total of 5,794 cases for the corresponding half-year; but, as the Medical Officer explains in para. 2 of his report, out-patients are not now recorded in the official returns. There were 13 cases of cholera, of which 6 proved fatal, and 5 and 4 non-fatal cases of small-pox and plague respectively. The Medical Officer's remarks on plague cases and the result of inoculation will be read with interest. There were in all 27 deaths reported by the Apothecaries.

11. Colonel C. E. Phipps, Commandant, has been unable up to date to send me his report upon the **Madras Railway Volunteers** for the past year, but I may state

that the regiment was successful in winning the Bangalore Cup, the chief prize of the South of India Rifle Association, at the meeting held at Bangalore in September.

12. **Railway schools** were maintained at eight of the important stations on the line. The total number of children on the register at 31st December was 403 and the average attendance 341. The cost to the Company of maintaining these schools during the period under review was Rs. 6,066.

13. The Company's contribution to the **Provident Institution** amounted for the half-year to Rs. 19,792-2-4, and this sum will be found entered in Abstract G of the Capital and Revenue Accounts. The total amount at credit of the institution at the end of the year was Rs. 9,22,865-11-3. When the revised rules, accepted by the Board, have been sanctioned by the Government of India, an additional contribution of Rs. 40,385 will be made to the fund, and this amount will be found entered in the Net Revenue Account.

14. Lines worked by the Company—

Net earnings of

1. The Mysore State Kolar Gold Fields Railway are for the half-year Rs. 28,212-9-11, equal to a return of 7 per cent. upon the Capital outlay.

Net earnings of

2. The Madras-Ennur Section of the Bezwada-Madras Railway for the half-year are Rs. 5,490-10-9, equal to a return of 1-83 per cent. per annum on the total Capital outlay.

NEW PROJECTS.

The **Arcot-Ranipet** Branch is ready to be opened, and we are only now waiting for Government sanction to place the branch at the disposal of the public.

The estimate for re-aligning and improving the **Kolar Gold Fields Railway** has been sanctioned and the work connected with it will be taken in hand without delay.

The **Beach Line Extension** will be vigorously proceeded with as soon as the plans have been sanctioned by the Madras Municipality. All works within municipal limits require the approval of the President of the Municipality, and that officer's sanction is awaited before we cross the main public road near Rayapuram and remove or extend various drains and man-holes connected with the Madras drainage system.

The survey of the **Shoranur-Cochin Railway** is practically completed, and if the Rajah of Cochin decides that the work of construction of the branch is to be carried out by the Madras Railway, the necessary staff will be posted without delay.

15. The following movements in the **Company's Staff** in India during the half-year are recorded:—

Mr H. C. West, Chief Engineer, retired from the Company's service on the 3rd October 1898.

Mr. E. W. Stoney, District Engineer, returned from furlough leave and assumed charge of the office of Chief Engineer on the 3rd October 1898.

Mr. H. J. Stanley, Assistant Loco. Superintendent, proceeded on sixteen months' furlough leave on the 3rd November 1898.

Loco. Foreman O. Horrocks retired from the Company's service on the 31st December 1898.

Latheshop Foreman E. Outon returned from leave and resumed charge of his duties on the 24th October 1898.

Covenanted Engine Drivers Howard and Malthouse arrived and reported themselves for duty on the 5th December 1898.

Mr. G. Wallington, Assistant Traffic Manager, proceeded home on twelve months' furlough leave on the 27th July 1898.

I have the honor to be,

Sir,

Your most obedient servant,

LOUIS S. MOSS,
Agent and Manager.

MADRAS RAILWAY VOLUNTEERS,

PERAMBUR WORKS,

MADRAS, 4th April 1899.

From

LIEUT.-COLONEL C. E. PHIPPS, A.D.C.,

Commandant, Madras Railway Volunteers,

To

THE AGENT AND MANAGER,

Madras Railway Company.

SIR,

I have pleasure in reporting, for your own information and for that of the Board of Directors, upon the work and progress of the Madras Railway Volunteers during the official year just closed.

2. The following figures give the customary comparison as to the strength, number of efficient, etc., of the Regiment, and I also enclose the usual statements giving this information in each Company, and also the Roll of Officers:—

	1897-98.	1898-99.
Greatest strength during the year	1,005	998
Strength at close of the year	952	955
Number of extra-efficient	368	480
„ of efficient	571	441
„ of non-efficient	13	34
Percentage of extra-efficient and efficient to strength	98	96
Number on rolls who have passed Proficiency test	123	126

3. The number of extra-efficient shows a very satisfactory increase, these being 50·26 per cent. of the strength of the Regiment as compared with 38·65 per cent., the result of the last year's work. The number of non-efficient has somewhat increased, although it is at the same time less than was recorded for 1896 and other preceding years, while the total percentage of efficient and extra-efficient to the total strength has fallen by ·02.

4. The Regimental figure of merit works out to 48 as against 44 for last year, which being as it is an improvement in the special direction where it is most important improvement should take place, is a matter for congratulation.

5. It was unfortunately not possible to arrange for a Camp of Exercise during the year since, although the special grant made for this purpose by Government covers the greater part of the expenditure incurred, there are many expenses in connection with the holding of a Camp of Exercise which are not included in this special grant, and which have consequently to be met from Regimental funds, and much as I should have liked to have been able to have held the Camp, I was not of opinion that the funds at my disposal were sufficient to justify my doing so in view of certain other charges which it was anticipated would fall upon them during

the year. The fact that the Camp was not held has probably conduced in some way to the slight increase in the number of the non-efficients.

6. The Head-Quarter Companies were inspected at Perambur on the 14th February by Brigadier-General E. Brooke-Anderson, and the out-station Companies being inspected by Officers detailed from the several commands between the 27th February and 9th March. The reports which have reached me are all very favourable.

7. Two Brigade parades have been attended during the season, at the last of which specially ordered by Brigadier-General T. Cummins, D.S.O., shortly before his departure on leave, I had the honour of commanding the Brigade while the Regiment was commanded for me by Major D. Ross-Johnson.

8. The competition for the "Moss Medal" has not yet been completed, but the keen interest taken in it by all ranks is as great as ever, the more so since Lieut. Heaton, who has now won it for two years, stands well forward in the scores made, and if again successful this year will, under the conditions laid down, win it for good.

9. The Chief Engineer's Challenge Shield, owing to the regretted retirement of Mr. West from the Company's service, has not again been fired for. Great interest was in past years taken in this Inter-company match, and although unfortunately the annual competition for it has now ceased, the Shield will remain as evidence of the great interest always taken by Mr. West in the Railway Regiment, and his ever willing aid in furthering its welfare.

10. An exceedingly handsome Challenge Cup has been presented by Mr. F. J. E. Spring, C.I.E., for competition between teams selected from each of the three Railway Volunteer Regiments which come within the circle of control of the Consulting Engineer to the Madras Government.

11. The conditions of the match are such as to make it an eminently instructive practice in field-firing. Each man in each team is represented at the targets by an earthen pot filled with water, and on each pot being hit, the man bearing the corresponding number in the opposing team is fallen out.

12. The competition took place on the 13th January last at Acharapakam between a team of this Regiment and a team of the South Indian Railway Volunteers, with the result that the Madras Railway Volunteer team were successful in winning the Cup for the year with a list of 25 casualties as against 32, the loss inflicted by them upon their opponents. The conditions of the competition are entirely new, and the match was an exceedingly interesting and instructive one.

13. The Parade grounds, Ranges and Armouries have all been maintained in good order and are complete and meet all requirements.

14. The re-construction of the Jalarpet Range has not yet been commenced as the Revenue Authorities have not yet been able to make over the necessary land. Permission to continue the use of the old Range in its present condition has been extended for another year, and it is hoped that the difficulty with regard to the land will be got over shortly when the much-needed alterations of the Range will be at once commenced.

15. There have been no changes in the Permanent Staff during the year.

16. Lieut. R. B. Ward was awarded the V. D. Medal, which was presented by H. E. the Governor of Madras at a special parade held on the 17th September 1897, and during the year, 5 Volunteers and Non-Commissioned Officers have been granted the Volunteer Long Service Medal.

17. Lieut. W. Ward has been fortunate enough to win the Command Medal for the year 1897-98 awarded by Government to him as the best shot in the Madras Command for the year.

18. It also gives me very much pleasure to record that the Regimental team which attended the Meeting of S. I. R. A. in Bangalore in September last were able to win and bring back to Perambur once more that much-coveted trophy, the Bangalore Cup. From 1885 to 1891, or for 7 years in succession, this Cup was won by the Madras Railway Volunteer team, but until the year now under review, although on several occasions our team has been well up in the scores, the prize has gone elsewhere.

19. The success was the more gratifying since it was the first year in which the team had been armed with the Lee Metford Rifle, and further the new rifles had only been served out to the men for about a fortnight before the meeting.

20. I regret to have to record the resignation of two Officers of standing in the Regiment Major T. Wake and Captain E. R. Ross. Major Wake's resignation was the more to be regretted, since he had only lately been specially promoted to Field rank, and I had hoped to have been able to rely upon him for Field Officers' duty at the Head Quarters parades.

21. The Band has been maintained throughout the year up to full strength and has derived much benefit from the careful instruction it has received from Band Sergeant Taylor.

22. In conclusion I must express my appreciation of the cordial assistance I have at all times received from yourself and from the heads of the several Departments, without which the difficulty of securing general and individual efficiency would be greatly enhanced.

I have the honour to be,

Sir,

Your most obedient Servant,

C. E. PHIPPS, LIEUT.-COLONEL,

Commandant, Madras Railway Volunteers.

MADRAS RAILWAY VOLUNTEERS.

Roll of Railway Officers showing efficiency, 1898-99.

Rank and Name.		Drills.	Musketry.	Qualification.			REMARKS.
				E. E.	E.	N. E.	
Lt.-Col.	Phipps, C. E., A. D. C.	27	(a) 44	1			
"	Taylor, J. L.	19	(a) 35	1			
Major	Ross-Johnson, D.	15	(a) 30	1			
Capt.	Chisholm, R.	12	(a) 31	1			
"	Ewing, J. M.	12	(a) 33	1			
"	Pigott, R. E.	...	...	...	...		1 On leave.
"	Pilkington, A.	9	(a) 45	1			
"	Pawley, F. A.	11	(a) 16	...	1		
"	Duncan, J. B.	10	102	1			
"	Greenall, R.	10	(a) 30	1			
"	Corben, A.	12	(a) 42	1	...	...	(a) Revolver course.
"	Stanley, H. J.	9	(a) 39	1			
Lieut.	Ward, R. B., V. D.	16	(a) 38	1			
"	Heaton, W.	16	140	1			
"	Currie, J.	18	(a) 33	1			
"	Driver, E. C. V.	20	(a) 38	1			
"	Wright, S.	41	(a) 31	1			
"	Bamford, R. G.	14	(a) 38	1			
"	Davies, J. T.	37	128	1			
"	Ward, W.	11	129	1			
2nd "	Walters, F. I.	13	(a) 44	1			
"	Gale, A. C.	...	114	...	...	1	
"	Porteous, P. G.	14	(a) 41	1			
"	Francis, A. H.	36	(a) 33	1			
"	Dinwoodie, J. F.	34	104	...	1		
"	Evans, E. C.	9	(a) 34	1			
"	Giles, G. W.	18	(a) 93	1			
Total ...				23	2	2	

PERAMBUR, }
4th April 1899.

C. E. PHIPPS, LIEUT.-COLONEL,
Commandant, Madras Railway Volunteers.

MADRAS RAILWAY VOLUNTEERS.

Statement showing the enrolled strength and the number of efficient in each
Company on the 31st March 1899.

Company.	Enrolled strength.	EFFICIENTS.				Non-efficients.	Head Quarters.
		Officers.	N. C. Officers.	Volunteers.	Total.		
"A" Co:	62	6	9	45	60	2	Perambur Works.
"B" "	66	2	7	57	66	...	Do.
"C" "	66	3	6	57	66	...	Do.
"D" "	60	2	5	53	60	...	Do.
"E" "	106	1	9	85	95	11	Do.
"F" "	97	5	8	71	84	13	Do.
Cadets.	67	...	5	62	67	...	Do.
"G" Co:	84	2	8	69	79	5	Arkonam.
"H" "	83	4	4	74	82	1	Gooty.
"I" "	82	1	10	69	80	2	Jalarpet.
"K" "	84	2	13	69	84	...	Bangalore
"L" "	98	1	12	85	98	...	Podanur.
Total ...	955	29	96	796	921	34	

PERAMBUR, }
4th April 1899.

C. E. PHIPPS, LIEUT.-COLONEL,
Commandant, Madras Railway Volunteers.

MADRAS RAILWAY VOLUNTEERS.*Return of Non-Efficients in each Railway Department on the 31st March 1899.*

Locomotive Department	...	...	...	...	1
Traffic Department	...	...	...	...	21
Engineer's do.	...	...	...	...	5
Telegraph Engineer's Department	...	...	...	...	1
Medical Department	...	...	...	...	0
Audit do.	...	...	...	...	2
Non-Railway Employés	...	...	...	...	4
Total					34

MADRAS RAILWAY VOLUNTEERS.*Statement showing the number of Volunteers in each Railway Department on the 31st March 1899.*

Locomotive Department	...	...	...	...	491
Traffic do.	...	...	...	...	308
Engineer's do.	...	...	...	...	43
Telegraph Engineers' Department	...	...	...	...	34
Medical Department	...	...	...	...	3
Audit do.	...	...	...	...	11
Non-Railway Employés	...	...	...	...	65
Total					955

PERAMBUR, }
 4th April 1899. }

C. E. PHIPPS, LIETT.-COLONEL,
 Commandant, Madras Railway Volunteers.

CHIEF ENGINEER'S REPORT

FOR THE HALF-YEAR ENDED

31st December 1898.

No.

MADRAS RAILWAY COMPANY,

CHIEF ENGINEER'S OFFICE,

MADRAS, 18th March 1899.

To

THE AGENT AND MANAGER,
Madras Railway Company.

SIR,

I have the honor to submit my report on the Way and Works for the half-year ending the 31st December 1898.

The inspection of the North-West Line was made between the 9th and 11th, that of the Terminal Buildings, Central Station, Salt Cotaurs, Perambur and Ennur Branch on the 24th January 1899, while the South-West Line, Arcot-Ranipet Branch, and Calicut-Cannanore Railway to Elathur were inspected between the 25th January and 1st February 1899.

1. Earth-work.—Protective works along the foreshore at Rayapuram, opposite the Madras Railway General Offices, are being carried out by the Madras Harbour Trust Board. During the half-year the cuttings and embankments throughout the line have been well maintained.

2. Fences.—The vegetable fencing is being renewed and repaired where practicable, but there are many places where aloes do not grow well and where this fence will never be really efficient; these occur chiefly between Katpadi and Jalarpet, and Olavakkot and Ottapalam.

Statements prepared by District Engineers in 1897 showed that a total length of 221 miles (single) of vegetable fence would require to be ultimately replaced by wire fence, and the cost of this was estimated at Rs. 2,88,662. My predecessor, Mr. West, decided that this work should be carried out gradually at the rate of 20 miles (single) a half-year.

3. Stations.—The station buildings, yards, platforms and staff quarters were found to be neatly kept and efficiently maintained.

The remodelling of station yards where necessary is being gradually carried out. Mulanur Station is finished and Gooty Station is nearly completed, and estimates have been sanctioned for Nagari and Razampeta. Estimates for Jalarpet, Nandalur, Reddipalle and Urampadu have been submitted for Government sanction, and plans and estimates for other stations are under preparation.

All work at Bangalore City has been stopped since October 1898 in consequence of the plague, as the requisite labor could not be got, and it is difficult to tell when work can be resumed.

The following works were completed during the half-year :—

Alteration of sidings at Rayapuram.

Foot over-bridge at Elephant gate-crossing near Salt Cotaurs, Madras.

Alteration to station-house at Podanur.

Extension of through siding at Washermanpet to connect with lay-bye at Rayapuram.

Depôt shed at Arkonam.

Conversion of Travelling Auditor's bungalow into a school-room at Arkonam.

Cast iron railings and gates at east end of platform at Bangalore City.

Extension of goods shed lay-bye at Morappur.

Crane line at Balaghat.

Additional dock, carriage turntable and 5-ton crane at Kallayi.
 Extension of platform, alteration of siding and ash pit at Kamalapuram.
 Line leading from timber yard into saw mills at Perambur Workshops.
 Extension of ballast siding at Trivellore.
 Alterations and additions to sidings at Marikuppam.
 Six houses for subordinate staff at Somanur.
 Double bungalow for family Guards at Podanur.
 Wall for timber yard at Arkonam.
 30-ton weigh bridge at Salem.
 Alterations and additions to station-house at Oorgaum.

4. **Bridges.**—Bridges are all very well maintained, and the running over all girders was very smooth. Stops were made at the Papaghi, Chitravathi, Penner, Cauvery, Ferok and Kallai Bridges, as well as at some minor ones.

During the half-year the strengthening of weak girders has been proceeded with in the manner shown and at the bridges stated in the following list:—

Bridge No.	Mileage.	Particulars.	No. of openings to be strengthened.	Proposed mode of strengthening.	State of progress.
28	307 17	S. W. L. Nilgiri Branch.	2 64 feet.	To have central masonry piers.	Central piers built. Iron work in progress.
29	308 7	" Do.	4 64 "	Do.	Do.
49	312 13	" Do.	2 64 "	Do.	Do.
52	313 13	" Do.	4 64 "	Do.	Do.
60	314 10	" Do.	2 64 "	Do.	Do.
89	321 13	" Do.	4 64 "	Do.	Not begun.
426	142 10	N. W. L. ...	2 64 "	Do.	Completed.
743	232 3	Jootoor ...	4 64 "	Do.	Do.
744	232 10	" ...	2 64 "	Do.	In progress.
794	248 9	Conavonka ...	4 64 "	Do.	Do.
795	248 15	Chinnavonka ...	2 64 "	Do.	Do.
835	263 3	Lingulavonka ...	4 64 "	Do.	Not begun.

5. **Water-supply.**—There has been an ample supply of water during the half-year under review, and the new tanks at Whitesfield, supplied from a pumping station at $\frac{203}{2}$ miles, were brought into use in December 1898.

Additional watering arrangements at Jalarpet were completed in October 1898.

The locomotive tank at Bowringpet is being raised and enlarged.

A well, 10 feet in diameter at bridge No. 89 at $\frac{321}{13}$ miles, Nilgiri Branch, is nearly completed. This is intended to supplement the water-supply at Karamadai Station.

A well, 6 feet in diameter, is in progress for supplying the station staff with water at Totiyapalaiyam, and arrangements are in progress for supplying the staff quarters and platform at Nandalur with water from the locomotive supply.

Arrangements have also been made for supplying Bangalore Cantonment Station with water from the Municipal Water Works.

6. **Permanent way.**—Throughout the Main Line and several Branches the road was found to be well maintained and generally to be in good running order.

In the following table is shown the lengths and descriptions of rails laid at the end of the half-year under review and three preceding half-years:—

	Half-year ending			
	December 1898.	June 1898.	December 1897.	June 1897.
	Miles.	Miles.	Miles.	Miles.
84 lbs. iron rails	23.50	26.60	28.64	27.78
75 „ do.	303.30	308.69	311.42	315.79
65 „ do.	119.74	122.19	124.03	127.17
30 feet bull-headed steel rails, 75 and 76 lbs. ...	93.94	74.77	69.75	61.85
30 „ double-headed steel rails, 75 lbs. ...	32.56	32.38	32.38	32.38
20 „ and other double-headed steel rails, 75 lbs....	303.05	311.30	309.72	310.98
Flat-footed steel on bridges, 75 lbs. ...	5.54	5.70	5.69	5.68
Total ...	881.63	881.63	881.63	881.63
<i>Kolar Gold Fields Railway.</i>				
84 lbs. iron rails	0.77	0.61	0.63	0.12
75 „ do.	7.15	7.31	7.29	7.61
75 „ double-headed steel rails, 20 feet and others.	2.08	2.08	2.08	2.27
Total ...	10.00	10.00	10.00	10.00

Madras-Ennur Section of B. M. Railway.

75 lbs. flat-footed 30 feet steel rails	8.37
75 „ double-headed 30 feet steel rails	.08
Total ...	8.45

During the half-year, 47.093 miles of rails, were replaced by—

	Miles.
10,531 bull-headed 30 feet steel rails	= 29.918
4,941 new and second-hand, 20 feet and other double-headed steel rails	= 9.307
4,166 second-hand double-headed iron rails, 20 feet and others.	= 7.868
19,638	= 47.093

as compared with 17.38 miles in the previous half-year.

7. **Pot-sleepers.**—The total number now laid is estimated at 3,284,873, of which 4,158 were found broken, and these were renewed during the half-year. This is equivalent to 1.312 miles out of a total mileage of 900 miles, or .127 per cent. as compared with 6,081, or .185 per cent. in the previous half-year.

Stoney's joint pots continue to give good results, but the recommendations made by Messrs. Upcott, Fowler, Spring and Thompson in their half-yearly reports to give them a more extended trial have not been acted on.

8. **New type fish-plates.**—The work done to date in replacing the older type by these is shown below :—

	New type fish-plates used with bull-headed steel rails.		New type fish-plates used to replace old patterns on double-headed steel rails.		Total.	
	Miles.	Number.	Miles.	Number.	Miles.	Number.
Done up to 30th June 1898 ..	74.76	50,556	330.58	322,569	405.34	373,125
Done during the half-year ending 31st December 1898 ...	19.18	13,507	27.15	28,675	46.33	42,182
Total ...	93.94	64,063	357.73	351,244	451.67	415,307
Deduct those removed in connection with laying of 30 ft. bull-headed steel rails ...	...	...	16.63	17,564	16.63	17,564
Net done up to 31st December 1898.	93.94	64,063	341.10	333,680	435.04	397,743

28.07 miles of 75 lbs. double-headed steel rails are still fished with old type fish-plates as under :—

Total length of double-headed and bull-headed steel rails including sidings.	Length already fished with new type fish-plates.	Length still to be fished.
Miles.	Miles.	Miles.
463.11	435.04	28.07

9. **Maintenance.**—The cost of maintenance per mile for the entire Railway compared with that of the two previous half-years is as follows :—

Half year ending 31st December 1897.

	Rs.	A.	P.
Total cost of Maintenance including Sidings ...	619	10	10
Extra expenditure ..	32	13	5
Ordinary expenditure ...	586	13	5

Half-year ending 30th June 1898.

	Rs.	A.	P.
Total cost of Maintenance including Sidings ...	532	10	10
Extra expenditure ...	48	11	1
Ordinary expenditure ...	483	15	9

Half-year ending 31st December 1898.

	Rs.	A.	P.
Total cost of Maintenance including Sidings ...	694	8	3
Extra expenditure ...	24	0	0
Ordinary expenditure ...	670	8	3

	Rs.	A.	P.	Rs.	A.	P.
Total cost of Maintenance during the half-year ending 31st December 1897 ...	7,94,854	3	3			
Less value of old rails and other items taken into stock ...	Rs. 1,52,242	11	6			
Less cost of working Kolar Gold Fields Railway ...	15,100	5	3			
Less sum chargeable to Fire Insurance Fund ...	7	0	0	1,67,350	0	9
Cost of Ordinary Expenditure per mile including Kolar Gold Fields Railway ...	Rs. 6,08,549	4	8	586	13	5
	1037					

The details of Extraordinary Expenditure for the half-year ended 31st December 1897 are as follows :—

	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
S. W. Line. { 30 feet opening in lieu of 30 feet arch at $\frac{168}{10}$ miles, B. Br. ...	1,235	9	6						
Revenue portion of Sanctioned Works ...	14,802	8	2	16,038	1	8			
N. W. Line. { Covering dusty portion of the line with broken stone ...	429	12	1						
Revenue portion of Sanctioned Works ...	5,340	5	0						
Restoration of bridge at $\frac{95}{23}$ miles. Do. at $\frac{107}{10.11}$ "	4,726	9	7	7,520	6	9	18,017	1	5
							34,055	3	1
Cost of Extra Expenditure per mile	...	...	...	Rs. 34,055	3	1	32	13	5
				1037					

	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Total cost of Maintenance during the half-year ending 31st December 1898.	10,05,891	8	3						
Less value of old rails and other items taken into stock ...	2,86,026	1	7						
Less cost of Working Kolar Gold Fields Railway ...	16,124	8	10	3,02,150	10	5	7,03,740	13	10
Cost of Ordinary Expenditure per mile including Kolar Gold Fields Railway.	Rs. 6,94,987	1	0	670	8	3			
	1,036								

The details of Extraordinary Expenditure for the half-year ending 31st December 1898 are as follows :—

	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
S. W. Line. { Revenue portion of sanctioned Schedule Works ...	6,093	13	7						
Strengthening Girder Bridges at $\frac{24.8}{1.8}$ miles ...	569	0	0	6,662	13	7			
N. W. Line. { Revenue portion of sanctioned Schedule Works ...	3,158	11	3						
Covering dusty portion of the line with broken stone ...	14,621	4	8						
Strengthening Girder Bridges at $\frac{24.8}{1.8}$, $\frac{24.8}{1.8}$ and $\frac{24.8}{1.8}$ miles ...	435	8	2	18,215	8	1	24,878	5	8
Cost of Extra Expenditure per mile	Rs. 24,878	5	8	24	0	0			
	1,036								

The nett increase in the Maintenance Expenditure Rs. 76,237 for the half-year ending 31st December 1898 over the corresponding half-year in 1897, is chiefly due to heavy charges for carriage and loss by exchange Rs. 28,537 and Rs. 44,682 respectively, together equal to Rs. 73,219.

10. Covering sand ballast with broken stone.—The state of this work is shown below :—

Section.	Covered.	Remaining to be covered.
	Miles.	Miles.
Madras to Mettupalaiyam	327.33	Nil.
Podanur to Calicut including Palghat Branch (This includes about 41 miles covered with laterite ballast) ...	50.28	63.34
Jalarpet to Bangalore	49.25	38.17
Arkonam to Raichur	186.88	121.40
Total ...	613.74	222.91

The freedom from dust on the portions covered and consequent comfort to travellers compared with uncovered ballast is most marked.

11. Signals and interlocking.—The several installations of interlocking apparatus on the North-West Line continue to work satisfactorily, with the exception of Saxby and Farmer's hydraulic system at Nagari, which cannot be got to work as described in my special report to you, dated 15th February 1899.

The cost of these several installations and the dates on which they were set to work are given below for convenience of reference :—

Stations.	Descriptions.	Date of opening.	Booked cost excluding loss by exchange.	Actual cost including loss by exchange.
			RS.	RS.
Tiruttani ...	Saxby and Farmer's ordinary system ...	March 1895 ...	8,886	12,241
Nagari ...	Do. do. hydraulic system...	...	9,702 (not in use)	14,297
Puttur ...	Dutton's system ...	June 1896 ...	4,286	5,822
Pudi ...	Stoney's do. ...	June 1894 ...	...	6,093
Mamanduru ...	Do. do. ...	April 1896 ...	...	5,695
Peddapadu ...	Phipps' arrangement (Detects only) ...	Dec. 1896 ...	...	1,171

In order to get the real cost of those supplied from England, loss by exchange needs to be added, in order that their cost may be fairly compared with those of Pudi, Mamanduru and Peddapadu made in this country. In the figures of cost given for Tiruttani, Nagari and Puttur the rupee is taken at 1s. 10d. when calculating the cost of English materials, the difference between that and its current value being charged to maintenance as loss by exchange.

The orders of Government to alter all signals, so that they shall show a danger signal in the event of any connection breaking, are being carried out, and this work is practically finished.

The distant signals throughout the line have all been altered.

Home Signals.

Division.	Total No. to be done.	Done previously.	Done during the half-year.	Total done up to 31st December 1898.	Still remaining to be done.
South-West Line	113	98	15	113	Nil.
North-West Line	42	33	...	38	4

The signals between Rayapuram and Washermenpet have been re-arranged.

12. Sale of old rails.—The value realized from the sale of old rails is as under :—

Half-year ending	Value of old iron rails sold.	Value of unserviceable iron or steel rails used for works.	Total value.
	RS.	RS.	RS.
31st December 1897	27,417	3,664	31,081
30th June 1898	30,172	3,673	33,845
31st December 1898	29,427	6,662	36,089

13. Engineering Staff.—

Mr. A. B. Strange is still on furlough.

Mr. H. J. Thompson returned from three months' privilege leave on 3rd July 1898.

Mr. A. C. Gale proceeded on privilege leave on 14th July 1898, and returned on 17th October 1898.

Mr. F. A. Pawley proceeded on special leave on 12th August 1898.

Mr. H. C. West retired from service on 2nd October 1898.

Mr. E. W. Stoney returned from 18 months' furlough, and assumed charge of the office of Chief Engineer on 3rd October 1898.

Mr. H. W. Perry, Temporary Assistant Engineer in charge of Arcot-Ranipet Branch, resigned the service on the 21st December 1898.

14. Nilgiri Railway.—This line, 16.35 miles long, between Mettupalaiyam and Coonoor, of which 12 miles are rack, (Kullar to Coonoor) was handed over to the Madras Railway Company to work on the 7th September 1898, and opened on the 1st October 1898. The earthwork began to slip on the 4th October 1898, and further slips frequently interrupted traffic, so that the line had to be closed on the 29th October 1898. Up to that date 34 slips, estimated to amount to 87,610 cubic feet, took place, and subsequently 100 slips, aggregating 202,364 cubic feet, occurred, making in all 134 slips, amounting to 289,974 cubic feet of earth.

In addition to this, several other failures of work occurred, the chief being a bridge at 400 chains and the Glenmore cutting retaining wall.

The works necessary to repair these, and, as far as practicable, prevent their recurrence, has caused this Department considerable labor and anxiety. These are now in active progress, some 2,500 coolies being employed thereon, and it is hoped that the line may be re-opened for traffic about the middle of May, provided the foundations of the Glenmore retaining wall can be got in early enough.

These matters have been fully dealt with in my detailed reports to you.

NEW PROJECTS.

1. Calicut-Cannanore Extension.—The question of the gauge to be adopted on this line is still under consideration by Government, and no decision has yet been communicated to us, with the result that the work of construction has been much delayed and hampered. Earthwork and minor bridges of the maximum metre gauge and minimum broad gauge width were sanctioned for the first 26 miles on the 2nd April 1898, and these are being constructed as quickly as land is handed over.

The acquisition of land from beyond the 26th mile was sanctioned on the 26th January 1899.

Provisional sanction for the construction of earthwork and bridges from 26 to 59 miles has just been received similar to that accorded for 0 to 26 miles.

2. Shoranur-Cochin Railway.—Final plans and estimates, amounting to Rs. 22,34,390 for the first section of 30 miles of a metre gauge Railway between Shpranur and Pudukad, were sent forward on the 10th January 1899 for sanction, but nothing has been since heard of these.

The re-alignment and final survey of the remaining portion between Pudukad and Ernakulam (Cochin), 35 miles long, has just been completed by Mr. A. M. Stevenson and his staff, and the plans and estimates are now being prepared for submission to Government.

3. Arcot-Ranipet Branch is nearly finished, and will, it is hoped, be ready for opening about the end of March 1899. The delay in opening this is due to the non-receipt of permanent-way materials from England.

Kolar Gold Fields Railway.—An estimate for the re-alignment and improvement of this Branch, amounting to Rs. 2,77,580, was forwarded to the Agent on the 26th July 1898.

The re-construction of staff quarters and other works at an estimated cost of Rs. 15,132-8-0, rendered necessary by their being originally badly built during construction, was in progress, but is now stopped, plague having broken out at the Mines, which has caused all our men to go away.

4. Junction of Madras Railway and Bezwada-Madras Railway at Basin Bridge (near Salt Cotaurs, Madras) and new engine shed for Bezwada-Madras Railway at Madras.—As these works are not now required, nothing further has been done with regard to them.

5. Beach Line Extension.—An estimate, amounting to Rs. 75,669, has just been sanctioned by Government for this work which is being set out and for which materials are being collected.

The following diagrams accompany this report, viz. :—

- No. 1. Different descriptions of rails on the Main Line for 10 half-years, from 1894 to 1898;
- No. 2. Defective rails removed and broken pots replaced for 20 years, from 1870 to 1898;
- No. 3. Cost of maintenance of permanent-way per mile per half-year for 37 half-years, from December 1880 to December 1898;

and it is hoped that these may be useful to the Board for future easy reference and comparison; they exhibit very clearly much useful information connected with permanent-way.

I have the honor to be,

Sir,

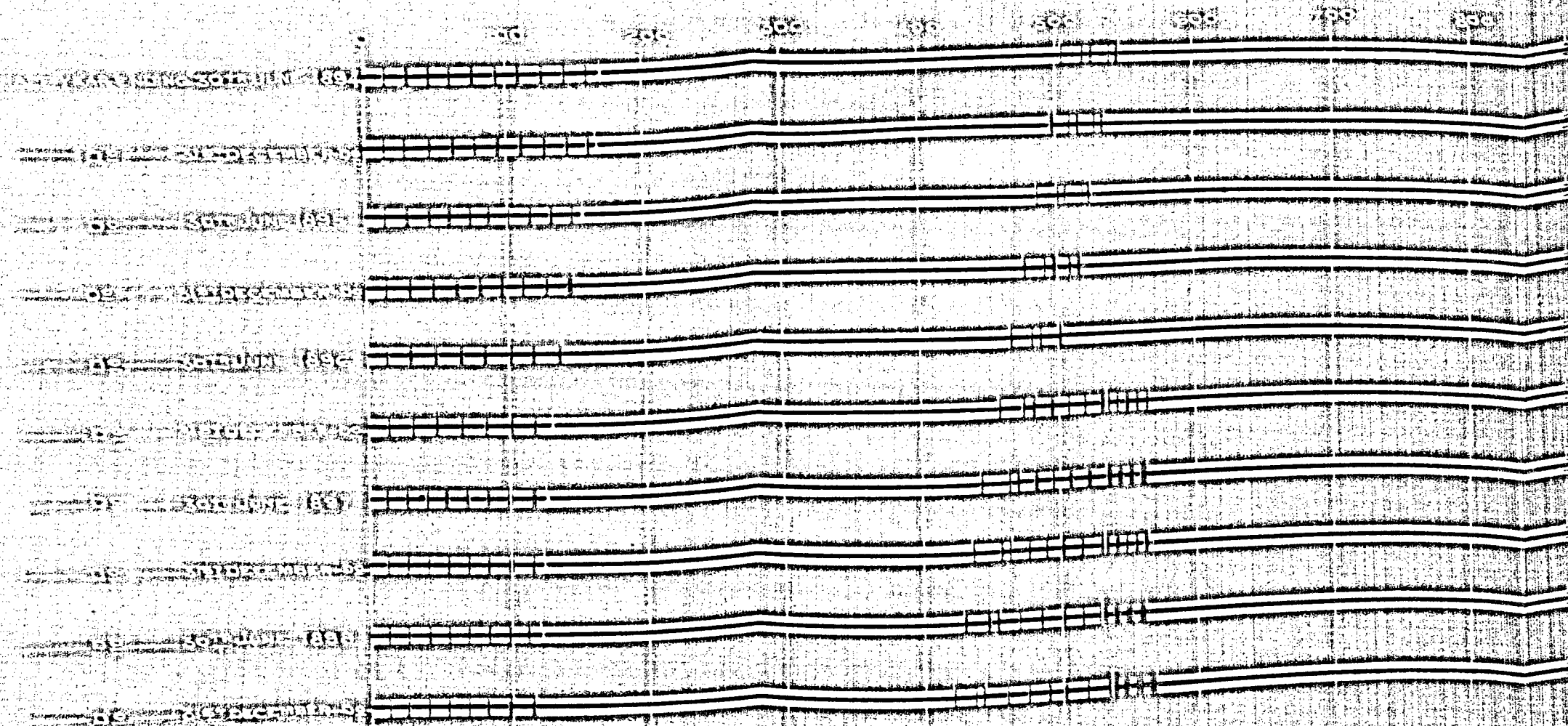
Your most obedient servant,

E. W. STONEY,

Chief Engineer.

RECEIVED (S) (M) (C) (D) (E) (F) (G) (H) (I) (J) (K) (L) (M) (N) (O) (P) (Q) (R) (S) (T) (U) (V) (W) (X) (Y) (Z) (AA) (AB) (AC) (AD) (AE) (AF) (AG) (AH) (AI) (AJ) (AK) (AL) (AM) (AN) (AO) (AP) (AQ) (AR) (AS) (AT) (AU) (AV) (AW) (AX) (AY) (AZ) (BA) (BB) (BC) (BD) (BE) (BF) (BG) (BH) (BI) (BJ) (BK) (BL) (BM) (BN) (BO) (BP) (BQ) (BR) (BS) (BT) (BU) (BV) (BW) (BX) (BY) (BZ) (CA) (CB) (CC) (CD) (CE) (CF) (CG) (CH) (CI) (CJ) (CK) (CL) (CM) (CN) (CO) (CP) (CQ) (CR) (CS) (CT) (CU) (CV) (CW) (CX) (CY) (CZ) (DA) (DB) (DC) (DD) (DE) (DF) (DG) (DH) (DI) (DJ) (DK) (DL) (DM) (DN) (DO) (DP) (DQ) (DR) (DS) (DT) (DU) (DV) (DW) (DX) (DY) (DZ) (EA) (EB) (EC) (ED) (EE) (EF) (EG) (EH) (EI) (EJ) (EK) (EL) (EM) (EN) (EO) (EP) (EQ) (ER) (ES) (ET) (EU) (EV) (EW) (EX) (EY) (EZ) (FA) (FB) (FC) (FD) (FE) (FF) (FG) (FH) (FI) (FJ) (FK) (FL) (FM) (FN) (FO) (FP) (FQ) (FR) (FS) (FT) (FU) (FV) (FW) (FX) (FY) (FZ) (GA) (GB) (GC) (GD) (GE) (GF) (GG) (GH) (GI) (GJ) (GK) (GL) (GM) (GN) (GO) (GP) (GQ) (GR) (GS) (GT) (GU) (GV) (GW) (GX) (GY) (GZ) (HA) (HB) (HC) (HD) (HE) (HF) (HG) (HH) (HI) (HJ) (HK) (HL) (HM) (HN) (HO) (HP) (HQ) (HR) (HS) (HT) (HU) (HV) (HW) (HX) (HY) (HZ) (IA) (IB) (IC) (ID) (IE) (IF) (IG) (IH) (II) (IJ) (IK) (IL) (IM) (IN) (IO) (IP) (IQ) (IR) (IS) (IT) (IU) (IV) (IW) (IX) (IY) (IZ) (JA) (JB) (JC) (JD) (JE) (JF) (JG) (JH) (JI) (JJ) (JK) (JL) (JM) (JN) (JO) (JP) (JQ) (JR) (JS) (JT) (JU) (JV) (JW) (JX) (JY) (JZ) (KA) (KB) (KC) (KD) (KE) (KF) (KG) (KH) (KI) (KJ) (KK) (KL) (KM) (KN) (KO) (KP) (KQ) (KR) (KS) (KT) (KU) (KV) (KW) (KX) (KY) (KZ) (LA) (LB) (LC) (LD) (LE) (LF) (LG) (LH) (LI) (LJ) (LK) (LL) (LM) (LN) (LO) (LP) (LQ) (LR) (LS) (LT) (LU) (LV) (LW) (LX) (LY) (LZ) (MA) (MB) (MC) (MD) (ME) (MF) (MG) (MH) (MI) (MJ) (MK) (ML) (MM) (MN) (MO) (MP) (MQ) (MR) (MS) (MT) (MU) (MV) (MW) (MX) (MY) (MZ) (NA) (NB) (NC) (ND) (NE) (NF) (NG) (NH) (NI) (NJ) (NK) (NL) (NM) (NN) (NO) (NP) (NQ) (NR) (NS) (NT) (NU) (NV) (NW) (NX) (NY) (NZ) (OA) (OB) (OC) (OD) (OE) (OF) (OG) (OH) (OI) (OJ) (OK) (OL) (OM) (ON) (OO) (OP) (OQ) (OR) (OS) (OT) (OU) (OV) (OW) (OX) (OY) (OZ) (PA) (PB) (PC) (PD) (PE) (PF) (PG) (PH) (PI) (PJ) (PK) (PL) (PM) (PN) (PO) (PP) (PQ) (PR) (PS) (PT) (PU) (PV) (PW) (PX) (PY) (PZ) (QA) (QB) (QC) (QD) (QE) (QF) (QG) (QH) (QI) (QJ) (QK) (QL) (QM) (QN) (QO) (QP) (QQ) (QR) (QS) (QT) (QU) (QV) (QW) (QX) (QY) (QZ) (RA) (RB) (RC) (RD) (RE) (RF) (RG) (RH) (RI) (RJ) (RK) (RL) (RM) (RN) (RO) (RP) (RQ) (RR) (RS) (RT) (RU) (RV) (RW) (RX) (RY) (RZ) (SA) (SB) (SC) (SD) (SE) (SF) (SG) (SH) (SI) (SJ) (SK) (SL) (SM) (SN) (SO) (SP) (SQ) (SR) (SS) (ST) (SU) (SV) (SW) (SX) (SY) (SZ) (TA) (TB) (TC) (TD) (TE) (TF) (TG) (TH) (TI) (TJ) (TK) (TL) (TM) (TN) (TO) (TP) (TQ) (TR) (TS) (TT) (TU) (TV) (TW) (TX) (TY) (TZ) (UA) (UB) (UC) (UD) (UE) (UF) (UG) (UH) (UI) (UJ) (UK) (UL) (UM) (UN) (UO) (UP) (UQ) (UR) (US) (UT) (UU) (UV) (UW) (UX) (UY) (UZ) (VA) (VB) (VC) (VD) (VE) (VF) (VG) (VH) (VI) (VJ) (VK) (VL) (VM) (VN) (VO) (VP) (VQ) (VR) (VS) (VT) (VU) (VV) (VW) (VX) (VY) (VZ) (WA) (WB) (WC) (WD) (WE) (WF) (WG) (WH) (WI) (WJ) (WK) (WL) (WM) (WN) (WO) (WP) (WQ) (WR) (WS) (WT) (WU) (WV) (WW) (WX) (WY) (WZ) (XA) (XB) (XC) (XD) (XE) (XF) (XG) (XH) (XI) (XJ) (XK) (XL) (XM) (XN) (XO) (XP) (XQ) (XR) (XS) (XT) (XU) (XV) (XW) (XX) (XY) (XZ) (YA) (YB) (YC) (YD) (YE) (YF) (YG) (YH) (YI) (YJ) (YK) (YL) (YM) (YN) (YO) (YP) (YQ) (YR) (YS) (YT) (YU) (YV) (YW) (YX) (YZ) (ZA) (ZB) (ZC) (ZD) (ZE) (ZF) (ZG) (ZH) (ZI) (ZJ) (ZK) (ZL) (ZM) (ZN) (ZO) (ZP) (ZQ) (ZR) (ZS) (ZT) (ZU) (ZV) (ZW) (ZX) (ZY) (ZZ)

CONFIDENTIAL



FOR OFFICIAL USE ONLY



UNITED STATES DEPARTMENT OF JUSTICE
FEDERAL BUREAU OF INVESTIGATION
JAMES EARL RAY
ALVIN KARPIS
JAN 1937
J. Edgar Hoover

NP 2

MADRAS RAILWAY

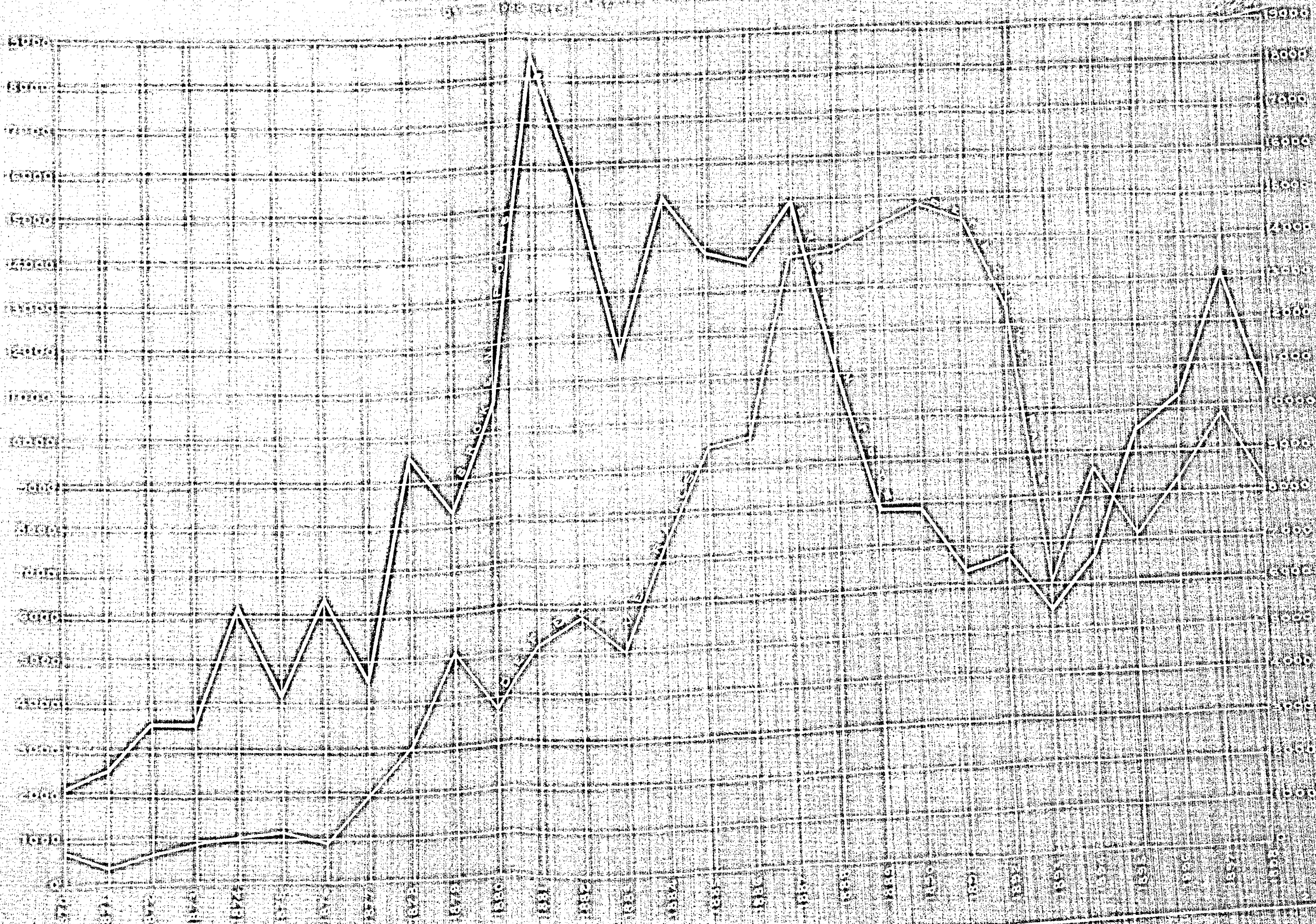
DIAGRAM OF DEFECTIVE RAILS REMOVED

8 BROKEN RAILS REPLACED

FOR 24 HOURS FROM 1900 TO 1908

TOTAL RAIL OF ONE MILE SECTION

100 RAILS



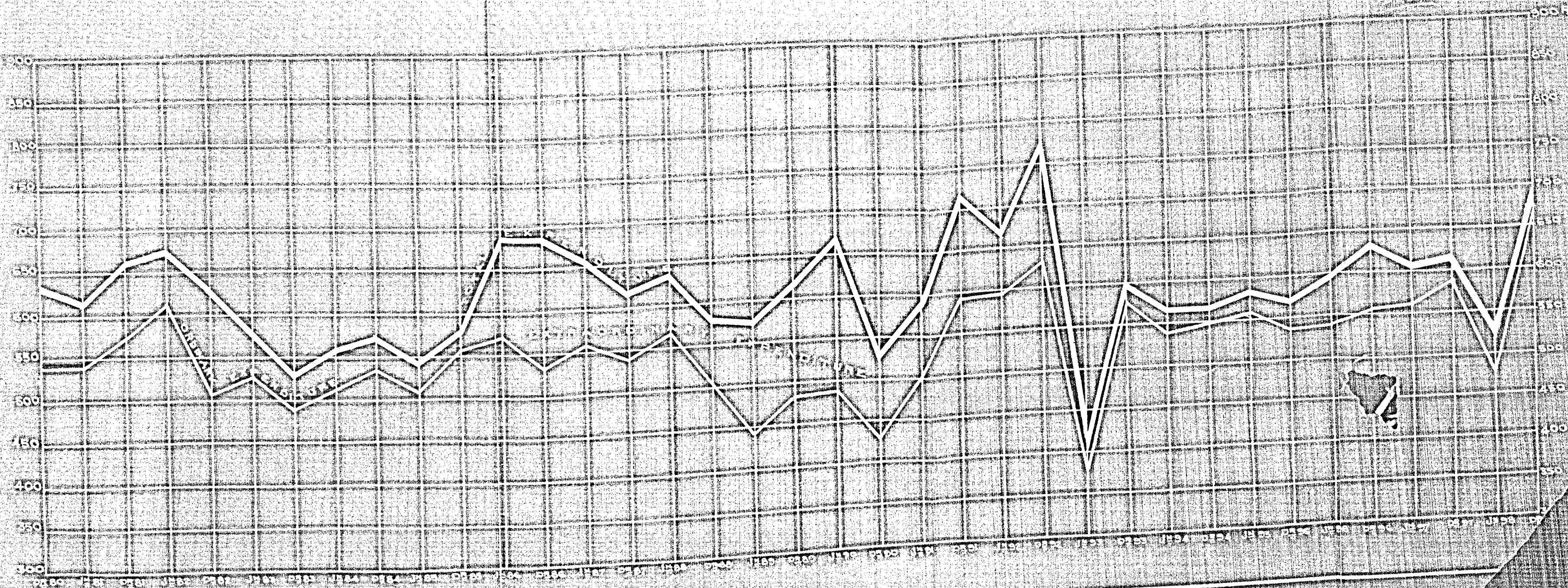
MAADRAS RAILWAY

[illegible]

01-15-1964 - 10:00 AM - 10:00 AM - 10:00 AM

SECRET

SECRET



MADRAS RAILWAY COMPANY,
CHIEF AUDITOR'S OFFICE,
MADRAS, 13th March 1899.

To

THE AGENT AND MANAGER,
Madras Railway Company.

DEAR SIR,

I beg to forward herewith the usual statements of the Company's accounts for the half-year ending 31st December 1898.

CAPITAL.

1. *Statement No. V.*—The capital expenditure for the half-year after crediting a sum of Rs. 10,321-9-8 amounted to Rs. 1,94,439-3-6 and was incurred chiefly on stations and buildings, earthwork and rolling stock. The credit of Rs. 10,321-9-8 consists of Rs. 3,200 recovered from the Madras Municipality being moiety of cost of foot over bridge at Elephant Gate level crossings, and of Rs. 7,121 9-8 transferred from a deposit made by the Great Indian Peninsula Railway for proportion of expenditure during the half-year on the construction of joint bogie stock for Madras-Bombay through traffic.

2. *Statement No. VI.*—The total capital outlay on open line account including suspense from the commencement of operations to end of the half-year under review was Rs. 12,19,00,970 and the expenditure excluding suspense, Rs. 11,95,62,675, which gives an average of Rs. 1,42,469 per mile open.

3. *Arcot-Ranipet Branch Line.*—The capital expenditure during the half-year amounted to Rs. 1,48,546, making the total expenditure to 31st December 1898 Rs. 2,01,485.

4. *Calicut-Cannanore Extension.*—The amount expended during the half-year on the construction of this line was Rs. 51,238, making the total expenditure to 31st December 1898 Rs. 1,37,549.

REVENUE.

General Results.

5. The following table shews the general results of working :—

	Half-year ending Dec. 1897.	Half-year ending Dec. 1898.	Difference.	
	Miles. 839·22	Miles. 839·22	Miles.	Per cent.
Mean mileage worked	1,318,652	1,270,984	— 47,668	— 3·61
Train mileage	No.	No.	No.	
Average number of trains over the whole line daily in both directions	8·54	8·23	— ·31	...
	Rs.	Rs.	Rs.	Rs.
Gross earnings	56,75,752	50,85,747	— 5,90,005	— 10·40
Working expenses	27,63,201	27,40,731	— 22,470	— ·81
Net earnings	29,12,551	23,45,016	— 5,67,535	— 19·49
Percentage of working expenses to gross earnings	48·68	53·89	+ 5·21	...
Percentage of net earnings to capital outlay including suspense	2·40	1·92	— ·48	...

6. The gross earnings per mean mile worked per week averaged Rs. 233 against Rs. 260 and were realized at a cost of 53.89 per cent. against 48.68 per cent. in the corresponding half of the previous year.

7. The percentage of working expenses to gross earnings for the year 1898 was 48.68 against 47.65 for 1897.

Gross Earnings.

8. The following table shews the gross earnings for the two half-years:—

				Half-year ending Dec. 1897.	Half-year ending Dec. 1898.	Difference.	
						Amount.	Per cent.
				Rs.	Rs.	Rs.	Rs.
Coaching	...	...	...	22,47,823	17,67,075	— 4,80,748	— 21.39
Goods	...	...	...	32,93,437	22,18,808	— 74,629	— 2.27
Electric Telegraph	...	...	...	9,769	8,587	— 1,182	— 12.10
Steam-boat	...	...	...	...	...	...	...
Sundries	...	...	...	1,24,723	91,277	— 33,446	— 26.82
Total	...	...	...	56,75,752	50,85,747	— 5,90,005	— 10.40

9. **Abstract H.—Coaching Traffic.**—The number of passengers of the various classes carried including troops and police and season tickets, and the earnings therefrom compare as follows:—

	FIRST CLASS.		SECOND CLASS.		THIRD CLASS.		TOTAL.	
	No.	Earnings.	No.	Earnings.	No.	Earnings.	No.	Earnings.
		Rs.		Rs.		Rs.		Rs.
Second half of 1897...	11,783	89,029	51,505½	1,26,881	4,855,581	17,07,770	4,918,869½	19,23,680
Second half of 1898...	10,499	94,216	43,612½	1,14,288	3,582,016½	12,76,955	3,636,128	14,35,459
Increase	...	5,187	...	...	...	...	...	...
Decrease	...	...	...	...	...	...	...	...
	1,284	...	7,893	12,593	1,273,564½	4,30,815	1,282,741½	4,38,221

10. The increases and decreases in the various descriptions of passenger traffic are shown in the detail statement of Abstract H, *vide* para. 114.

11. The first-class traffic shews a decrease of 1,284 and increase Rs. 5,187.

12. The second-class traffic shews a decrease of 7,893 and Rs. 12,593, practically all due to troops and police traffic.

13. The third-class traffic shews a decrease of 1,273,564½ and Rs. 4,30,815 including a decrease of Rs. 7,170 under the heading of Troops and Police. The decrease in ordinary traffic is due to a large falling off in the number travelling, attributable to plague restrictions during the past half-year.

14. The number of third-class passengers and unit mileage by mail and ordinary trains respectively excluding excess, return, troops and police and season tickets traffic are as follows:—

Mail.		Ordinary.	
Number.	Unit Mileage.	Number.	Unit Mileage.
633,557	36,492,546	2,726,333½	73,791,183.

15. In passengers' luggage a decrease of Rs. 5,131 is recorded.

16. The receipts from horse, carriage and dog traffic both ordinary and Military shew decreases in the former to the extent of Rs. 2,415 and in the latter to the extent of Rs. 966.

17. Military baggage shews a decrease of Rs. 15,588.

18. Parcels for the Public shew a decrease of Rs. 20,391 which is explained by the fact that during December 1897 half-year, considerable traffic was conveyed in connection with Frontier expeditions.

19. **Abstract I.—Goods Traffic.**—The following is a summary of the tonnage of goods lifted and the earnings therefrom, as compared with the corresponding period of 1897:—

	Half-year ending December 1897.		Half-year ending December 1898.	
	Quantity.	Earnings.	Quantity.	Earnings.
	Tons.	Rs.	Tons.	Rs.
Merchandise, General	442,393	29,10,464	371,348	26,84,124
Military Stores	878	35,236	954	37,983
Railway Materials for construction	294	871	1,887	5,423
Coal (including Locomotive Revenue)	83,419	2,74,691	106,462	3,98,145
Revenue Stores (excluding Locomotive Coal)	86,566	41,518	100,661	69,566
Other Goods Traffic	...	30,657	...	23,567
	613,550	32,93,437	581,312	32,18,808
Less—Outstanding irrecoverable or not recovered	...	...	...	...
Total	613,550	32,93,437	581,312	32,18,808

20. **Merchandise, General.**—The decrease Tons 71,045 and Rs. 2,26,340 is attributable to less grain traffic during the half-year and to a falling off generally owing to Plague restrictions and heavy rains.

21. **Coal (including Locomotive Revenue).**—Increase Tons 23,043 and Rs. 1,23,454. The whole of this increase is in public traffic, principally in consignments from Rayapuram Station. Receipts from locomotive coal shew a decrease.

22. **Other Goods Traffic** reveals a decrease of Rs. 7,090.

23. The following table shews some of the principal commodities included above, under the head of "Merchandise, General" carried during the two half-years under comparison :—

	Half-year ending December 1897.		Half-year ending December 1898.	
	Quantity.	Earnings.	Quantity.	Earnings.
	Tons.	Rs.	Tons.	Rs.
COTTON—				
Raw	3,913	59,092	9,418	1,14,777
DYES AND TANS—				
Others	10,031	84,348	6,873	62,207
GRAIN AND PULSE—				
Rice in the husk	10,021	41,434	9,099	66,839
Rice not in the husk	41,402	2,44,652	19,986	1,11,727
Jawar and Bajra	22,442	1,42,323	15,438	1,43,246
Grain and Pulse	20,519	1,35,214	14,917	79,656
Others	31,296	1,88,407	32,380	2,50,365
HIDES AND SKINS—				
(1) HIDES OF CATTLE—				
(b) Raw	4,890	61,378	1,436	10,702
(2) SKINS OF SHEEP, &c.—				
(a) Dressed or Tanned	4,074	59,654	2,069	31,056
(b) Raw	9,626	1,02,330	8,840	92,025
METALS—				
Iron	8,707	87,530	4,566	54,355
OILS—				
Kerosine	6,170	70,099	7,019	87,743
OIL SEEDS—				
Others	4,722	27,490	6,954	59,416
PROVISIONS—				
Others	28,437	2,12,315	25,874	2,09,631
SALT	28,162	1,50,519	29,327	1,61,526
SPICES—				
Betel-nuts	5,242	48,804	4,695	50,717
SUGAR—				
Unrefined, viz., Molasses and Jaggery or Gur and other Saccharine Produce	11,754	56,740	15,828	61,885
TIMBER	58,493	2,20,353	52,695	2,10,497
ALL OTHER ARTICLES OF MERCHANDISE	37,204	3,57,364	30,639	3,22,353

NOTE.—The Traffic Manager's Report will give the causes of the principal differences in the receipts from the various commodities.

24. **Cotton—Raw.**—Increase tons 5,505 and Rs. 55,685. This is made up of Rs. 31,000 in Local and Rs. 25,000 in Through. The increase in Local Traffic is shewn to be generally in bookings from Adoni and Raichur whilst the increase in through is to a great extent due to Traffic from Southern Mahratta Railway and beyond via Guntakal.

25. **Dyes and Tans—Others.**—Decrease Tons 3,158 and Rs. 22,141.

26. **Grain and Pulse—Rice in the husk.**—Decrease Tons 922 and increase Rs. 25,405. The increase is in through traffic received via Bangalore City.

27. **Grain and Pulse—Rice not in the husk.**—Decrease Tons 21,416 and Rs. 1,32,925. The decrease in local traffic is found to be in consignments from Arcot and Katpadi, whilst the decrease in through appears in received traffic via Katpadi and Arkonam.

28. **Grain and Pulse—Jawar and Bajra.**—Decrease Tons 7,004 and increase Rs. 923.

29. **Grain and Pulse—Gram and Pulse.**—Decrease Tons 5,602 and Rs. 55,558. The local portion of the decrease appears in traffic from Coimbatore, Tiruppur and Morappur whilst the decrease in through occurs principally in forwarded traffic via Raichur, and Bangalore City, the falling off via the former junction being considerably the heavier, a somewhat large increase is however recorded in this commodity via Raichur to Madras Railway stations.

30. **Grain and Pulse—Others.**—Increase Tons 1,694 and Rs. 61,958. The entire increase practically appears in through traffic principally in received consignments via Bangalore City and forwarded traffic via Arkonam, Katpadi and Erode, a decrease in this traffic via Raichur to Great Indian Peninsula and beyond is also recorded.

31. **Hides and Skins—Hides of Cattle, Raw.**—Decrease Tons 3,394 and Rs. 50,676. The local decrease appears in consignments from Salt Cotaurs, whilst a somewhat considerable decrease is recorded in traffic to Madras Railway Company stations via Raichur.

32. **Hides and Skins—Skins of Sheep, &c., Dressed or Tanned.**—Decrease Tons 2,005 and Rs. 28,598. Local traffic from Bangalore Cantonment here shews a falling off. The decrease in through is in consignments from G. I. P. and beyond via Raichur.

33. **Hides and Skins—Skins of Sheep, &c., Raw.**—Decrease Tons 786 and Rs. 10,305.

34. **Metals—Iron.**—Decrease Tons 4,141 and Rs. 33,175. The greater portion of this decrease appears in Local Traffic consigned from Salt Cotaurs.

35. **Oils—Kerosine.**—Increase Tons 849 and Rs. 17,644.

36. **Oil Seeds—Others.**—Increase Tons 2,262 and Rs. 31,956. The local increase in this traffic is shewn in bookings from Adoni, Kupgal and Calicut whilst the increase in through traffic appears principally in consignments to M. R. C. Stations via Bangalore City.

37. **Provisions—Others.**—Decrease Tons 2,563 and Rs. 2,684.

38. **Salt.**—Increase Tons 1,165 and Rs. 10,977.

39. **Spices—Betel-nuts.**—Decrease Tons 547 and increase Rs. 1,943.

40. **Sugar—Unrefined, viz., Molasses and Jaggery or Gur and other Saccharine Produce.**—Increase Tons 4,074 and Rs. 5,145.

41. **Timber.**—Decrease Tons 5,798 and Rs. 9,856.

42. **All other articles of Merchandise.**—Decrease Tons 6,565 and Rs. 35,011.

Working Expenses.

43. The working expenses compare as follows with those of December 1897 half-year :—

	SECOND HALF OF 1897.		SECOND HALF OF 1898.		DIFFERENCE.	
	Amount.	Per cent. on Gross Earnings.	Amount.	Per cent. on Gross Earnings.	Amount.	Per cent.
	Rs.		Rs.		Rs.	
Maintenance	6,27,504	11.05	7,03,741	13.81	+ 76,237	+ 12.15
Locomotive	10,79,084	19.01	10,55,342	20.75	- 23,742	- 2.20
Carriage and Wagon	3,11,387	5.49	2,35,058	4.62	- 76,329	- 24.51
Traffic	4,21,155	7.42	4,29,914	8.45	+ 8,759	+ 2.08
General	2,82,841	4.98	2,72,281	5.36	- 10,560	- 3.73
Steam-boat	...	...	...	...	...	...
Special and Miscellaneous	41,229	0.73	44,395	0.87	+ 3,166	+ 7.68
Total	27,63,200	48.68	27,40,781	53.89	- 22,469	- 0.81

44. **Abstract A.**—A net increase of Rs. 76,237 occurs under Maintenance charges.

45. Under "General Superintendence" there is a net increase of Rs. 406 entirely due to a larger outlay for office expenses, chiefly on surveying instruments, the various changes in the Engineering Staff consequent on Mr. West's retirement and the transfer of Mr. French to the Calicut-Cannanore Extension having reduced the outlay on Engineers' salaries by Rs. 2,817.

46. "Maintenance and Renewal of Permanent Way."—There is a increase of Rs. 34,450, of which Rs. 14,192 is in covering sand ballast with broken stones. The increase in ordinary outlay on materials, after crediting the value of stores returned to stock is Rs. 25,132, due to heavier renewals with 30 foot rails. The outlay on "Wages" is Rs. 4,873 less.

47. "Repairs of Bridges, &c."—Decrease Rs. 17,926.

48. "Repairs of Stations and Buildings."—Decrease Rs. 9,163.

49. "New Minor Works."—Decrease Rs. 3,164.

50. "Unclassified Expenditure."—Increase Rs. 72,651. "Loss by Exchange" is Rs. 44,682 more and "Carriage of Revenue Stores" Rs. 28,537 more than in the corresponding period of 1897 due to larger renewals of rails.

51. There is a credit to Abstract A of Rs. 16,125 for working the Kolar Gold Fields Railway.

52. The number of miles of rails removed during the half-year was 94,7610 against 50,2882 in the second half of 1897.

53. The cost of maintaining a mile of single track including sidings was Rs. 694.53 against Rs. 619.62. The figures in this and preceding paragraphs include the mileage maintained for the Kolar Gold Fields Railway.

54. **Abstract B.—Locomotive Expenses.**—Decrease Rs. 23,742.

55. Under "General Superintendence" of Abstracts B and C there is an increase of Rs. 3,686, in subordinate superintendents and office expenses, in the former owing to the filling up of vacancies which existed in the previous period and in the latter chiefly owing to the Chief Draughtsman having acted as General Storekeeper in 1897.

56. "Running Expenses."—A decrease of Rs. 7,131 there having been a decrease of 57,314 in the engine mileage.

57. "Fuel."—Apparent increase of Rs. 5,096 but really a decrease of Rs. 7,253 as the amount charged includes a sum of Rs. 12,349 value of fuel destroyed by fire in the stacks at Raichur. Credit for the latter sum is given at the foot of the abstract by charging off to Fire Insurance Fund.

58. The charge for water shows an increase of Rs. 1,221.

59. "Maintenance and Renewal of Locomotive Engines."—There is an increase of Rs. 6,807. Two new engines were charged to December 1897 half-year while none have been charged for in the period under review but the consequent saving is more than covered by heavy issues of boilers and materials for repairs to existing stock. A decrease of Rs. 10,433 appears in the charge for wages.

60. "Unclassified Expenditure."—Decrease Rs. 21,825 of which Rs. 5,527 is in the carriage of Revenue Stores and Rs. 16,298 in loss by Exchange.

61. There are credits of Rs. 24,464 to Abstract B for working the Kolar Gold Fields Railway and of Rs. 3,768 for working the Madras-Ennur Line.

62. The cost of the department per train-mile was Annas 13.31 against Annas 13.09 and per engine-mile Annas 11.12 against Annas 10.95 in the second half of 1897.

63. **Abstract C.—Carriage and Wagon Expenses.**—A decrease of Rs. 76,329.

64. "Repairs and renewals of Vehicles."—Decrease Rs. 62,122, due to a smaller number of vehicles having been repaired and also, no doubt, to more economical working of the department.

65. "Repairs and renewals of Machinery, &c."—Decrease Rs. 2,176.

66. There is a decrease of Rs. 3,400 in the cost of cleaning and oiling vehicles.

67. "Unclassified Expenditure."—Decrease Rs. 8,630 chiefly in loss by exchange due to a more favourable rate of exchange and to a decreased consumption of English stores.

68. There are credits to this abstract of Rs. 5,386 for working the Kolar Gold Fields Railway and of Rs. 830 for working the Madras-Ennur Line.

69. The carriage and wagon expenses per train-mile were Annas 2.96 against Annas 3.78 and per 1,000 vehicle-miles run by home vehicles Rs. 8.74 against Rs. 10.50 in the corresponding half of 1897.

70. **Abstract D.—Traffic Expenses.**—A net increase of Rs. 8,760.

71. "Salaries, Wages, &c."—A net increase of Rs. 289. There is an increase in the cost of General Superintendence of Rs. 5,481 which is fully explained by a gratuity of Rs. 7,364 paid to Mr. G. R. Byron in August 1898. The cost of Station Staff is less by Rs. 4,020 due to a saving in the charges for loading and unloading goods and to the stoppage of famine batta which cost Rs. 2,026 in December 1897 half-year. There is a decrease of Rs. 1,172 in the cost of Train staff.

72. "Fuel, Lighting, &c."—Increase Rs. 3,969 due to a larger outlay on wagon covers.

73. "Printing, Stationery and Tickets."—Increase Rs. 1,810.

74. "Unclassified Expenditure."—Increase Rs. 3,293 all in loss by exchange chiefly owing to a large consumption of English canvass on wagon covers.

75. There are credits to this abstract of Rs. 9,853 for working the Kolar Gold Fields Railway and of Rs. 1,518 for working the Madras-Ennur Line.

76. The charges for station staff, the tonnage of goods lifted, and the ton-mileage of goods carried compare as follows:—

			Second half of 1897.	Second half of 1898.	Difference.	
			Tons.	Tons.	Tons.	Per cent.
Tonnage of goods	...	...	613,550	581,312	— 32,238	— 5.25
			Ton-miles.	Ton-miles.	Ton-miles.	
Ton-mileage of goods	...	...	76,569,943	75,086,994	— 1,482,949	— 1.94
			Rs.	Rs.	Rs.	
Station Staff	...	...	1,98,524	1,94,504	— 4,020	— 2.02
Train Staff	...	...	61,972	60,800	— 1,172	— 1.89

77. The total cost of the department averaged Annas 5.42 against Annas 5.10 per train-mile in the second half of 1897.

78. **Abstract E.—"General Charges"** show a net increase of Rs. 10,560.

79. There is a decrease of Rs. 3,119 in Home expenditure.

80. "Salaries of Indian Management" show a decrease of Rs. 3,940. The decrease in the Agent's Office is Rs. 2,651, chiefly due to the Agent and Manager's return from furlough in September 1897 and consequent saving to that office of the pay of Mr. West who acted during Mr. Moss' absence. A decrease of Rs. 2,280 in the Audit Department is principally due to vacancies in the subordinate staff not having been filled.

81. "Unclassified Expenditure."—There is a decrease under the head of loss by exchange of Rs. 4,614 due to a smaller consumption of English stores and to the more favourable rate of exchange.

82. There are credits to this abstract of Rs. 6,352 for working the Kolar Gold Fields Railway and of Rs. 978 for working the Madras-Ennur Line.

83. **Abstract G.**—"Special and Miscellaneous Expenditure" shows an increase of Rs. 3,165.

84. "Compensation."—Increase Rs. 1,464.

85. There are credits to this abstract of Rs. 1,018 from the Kolar Gold Fields Railway and of Rs. 157 from the Madras-Ennur Line.

86. *Kolar Gold Fields Railway.*—A sum of Rs. 63,197 being the cost of working this line for the half-year to 31st December 1898 (exclusive of Rs. 4,898 for hire of rolling stock and Rs. 1,657 proportion of rent of Bowringpet Joint Station) has been recovered and distributed over the several abstracts of the Madras Railway Revenue Accounts as shown against each.

87. *Madras-Ennur Section of the Bezwada-Madras Railway.*—A sum of Rs. 11,473, being the cost of working this line for the second half of 1898 (exclusive of Rs. 893 for hire of rolling stock) has been recovered. Of this sum Rs. 4,223 represents the actual cost of engineering maintenance and the balance has been distributed over the other abstracts of expenditure in the Madras Railway Revenue accounts as credits.

88. Statement of train-mileage No. XIV. As compared with the second half of 1897, there was a decrease in the train-mileage of 49,661 or about 3.67 per cent.; the miscellaneous engine-mileage was 19.69 per cent. of train-mileage against 19.54 per cent. in the corresponding half of the previous year.

SUPPLEMENTARY.

89. Every endeavour has been made to comply with the Chairman's request for the early submission of the accounts which was communicated to me in your letter No. 1887 of 21st ultimo. Departmental figures for the calculation of Bowringpet Joint Station expenses only came to hand on the 6th instant and the accounts for December were closed on the 8th idem from which date until the 13th, when they were submitted to you, they were in the possession of the Government examining staff.

90. The total Capital expenditure of the half-year has been as follows:—

Madras Railway Line open for Traffic—

	Rs.	A.	P.
Cash	1,06,296	15	1
Stores	98,463	14	1
	Rs. 2,04,760	13	2

Less credit—

Amount recovered from Revenue Officer, Madras Municipality, on account of moiety of cost of foot over bridge at Elephant-gate Level Crossings... Rs. 3,200 0 0

Amount transferred from the deposit made by the G. I. P. Railway for the proportion chargeable to that Company for expenses incurred during the half-year for the construction of Joint Bogie stock for Madras-Bombay through traffic ... 7,121 9 8

10,321 9 8

Rs. 1,94,439 3 6

Arcot-Ranipet Branch—

	Rs.	A.	P.
Cash	59,369	1	10
Stores...	89,177	0	7
	Rs. 1,48,546	2	5

Calicut-Cannanore Extension—

	Rs.	A.	P.
Cash	49,990	5	5
Stores	1,247	6	7
	Rs. 51,237	12	0

91. The following particulars show in detail the capital outlay of the half-year on the open line:—

ALTERATIONS AND ADDITIONS TO STATIONS AND STATION YARDS.

	Rs.	A.	P.
Bangalore City	48,171	9	3
Arkonam	12,180	8	7
Rayapuram	12,024	3	4
Perambur	10,407	5	2
Salt Cotaurs	5,240	15	11
Whitefield	5,223	8	1
Yerragudipadu	4,428	14	2
Jalarpet	2,982	1	0
Gooty	2,945	1	8
Mullanur	2,934	6	10
Kalamalla	2,821	6	10
Trivellore	2,525	3	10
Nandalur	2,327	13	4
Washermenpet	1,920	10	5
Calicut	1,625	5	5
Bisanattam	1,514	6	4
Kallayi	1,453	15	5
Podanur	1,394	14	2
Virinchipuram	1,383	8	8
Ponpadi	1,171	9	3
Raichur	1,118	4	7
Buddireddippatti	1,101	14	2
Guntakal	1,030	2	2
Other Stations: less credits Rs. 670-2-5	4,735	14	11
	1,32,672	11	6

Strengthening bridge at $\frac{107}{10-11}$ mile	8,773	2	4
Filling up side ditches at $\frac{3}{13-20}$ mile, S. W. Line	3,744	9	6
Strengthening bridge at $\frac{232}{3}$ mile	2,322	3	7
Other bridges, &c., less credits Rs. 2,426-7-9	1,553	1	6

Plant—

Locomotive Shop Plant	Rs. 6,640	14	0
Stations and Office Furniture	511	1	0
	7,151	15	0

Working Stock—

Fitting engines, tenders and carriages with vacuum brake	9,531	11	6
Converting 7 third class carriages into composites	5,419	9	9
Constructing 6 oil tank wagons	317	2	1
46 third-class carriages	419	12	11
2 composite bogie day			
17 third-class carriages			
2 do. do. with brakes			
2 ordinary brake vans			
5 bogie third class carriages, Madras-G. I. P. Through Stock	5,636	4	6

Rupees ... 1,94,439 3 6

	R.	A.	P.
Store balances at 30th June 1898	27,51,096	10	7
Add Receipts—			
From England	R.	2,30,642	8 1
„ Local purchases... .. .	„	8,26,485	4 7
		<u>10,57,127</u>	<u>12 8</u>
		38,08,224	7 3
Deduct Issues—			
Capital Account	R.	98,463	14 1
Do. (Arcot-Ranipet Branch)	„	43,208	14 1
Do. (Calicut-Cannanore Extension)	„	20,305	10 1
Revenue Stores	„	10,51,931	3 8
By Sales	„	1,99,461	14 5
		<u>14,13,371</u>	<u>8 4</u>
Stores balances at 31st December 1898	R.	23,94,852	14 11

	30th June 1898.	31st December 1898.
General Store Account	...Rs. 3,53,868	Rs. 3,13,317
Locomotive Store and Workshop Account...	„ 12,82,348	„ 11,46,819
Engineering do. do. ...	„ 7,89,062	„ 7,68,624
All others, including stores in transitu ...	„ 3,20,818	„ 1,66,092
Total...	Rs. 27,51,096	Rs. 23,94,852

95. The total of Rs. 23,94,852 includes Rs. 3,68,972 for returned stores, of which Rs. 7,703 belongs to the Locomotive Department, Rs. 4,626 to the Telegraph, and the balance, Rs. 3,56,643 to the Engineer's.

December 1897	...	...	...	48.68 per cent.
June 1898	...	...	...	43.97 "
December 1898	...	...	...	53.89 "

98. The following results of our traffic operations in the way of dividend are continued from the last report:—

Period.	Miles open.	Capital raised at 31st December 1898.	Net Revenue.			Average per cent. per annum for periods of five years, &c.		
		£	£	s.	d.	£	s.	d.
Average for 5 years, 1871—75 ...	845	10,280,682	235,519	1	0	2	6	0
Do. 1876—80 ...	858	10,526,673	224,439	17	6	2	2	9
Do. 1881—85 ...	860	10,638,258	245,418	10	6	2	6	1
Do. 1886—90 ...	842	10,697,630	327,998	6	9	3	1	3
Do. 1891—95 ...	840	11,017,630	448,194	19	8	4	1	4
The year 1896 ...	840	11,057,630	493,651	12	6	4	9	3
Do. 1897 ...	840	11,155,630	550,200	10	6	4	18	8
Do. 1898 ...	840	11,155,630	504,341	6	7	4	10	5

This is equal to a return at the rate of 1.83 per cent. per annum on the capital outlay (exclusive of charge for capitalization of Land Revenue) Rs. 5,99,150.

106. I am submitting for the favour of Government acceptance our supplementary claim on account of surplus profits of previous half-years as follows:—

Outstandings of June 1898 half-year since realized	Rs. 1,493	1	10
Reduction in working expenses due to adjustments by Government of India in the rate of exchange for December 1897 and June 1898 half-years	„ 2,442	6	11
Other minor Claims	„ 211	4	3
Total Rs.	4,146	13	0
One per cent. for credit of Provident Institution	Rs. 41	7	6
	4,105	5	6
One moiety due from Government	„ 2,052	10	9

107. A further claim for refund of a moiety of Interest charged on overdrawn capital in December 1897 and June 1898 half-years has been made and from your No. 10684 of 23rd January, I gather that it has been referred for the action of the Board.

108. The Board of Directors having intimated to the Secretary of State their acceptance of the revised rules proposed for application to the Provident Institutions of State as well as Guaranteed and assisted Railways which are to have effect from 1st January 1898, the Government of India have sanctioned contributions on the higher scale from Revenue Funds being entered in the Company's Net Revenue account and additional sums of Rs. 37,187 and Rs. 40,385 have been provided in the accounts for June 1898 and December 1898 half-years respectively.

109. These amounts will however only be made available to the Institution when formal sanction has been accorded to the introduction of the new scale.

110. An agreement has been entered into with the Nilgiri Railway Company, Ltd., for the working by the Madras Railway of the Nilgiri Railway from Mettupalaiyam to Coonoor as from the 1st October 1898 on which date the line was experimentally opened for traffic.

111. In consequence of serious breaches the line was again closed to traffic on the 28th of the same month and it has not yet been re-opened.

The cost of the experiment, less the earnings from the traffic which was carried, has been charged to the Capital account of the Nilgiri Railway Company.

112. The work of repairing and completing the Railway is being carried out by the Madras Railway at the cost of the Nilgiri Railway Company who, up to the end of the year, had remitted Rs. 29,825-3-10 against Rs. 52,669-12-0 which has been ascertained to have been our expenditure to 31st December 1898.

Earnings.

113. **Abstract H.—Coaching Traffic**—Form No. X of the accounts presents the following results when compared with the corresponding half-year:—

Abstract H, December 1897	Rs. 22,47,822	10	5
Do. „ 1898	„ 17,67,074	14	3
Decrease	Rs. 4,80,747	12	2

114. The details of the above results are given in the following table:—

TRAFFIC.	Half-year ending December 1897.			Half-year ending December 1898.			Increase.			Decrease.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Ordinary Passengers, 1st Class.	80,887	1	6	87,813	0	8	6,925	15	2	...	...	...
Periodical	2,684	3	3	544	12	9	...	...	...	2,139	6	6
2nd Class	93,698	12	0	93,964	1	9	265	5	9	...	...	...
Periodical	4,966	5	1	2,017	1	10	...	...	...	2,949	3	3
3rd Class	16,57,093	9	3	12,37,331	5	4	...	...	...	4,19,762	3	11
Periodical	6,128	1	1	2,244	9	6	...	...	...	3,883	7	7
Troops and Police, 1st Class...	5,458	2	0	5,858	7	3	400	5	3	...	...	...
2nd Class...	28,215	10	0	18,306	3	5	...	...	...	9,909	6	7
3rd Class...	44,548	9	9	37,379	0	4	...	...	...	7,169	9	5
Passengers' Luggage	62,788	6	4	57,607	2	0	...	...	...	5,181	4	4
Carriages	7,784	2	9	7,619	8	0	...	...	...	164	10	9
Horses	22,964	6	1	20,503	4	2	...	...	...	2,461	1	11
Dogs	2,718	5	11	2,928	11	0	210	5	1	...	...	...
Parcels	1,69,622	9	9	1,49,231	13	0	...	...	...	20,390	12	9
Do. for Revenue	3,369	13	4	3,178	15	3	...	...	...	190	14	1
Special Trains	366	0	0	2,570	0	0	2,204	0	0	...	...	...
Miscellaneous	970	8	6	1,420	0	9	449	8	3	...	...	...
Haulage and hire of Post Office Vans	24,916	8	7	24,469	15	3	...	...	...	446	9	4
MILITARY.												
Military Baggage	24,207	5	3	8,619	1	8	...	...	...	15,588	3	7
Carriages	...	...	...	61	8	0	61	8	0	...	...	...
Horses	4,389	14	0	3,346	11	0	...	...	...	1,043	3	0
Dogs, &c.	44	4	0	59	9	4	15	5	4	...	...	...
	22,47,822	10	5	17,67,074	14	3	10,532	4	10	4,91,280	1	0
Deduct Increase										10,532	4	10
Net Decrease										4,80,747	12	2

115. The ordinary coaching traffic, ascertained by eliminating all troops and police, and military items of traffic is continued from the last report—

PERIOD.	Rs.	A.	P.
December 1880	11,47,898	1	5
June 1881	12,54,404	1	5
December 1881	12,18,181	7	10
June 1882	12,78,447	11	0
December 1882	13,02,002	4	1
June 1883	12,97,015	15	6
December 1883	12,73,014	2	7
June 1884	14,10,745	4	7
December 1884	13,85,847	11	7
June 1885	14,63,321	5	7
December 1885	15,29,401	15	10
June 1886	15,02,885	3	6
December 1886	15,49,747	3	4
June 1887	15,81,759	3	3
December 1887	15,31,357	3	9
June 1888	16,61,024	2	10
December 1888	17,13,097	12	10
June 1889	17,81,789	6	8
December 1889	17,75,541	7	2
June 1890	17,64,039	8	10
December 1890	18,19,560	1	1
June 1891	17,68,118	0	7
December 1891	16,52,970	14	10
June 1892	17,24,126	14	10
December 1892	18,03,769	5	4
June 1893	19,49,056	4	11
December 1893	18,72,896	13	4
June 1894	19,27,016	3	8
December 1894	20,47,177	7	9
June 1895	23,03,421	12	8
December 1895	22,46,345	3	11
June 1896	22,79,220	11	1
December 1896	21,63,575	1	6
June 1897	22,17,352	1	7
December 1897	21,40,958	13	5
June 1898	21,36,141	8	3
December 1898	16,93,444	5	3

116. Statement showing 3rd and 4th Class Receipts minus Troops and Police from 1873 to December 1898.

PERIOD.	3rd-Class Single Journey, Excess, Return Tickets.	4th or Cooly Class.	Total 3rd and 4th Classes.
	Rs. A. P.	Rs. A. P.	Rs. A. P.
Half-year ending June 1873	8,54,760 15 9	93,610 13 0	9,48,401 12 9
December 1873	8,41,653 1 4	1,08,073 9 0	9,49,726 10 4
June 1874	7,89,366 1 11	1,13,226 15 0	9,02,593 0 11
December 1874	8,31,655 4 7	1,18,789 11 0	9,50,444 15 7
June 1875	7,32,250 15 8	1,68,858 13 0	9,01,109 12 8
December 1875	6,72,465 4 6	1,73,076 13 0	8,46,142 1 6
June 1876	7,16,531 11 6	2,03,373 9 0	9,19,905 4 6
December 1876	7,41,657 1 7	2,19,170 13 0	9,60,827 14 7
June 1877	6,38,448 12 8	2,42,352 2 6	8,80,800 15 2
December 1877	8,79,633 13 10	1,20,088 11 0	9,99,722 8 10
June 1878	9,01,376 1 3	67,642 11 0	9,69,018 12 3
December 1878	8,04,743 8 3	1,14,829 12 0	9,19,573 4 3
June 1879	6,35,114 10 2	2,65,729 13 0	9,00,844 7 2
December 1879	9,29,071 10 9	...	9,29,071 10 9
June 1880	9,04,920 9 10	...	9,04,920 9 10
December 1880	8,96,463 1 1	...	8,96,463 1 1
June 1881	9,52,306 12 1	...	9,52,306 12 1
December 1881	9,43,731 12 9	...	9,43,731 12 9
June 1882	9,72,568 4 7	...	9,72,568 4 7
December 1882	10,05,113 6 2	...	10,05,113 6 2
June 1883	10,10,789 4 7	...	10,10,789 4 7
December 1883	9,61,665 0 1	...	9,61,665 0 1
June 1884	10,58,699 12 8	...	10,58,699 12 8
December 1884	10,47,457 10 4	...	10,47,457 10 4
June 1885	10,95,135 7 6	...	10,95,135 7 6
December 1885	11,65,264 9 5	...	11,65,264 9 5
June 1886	11,59,988 9 10	...	11,59,988 9 10
December 1886	11,84,455 6 3	...	11,84,455 6 3
June 1887	12,20,247 9 0	...	12,20,247 9 0
December 1887	11,61,859 8 10	...	11,61,859 8 10
June 1888	12,48,832 15 11	...	12,48,832 15 11
December 1888	13,34,289 7 9	...	13,34,289 7 9
June 1889	13,57,252 6 7	...	13,57,252 6 7
December 1889	13,92,223 13 3	...	13,92,223 13 3
June 1890	13,69,221 5 1	...	13,69,221 5 1
December 1890	14,48,927 4 1	...	14,48,927 4 1

PERIOD.	3rd-Class Single Journey, Excess, Return Tickets.	4th or Cooly Class.	Total 3rd and 4th Classes.
	Rs. A. P.	Rs. A. P.	Rs. A. P.
Half-year ending June 1891	14,00,154 9 11	...	14,00,154 9 11
December 1891	12,73,641 14 9	...	12,73,641 14 9
June 1892	13,53,452 15 6	...	13,53,452 15 6
December 1892	14,11,625 15 5	...	14,11,625 15 5
June 1893	15,37,298 5 4	...	15,37,298 5 4
December 1893	14,57,772 11 4	...	14,57,772 11 4
June 1894	15,09,595 15 2	...	15,09,595 15 2
December 1894	15,78,599 10 11	...	15,78,599 10 11
June 1895	18,29,510 14 1	...	18,29,510 14 1
December 1895	17,36,777 1 3	...	17,36,777 1 3
June 1896	17,86,841 4 8	...	17,86,841 4 8
December 1896	16,99,951 5 3	...	16,99,951 5 3
June 1897	17,18,521 11 3	...	17,18,521 11 3
December 1897	16,63,221 10 4	...	16,63,221 10 4
June 1898	16,32,615 13 11	...	16,32,615 13 11
December 1898	12,39,575 14 10	...	12,39,575 14 10

117. The number, mileage and earnings of 3rd-Class Ordinary traffic, leaving out Troops and Police, are as follows:—

PERIOD.	Number.	Mileage.	Earnings.
			Rs. A. P.
Half-year ending December 1879	1,774,690	76,638,889½	(a) 9,29,071 10 9
June 1880	1,964,346	79,706,402	(b) 9,04,920 9 4
December 1880	1,943,145	86,424,275	8,96,463 1 1
June 1881	2,111,075	91,814,076	9,52,306 12 1
December 1881	2,067,218½	90,818,781	9,43,731 12 9
June 1882	2,189,409	93,761,162	9,72,568 4 7
December 1882	2,046,457	96,895,425	10,05,113 6 2
June 1883	2,195,218½	97,623,795	10,10,789 4 7
December 1883	2,150,308	97,581,832	(c) 9,61,665 0 1
June 1884	2,593,543	108,370,675	10,58,699 12 8
December 1884	2,488,817	108,124,439	10,47,457 10 4
June 1885	2,639,473½	112,860,077	10,95,135 7 6
December 1885	2,798,556	121,224,909	11,65,264 9 5
June 1886	2,928,490	120,522,393	11,59,988 9 10
December 1886	3,288,543½	135,980,143	(d) 11,84,455 6 3
June 1887	3,543,684½	140,170,209	12,20,247 9 0
December 1887	3,372,135½	133,848,628	11,61,859 8 10
June 1888	3,724,290	142,695,239	(e) 12,48,832 15 11
December 1888	3,951,553½	151,690,538	13,34,289 7 9
June 1889	4,198,943	155,414,335	13,57,252 6 7
December 1889	4,218,179	159,361,635	13,92,223 13 3
June 1890	4,184,208	156,902,111	(f) 13,69,221 5 1
December 1890	4,133,756½	162,833,527	(g) 14,48,927 4 1
June 1891	4,206,099½	156,004,790	14,00,154 9 11
December 1891	3,919,473	148,726,896	(h) 12,73,641 14 9
June 1892	4,259,953½	159,063,622	13,53,452 15 6
December 1892	4,487,133	165,641,362	14,11,625 15 5
June 1893	4,998,677	180,292,338	15,37,298 5 4
December 1893	4,675,724	170,719,562	14,57,772 11 4
June 1894	4,954,351	177,046,939	15,09,595 15 2
December 1894	5,048,748	185,288,555	15,78,599 10 11
June 1895	4,314,512	166,901,011	(i) 18,29,510 14 1
December 1895	4,327,774	157,966,610	(k) 17,36,777 1 3
June 1896	4,814,350½	162,524,803	17,86,841 4 8
December 1896	4,727,778½	155,332,652	16,99,951 5 3
June 1897	5,057,896½	157,058,852	17,18,521 11 3
December 1897	4,821,593	152,579,394	16,63,221 10 4
June 1898	4,600,357½	149,008,513	16,32,615 13 11
December 1898	3,554,861½	112,349,592	12,39,575 14 10

NOTE.—(a) Half-year ending 1879, 2 pies for Ordinary trains from 1st July, 1879 and 4 pies for Mail trains.
 (b) Half-year ending June, 1880, 2 pies are charged for Ordinary trains and 4 pies for Mail trains for first four months, and 2 pies by all trains for the last 2 months, viz., from 1st May, 1880.
 (c) Fare and half for Return tickets from 1st October, 1883.
 (d) One and half pies for single journey passengers for Ordinary trains and 2 pies for Mail trains, but to and from stations between Podanur and Mettupalaiyam and Podanur and Beypore, 1½ pies rate charged by Mail trains.
 (e) Half-year ending June, 1888, on and after 5th March, 1888, 2 pies are charged for passengers booked to and from stations west of Podanur by Mail trains except that for stations on the Nilgiri and Palghat branches the fares by Mail trains are 1½ pies per mile.
 (f) From 1st March, 1890, the fares by Mail trains throughout the line are 2 pies per mile.
 (g) From 1st October, 1890, the fares by Mail trains are 2½ pies per mile except that for stations between Podanur and Calicut and Palghat branches the fares by Mail trains are 1½ pies per mile.
 (h) From 1st August, 1891, the fares by Mail trains between Podanur and Olavakkot and between Tirur and Calicut are raised from 1½ to 2½ pies per mile and between Olavakkot and Tirur from 1½ to 2 pies per mile.
 The fares by ordinary trains all over the line are increased from 1½ to 2 pies.
 (k) From July, 1895, the above figures include periodical ticket traffic as number of trips, instead of number of tickets issued.

118. The receipts from Parcels traffic (Public) during the past ten years have been as follows :—

				Rs.	A. P.
Half-year ending	December 1888	...	...	1,22,872	15 2
"	June 1889	...	...	1,14,325	6 2
"	December 1889	...	...	1,22,051	4 4
"	June 1890	...	...	1,06,372	12 1
"	December 1890	...	...	1,23,187	6 8
"	June 1891	...	...	1,04,535	8 4
"	December 1891	...	...	1,18,612	12 8
"	June 1892	...	...	1,01,956	0 11
"	December 1892	...	...	1,34,095	5 1
"	June 1893	...	...	1,15,158	2 4
"	December 1893	...	...	1,49,422	7 5
"	June 1894	...	...	1,30,321	15 4
"	December 1894	...	...	1,67,055	9 8
"	June 1895	...	...	1,33,435	13 3
"	December 1895	...	...	1,47,925	7 4
"	June 1896	...	...	1,42,225	5 4
"	December 1896	...	...	1,44,519	8 3
"	June 1897	...	...	1,43,104	14 6
"	December 1897	...	...	1,69,622	9 9
"	June 1898	...	...	1,56,591	0 1
"	December 1898	...	...	1,49,231	13 0

119. It will be seen from a comparison of the several heads of Abstract I, that the following have been the fluctuations which have led to the net decrease of Rs. 74,628-14-0 :—

TRAFFIC.	Half-year ending December 1897.			Half-year ending December 1898.			Increase.			Decrease.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
1. Merchandise, General ...	29,10,463	14	0	26,84,124	3	7	...	...	...	2,26,339	10	5
2. Military Stores ...	35,235	9	0	37,982	15	0	2,747	6	0	...	...	...
3. Railway Materials ...	870	11	0	5,423	2	0	4,552	7	0	...	...	...
4. Coal ...	2,74,691	1	0	3,98,145	7	1	1,23,454	6	1	...	...	...
5. Revenue Stores ...	41,518	7	5	69,565	9	5	28,047	2	0	...	...	...
6. Live Stock ...	9,902	6	9	10,450	13	0	548	6	3	...	...	...
7. Military Live Stock ...	9,686	6	6	1,918	11	8	...	...	...	7,767	10	10
8. Rents and Demurrage ...	7,024	8	9	6,861	9	8	...	...	...	162	15	1
9. Interest on Outstanding Bills ...	...	...	...	...	...	...	...	...	...	...	...	...
10. Miscellaneous ...	4,043	10	4	4,335	5	4	291	11	0	...	...	...
TOTAL ...	32,93,436	10	9	32,18,807	12	9	1,59,641	6	4	2,34,270	4	4
Deduct Increase ...							1,59,641	6	4			
Net Decrease ...										74,628	14	0

120. The following table prepared from the Analysis will show the progress of our business and the economy observed in conducting it :—

TRAFFIC.	Dec. 1888.	June 1889.	Dec. 1889.	June 1890.	Dec. 1890.	June 1891.	Dec. 1891.	June 1892.	Dec. 1892.	June 1893.	Dec. 1893.	June 1894.	Dec. 1894.	June 1895.	Dec. 1895.	June 1896.	Dec. 1896.	June 1897.	Dec. 1897.	June 1898.	Dec. 1898.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Pies.
Total earnings per train-mile ...	3552	3778	3908	3977	3757	3802	3612	3811	3828	4064	3888	4031	4171	453	431	438	434	457	430	444	399
" working expenses per train-mile ...	2097	2128	2405	2109	1943	2220	2034	2147	2086	1880	1965	2089	2181	213	208	221	222	214	209	196	217
Total net earnings per train-mile...	1455	1650	1503	1868	1809	1582	1518	1664	1742	2184	1923	1942	1990	240	223	217	212	243	221	248	182
COACHING TRAFFIC.																					
Average sum received for carrying a unit one mile.																					Pies.
First class ...	1095	1467	937	1166	1016	1124	973	1032	1032	1018	994	1165	1042	1046	1037	1155	983	1008	941	1102	1144
Second class ...	558	551	521	533	452	548	516	529	534	518	492	525	519	501	472	452	498	479	414	461	510
Lowest class ...	170	168	168	172	172	173	165	163	164	164	164	164	164	210	211	211	210	209	209	210	211
Average for all classes ..	187	187	181	184	186	190	181	178	179	173	179	180	178	226	230	227	226	227	224	223	233
Average cost of hauling a coaching unit one mile.	101	99	107	90	91	109	103	104	103	82	90	92	89	90	96	99	104	95	98	90	124
Per passenger unit ...	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
Average profit per passenger ...	3730	3925	3531	3860	3760	3977	2734	3792	3688	3907	3221	3766	3132	3698	3569	3680	3522	3422	3114	3551	3363
Average sum received for other coaching traffic per ton per mile.	1346	1406	1439	1217	1181	1400	1252	1329	1181	1116	931	1196	912	1111	992	1152	1067	991	840	899	1041
Average cost of hauling other coaching traffic per ton per mile.	2384	2519	2092	2643	2579	2577	2482	2463	2507	2791	2290	2570	2220	2587	2577	2528	2455	2431	2274	2652	2322
Average profit per ton ...																					
GOODS TRAFFIC.																					
Average sum received for carrying a ton one mile	779	790	760	783	749	742	716	833	827	812	825	857	852	846	831	849	843	834	837	839	830
Average cost of hauling a goods unit, viz., one ton one mile	502	473	488	413	405	446	425	463	441	376	430	458	467	438	448	472	470	420	449	397	466
Average profit on working a goods unit (viz., one ton), one mile	277	317	272	370	344	296	291	370	386	436	395	399	385	408	386	377	373	414	388	442	364

* Including Kolar Gold Fields State Railway. and Madras-Ennur Railway.

121. The following Classification of all Goods carried is designed to shew Country and Foreign Trade:—

DESCRIPTION.	Half-year ending December 1897.		Half-year ending December 1898.	
	Maunds.	Rupees.	Maunds.	Rupees.
COUNTRY TRADE.				
Food Grains	3,444,556	7,58,586	2,522,763	6,56,708
Miscellaneous articles for Domestic consumption	2,024,340	5,82,162	1,856,530	6,04,545
Salt and Saltpetre	768,901	1,51,500	800,275	1,62,207
Materials used in Building, Construction and Manufacture	2,599,622	3,58,925	2,071,687	3,11,365
Cloths, Piece goods and Twist (Indian)	165,647	72,188	149,516	67,022
Sundries	1,170,686	4,15,988	968,414	3,73,461
Total ...	10,173,753	23,39,349	8,369,185	21,75,308
FOREIGN TRADE.				
Exports or Colonial Produce... ..	1,459,276	4,99,573	1,484,259	4,51,496
Imports, Cloths, Piece goods and Twist (European)	97,976	56,517	80,016	44,836
European Stores for consumption in India	134,278	48,237	108,383	42,279
Coal and Coke for the public	1,797,086	2,51,280	2,707,488	3,80,745
Do. for the Company	473,771	23,411	190,651	17,400
Railway Materials, &c.	209,528	2,895	144,405	13,611
Total ...	4,171,915	8,81,913	4,715,202	9,50,367
Grand Total ...	14,345,667	32,21,262	13,084,387	31,25,675

122. The following statement is framed to give a comparison of the Internal Trade, (sub-divided into Food Grains and other Commodities) and the External or Foreign Trade (Exports or Imports) passing over the Railway for a series of years:—

PERIODS.	COUNTRY TRADE.				TOTAL.			
	Food Grains.		Other Commodities.		Foreign Trade, Exports or Imports.		Railway Stores.	
	Weight.		Weight.		Weight.		Weight.	
	Maunds.	Rupees.	Maunds.	Rupees.	Maunds.	Rupees.	Maunds.	Rupees.
December 1876	6,448,865	15,09,576	8,276,612	17,24,504	1,961,615	10,20,858	31,521	4,701
Do. 1877	20,037,072	47,11,730	5,526,394	17,51,285	1,323,601	5,65,916	36,818	4,159
Do. 1878	6,068,324	12,53,187	6,897,239	15,83,706	1,508,633	6,72,187	38,055	4,646
Do. 1879	5,724,530	12,24,775	10,068,871	16,84,744	1,791,713	7,66,609	27,769	3,755
Do. 1880	3,553,664	6,58,852	11,107,066	17,94,168	1,876,213	7,99,668	51,461	8,685
Do. 1881	3,377,162	6,38,158	8,070,509	18,42,019	2,112,558	8,52,893	15,805	16,013
Do. 1882	3,380,180	6,44,323	7,131,950	20,54,220	2,679,042	10,85,624	2,723	528
Do. 1883	4,757,712	7,03,707	8,168,934	21,47,050	2,679,301	9,82,154	5,067	1,387
Do. 1884	5,392,637	7,60,500	9,820,806	22,07,239	3,044,339	9,05,763	2,242,349	20,133
Do. 1885	4,919,219	7,42,809	11,045,466	23,08,174	3,070,405	7,83,519	716,581	2,81,658
Do. 1886	4,764,534	7,00,158	11,045,625	22,55,441	3,070,405	7,83,519	612,079	2,16,169
Do. 1887	5,397,284	8,55,092	11,414,388	24,08,793	3,022,418	10,77,268	977,518	2,80,148
Do. 1888	5,993,788	11,08,772	11,610,840	25,13,396	3,348,244	12,13,195	556,794	82,813
Do. 1889	7,233,007	10,96,066	12,956,764	25,85,619	3,532,286	12,80,920	1,335,291	1,95,869
Do. 1890	7,816,784	14,15,899	11,428,971	25,86,640	3,939,242	11,73,211	869,999	1,97,166
Do. 1891	6,280,715	13,20,407	11,291,235	27,89,039	3,532,286	12,80,920	1,004,867	1,88,837
Do. 1892	7,195,917	16,31,950	11,684,042	29,37,169	4,706,829	13,65,830	1,406,171	59,357
Do. 1893	5,070,000	11,65,500	11,926,771	30,25,752	5,561,551	15,57,186	371,855	35,269
Do. 1894	4,936,020	12,28,406	12,665,222	31,57,426	6,090,168	16,35,151	817,187	80,858
Do. 1895	4,964,813	11,10,352	12,594,600	30,81,028	6,557,311	17,22,098	332,630	13,495
Do. 1896	6,946,083	14,96,646	13,556,506	32,34,163	7,628,765	17,97,124	431,306	36,824
Do. 1897	2,549,354	5,93,103	6,871,400	16,86,985	3,893,612	9,07,637	257,134	9,135
Half year ending June 1898	2,522,763	6,56,708	5,846,422	15,18,600	4,570,797	9,36,756	144,405	13,611
Do. December 1898	...	...	...	...	...	...	...	...

The total in the foregoing for the past half-year, viz., Rupees 31,25,675 is made up from items in Abstract I of the Revenue Account, thus:—

1. Merchandise Rs. 26,84,124
2. Military Stores " " 37,983
3. Railway Materials " " 5,423
4. Coal for the Public, &c. " " 3,98,145

Rs. 31,25,675

123. The following are the chief Commodities interchanged with Foreign Railways working with the Madras Railway in the half-year under review, and the corresponding half-year in 1897:—This statement shews an increase in weight of 5,506 tons and in amount of Rs. 87,721 during the past half-year.

DESCRIPTION OF COMMODITY.	TO AND FROM FOREIGN RAILWAYS.			
	Half-year ending December 1897.		Half-year ending December 1898.	
	Tons.	Rs.	Tons.	Rs.
I. COAL AND COKE CARRIED FOR THE PUBLIC AND FOREIGN RAILWAYS ...	57,278	2,20,734	90,538	3,51,257
II. COTTON, RAW ...	731	8,383	3,887	33,139
III. COTTON, MANUFACTURED—				
1. Twist and Yarn, European ...	575	8,294	554	7,187
2. Do. Indian ...	1,095	9,786	1,171	10,362
3. Piece Goods, European ...	478	8,185	519	9,843
4. Do. Indian ...	1,532	18,051	1,643	18,617
IV. DRUGS AND CHEMICALS—				
1. Intoxicating, other than Opium ...	...	...	...	...
2. Non-intoxicating—				
(a). Cinchona bark ...	...	...	89	1,104
(b). Others ...	701	6,110	783	8,388
V. DYES AND TANS—				
1. Indigo ...	145	2,361	166	3,029
2. Myrabolams ...	312	1,972	254	1,767
3. Cutch ...	...	...	...	...
4. Turmeric ...	484	3,382	401	3,456
5. Aniline dyes ...	...	...	...	...
6. Others ...	5,989	50,335	4,582	38,080
VI. GRAIN AND PULSE—				
1. Wheat ...	779	5,941	767	4,403
2. Rice in the husk ...	2,479	10,076	5,428	46,369
3. Rice not in the husk ...	13,068	69,175	8,793	23,202
4. Jawar and Bajra ...	15,121	87,706	5,391	34,632
5. Gram and Pulse ...	10,741	73,647	9,174	46,876
6. Others ...	15,106	72,731	18,618	1,34,568
VII. HIDES AND SKINS—				
1. Hides of Cattle—				
(a). Dressed or tanned ...	...	...	...	...
(b). Raw ...	3,231	48,050	457	3,968
2. Skins of Sheep, &c.—				
(a). Dressed or tanned ...	1,758	28,294	864	17,092
(b). Raw ...	7,651	88,982	5,850	68,031
VIII. HORNS ...	...	...	73	634
IX. JUTE—				
1. Raw ...	...	...	...	...
2. Gunny Bags and Cloth ...	1,419	13,383	1,024	9,383
X. LAC—				
1. Stick ...	...	...	...	...
2. Shell ...	...	...	...	...
XI. LEATHER, MANUFACTURED ...	45	1,196	42	1,173
XII. LIQUORS—				
1. Beer ...	671	10,529	666	10,151
2. Spirits ...	1,193	7,041	756	6,089
3. Wines ...	...	...	...	...
XIII. METALS—				
1. Copper, unwrought ...	...	...	...	...
2. Brass, unwrought ...	...	...	...	...
3. Copper, wrought ...	...	...	...	...
4. Brass, wrought ...	94	1,405	...	...
5. Iron ...	3,606	34,637	97	1,533
6. Others ...	41	574	2,220	26,260
XIV. OILS—				
1. Kerosine ...	1,340	19,515	1,620	23,561
2. Castor ...	789	1,833	619	3,078
3. Coconut ...	123	1,522	145	1,924
4. Others ...	705	3,703	895	7,813
Carried forward ...	149,250	9,17,694	163,276	9,58,600

DESCRIPTION OF COMMODITY.	TO AND FROM FOREIGN RAILWAYS.			
	Half-year ending December 1897.		Half-year ending December 1898.	
	Tons.	Rs.	Tons.	Rs.
Brought forward...	149,250	9,17,694	163,276	9,58,600
XV. OIL SEEDS—				
1. Linseed ...	...	...	...	...
2. Rape and Mustard ...	...	...	...	...
3. Til or Jingili ...	6,281	36,109	5,149	38,300
4. Poppy ...	...	...	...	...
5. Earthnuts ...	1,254	2,917	552	1,351
6. Castor ...	227	1,439	910	4,767
7. Others ...	2,251	11,694	2,960	23,678
XVI. OPIUM ...	...	...	...	...
XVII. PAPER AND PASTE BOARD ...	110	2,067	45	764
XVIII. PROVISIONS—				
1. Ghee ...	364	4,145	436	5,027
2. Dried fruits and nuts ...	213	2,511	216	1,458
3. Others ...	9,627	64,808	8,576	65,673
XIX. RAILWAY PLANT AND ROLLING STOCK carried for the Public and Foreign Railways—				
1. Loco. engines and tenders and parts thereof ...	...	...	472	2,526
2. Carriages and trucks and parts thereof ...	...	...	...	...
3. Materials—				
(a). Steel rails and fish plates... 7,275	7,275	1,522	386	505
(b). Sleepers and keys of steel and cast iron ...	...	...	...	...
(c). Other sorts ...	...	...	920	3,032
XX. SALT ...	2,652	9,946	2,716	16,731
XXI. SALTPETRE, &c.—				
1. Saltpetre ...	...	...	...	...
2. Other saline substances ...	...	...	...	...
XXII. SILK, RAW—				
1. Foreign ...	45	965	47	958
2. Indian ...	...	...	...	...
XXIII. SILK, PIECE GOODS—				
1. Foreign ...	...	...	...	...
2. Indian ...	...	...	...	...
XXIV. SPICES—				
1. Betel nuts ...	2,960	28,947	2,253	27,452
2. Pepper ...	377	4,538	313	4,040
3. Ginger ...	134	1,010	125	1,005
4. Chillies ...	1,022	10,934	489	4,273
5. Cardamoms ...	417	2,494	176	1,269
6. Others ...	...	...	...	...
XXV. STONE AND LIME ...	10,925	14,678	5,965	12,383
XXVI. SUGAR—				
1. Refined or crystallized including sugarcandy ...	1,543	10,649	1,667	11,058
2. Unrefined, viz., molasses and jaggery or gur and other saccharine produce ...	7,284	30,328	11,862	37,698
XXVII. TEA—				
1. Foreign ...	36	1,477	61	2,233
2. Indian ...	...	...	...	...
XXVIII. TIMBER ...	23,985	97,684	24,040	1,11,336
XXIX. TOBACCO—				
1. Unmanufactured ...	1,401	10,305	1,178	9,417
2. Manufactured—				
(a). Cigars ...	348	4,704	343	4,234
(b). Other sorts ...	306	3,751	427	5,822
XXX. WOOL, RAW ...	124	633	138	989
XXXI. WOOL, MANUFACTURED—				
1. Piece Goods, European ...	37	911	32	1,019
2. Piece Goods, Indian ...	204	2,541	222	2,975
3. Shawls ...	...	...	...	...
XXXII. ALL OTHER ARTICLES OF MERCHANDISE ...	13,646	1,52,585	13,882	1,61,104
TOTAL ...	244,328	14,83,986	249,834	15,21,707

124. The interchange of Passenger Traffic with the Railways that are connected with the Madras Railway is given in the following table, and shews a decrease in number by 83,831 and in amount of Rs. 66,640-2-0 as compared with the corresponding half-year :—

PASSENGERS' TRAFFIC.				TO AND FROM FOREIGN RAILWAYS.			
				Half-year ending December 1897.		Half year ending December 1898.	
				No.	Amount.	No.	Amount.
					Rs. A. P.		Rs. A. P.
Passengers	1st Class	...	...	3,617	29,359 12 2	4,042	25,721 3 1
	2nd Class	...	...	8,157	34,685 6 6	8,670	38,592 1 1
	3rd Class	...	...	363,468	3,35,016 15 0	282,203	2,66,535 2 5
Soldiers	1st Class	...	...	602	4,619 0 9	543	4,854 6 0
	2nd Class	...	...	5,668	24,681 14 0	4,847	16,227 8 1
	3rd Class	...	...	19,743	34,732 9 2	17,312	32,318 12 3
Return Fares	1st Class	...	...	156	1,133 11 0	200	1,950 15 0
	2nd Class	...	...	305	1,297 0 6	414	2,025 4 0
	3rd Class	...	...	4,975	864 9 9	4,691	862 10 4
Excess	1st Class	...	...	...	1,268 0 0	...	1,343 5 0
	2nd Class	...	...	...	189 4 9	...	221 11 6
	3rd Class	...	...	...	212 0 6	...	257 2 10
TOTAL				406,693	4,67,560 3 7	322,862	4,00,920 1 7

Expenditure.

125. The notes against each head of Expenditure in the following table shew, generally, in a comparative form, the work done in each department for each half-year :—

DEPARTMENTS.	HALF-YEAR ENDING DECEMBER 1897.				HALF-YEAR ENDING DECEMBER 1898.			
	Work of Departments.	Cost.	Per cent.		Work of Departments.	Cost.	Per cent.	
ABSTRACT A. Maintenance of Way, Works and Stations ...	Ms. CHS. FT. 1,047 53 0	Rs. A. P. 6,50,530 13 8	11-19		Ms. CHS. FT. 1,047 16 62	Rs. A. P. 7,24,088 14 4	13-92	
ABSTRACT B. Locomotive Expenses ...	Gross mileage of engines, 1,616,892. Number of engines under repair at any one time, 37.	11,06,617 15 8	19-03		Gross mileage of engines, 1,559,578. Number of engines under repair at any one time, 37.	10,83,573 2 4	20-83	
ABSTRACT C. Carriage and Wagon Expenses.	Number of vehicles under repair at any one time, 200. Number constructed and renewed, 73.	3,19,419 10 1	5-49		Number of vehicles under repair at any one time, 167. Number constructed and renewed, 14.	2,41,273 6 6	4-64	
ABSTRACT D. Traffic Expenses	Profitable train mileage, 1,352,633. Number of stations, 161.	4,31,530 4 3	7-42		Profitable train mileage, 1,302,972. Number of stations, 164.	4,41,265 3 2	8-48	
ABSTRACT E. General Charges	Miles 858.	2,89,928 3 1	4-99		Miles 858.	2,79,611 13 9	5-38	
ABSTRACT G. Special and Miscellaneous Expenditure.		49,217 0 8	85			53,016 12 5	1-02	
TOTAL				28,47,272 15 5	TOTAL			

MADRAS RAILWAY COMPANY,
CHIEF AUDITOR'S OFFICE,
MADRAS, 13th March 1899.

To
THE AGENT AND MANAGER,
Madras Railway Company.

DEAR SIR,

I beg to report as follows on the working of the Mysore State Kolar Gold Fields Railway for the half-year ending 31st December 1898:—

CAPITAL.

Statements Nos. V, VI and XVIII.—There was no capital expenditure transferred to final heads during the half-year. The total capital outlay, including suspense, from the commencement of operations to the end of the half-year under review, is Rs. 8,09,538, and the expenditure, excluding suspense, Rs. 7,40,184, which gives an average of Rs. 74,018 per mile open.

REVENUE.

General Results.

The following table shews the general results of working:—

	Half-year ending Dec. 1897.	Half-year ending Dec. 1898.	Difference.	
			Miles.	Per cent.
Mean mileage worked	Miles. 10 19,324	Miles. 10 19,924	+ 600	+ 3.10
Train mileage				
Average number of trains over the whole line daily in both directions	No. 10.50	No. 10.83	+ .33	...
Gross earnings..	Rs. 1,10,000	Rs. 97,965	— 12,035	— 10.94
Working expenses	63,613	69,752	+ 6,139	+ 9.65
Net earnings	46,387	28,213	— 18,174	— 39.18
Percentage of working expenses to gross earnings	57.83	71.20	+ 13.37	...
Percentage of net earnings to capital outlay, including suspense	5.86	3.49	— 2.37	...

The gross earnings per mean mile worked per week averaged Rs. 377 against Rs. 423 and were realized at a cost of 71.20 per cent. against 57.83 per cent. in the corresponding half of the previous year.

The percentage of working expenses to gross earnings for the year 1898 was 59.74 against 56.77 for 1897.

The net earnings amounted to Rs. 28,212-9-11, which gives a return at the rate of 6.97 per cent. per annum on the capital outlay, including suspense.

Gross Earnings.

The following table shews the gross earnings for the two half-years:—

	Half-year ending Dec. 1897.	Half-year ending Dec. 1898.	Difference.	
			Amount.	Per cent.
	Rs.	Rs.	Rs.	Rs.
Coaching	27,166	21,846	— 5,320	— 19.58
Goods	82,619	75,770	— 6,849	— 8.29
Electric Telegraph	89	116	+ 27	+ 30.34
Steam-boat	126	233	+ 107	+ 84.92
Sundries				
Total	1,10,000	97,965	— 12,035	— 10.94

Abstract H.—Coaching Traffic.—The number of passengers of the various classes carried, including Troops and Police and Season tickets, and the earnings therefrom, are as follows:—

	FIRST CLASS.		SECOND CLASS.		THIRD CLASS.		TOTAL.	
	No.	Earnings.	No.	Earnings.	No.	Earnings.	No.	Earnings.
Second half of 1897 ...	1,782	Rs. 702	7,375½	Rs. 1,434	325,605	Rs. 23,647	334,762½	Rs. 25,783
Second half of 1898 ...	1,969	745	8,038	1,470	261,936	18,231	271,943	20,446

The receipts from passengers' luggage amount to Rs. 797.

The earnings under horse, carriage and dog traffic are Rs. 104.

Parcels for the public shew a receipt of Rs. 287.

Abstract I.—Goods Traffic.—The following is a summary of the tonnage of goods lifted and the earnings therefrom, as compared with the corresponding period of 1897:—

	Half-year ending December 1897.		Half-year ending December 1898.	
	Quantity.	Earnings.	Quantity.	Earnings.
	Tons.	Rs.	Tons.	Rs.
Merchandise, General ...	37,042	33,737	35,148	21,027
Military Stores ...	...	...	...	...
Railway materials for construction ...	...	...	99	27
Coal (including Locomotive Revenue) ...	57,147	48,658	89,399	54,112
Revenue Stores (excluding Locomotive Coal) ...	65	15	2,406	408
Other Goods traffic ...	...	208	...	196
	94,254	82,618	127,052	75,770
Less outstandings irrecoverable or not recovered ...	...	...	...	...
Total ..	94,254	82,618	127,052	75,770

The following table shews some of the principal commodities carried during the two half-years:—

	Half-year ending December 1897.		Half-year ending December 1898.	
	Quantity.	Earnings.	Quantity.	Earnings.
	Tons.	Rs.	Tons.	Rs.
Coal ...	57,147	48,658	89,399	54,112
Stone and Lime ...	5,574	4,988	5,544	3,356
Timber ...	22,337	19,593	20,669	11,501

Working Expenses.

The Kolar Gold Fields Railway is worked by the Madras Railway Company, and the charge to the Mysore Durbar therefor is ascertained in the manner set forth in the foot-note to Statement No. 8 of the printed accounts.

Statistics.

The usual statements accompany this report for the information of the Durbar.

Yours faithfully,

F. DUNSTERVILLE,

Chief Auditor.

MADRAS RAILWAY COMPANY,

CHIEF AUDITOR'S OFFICE,

MADRAS, 13th March 1899.

To

THE AGENT AND MANAGER,

Madras Railway Company.

DEAR SIR,

I beg to report as follows on the working of the Madras-Eenur section of the Bezwada-Madras Railway for the half-year ending 31st December 1898:—

CAPITAL.

Statements Nos. V, VI and XVIII.—There has been no capital expenditure during the half-year. The total capital outlay (excluding capitalization of abatement of land revenue) from the commencement of operations to the end of the half-year under review is Rs. 5,99,149-15-4, which gives an average of Rs. 70,905 per mile open.

REVENUE.

General Results.

The following table shews the general results of working:—

	Half-year ending December 1897.	Half-year ending December 1898.	Difference.	
	Miles.	Miles.	Miles.	Per cent.
Mean mileage worked ...	8.45	8.45	...	...
Train-mileage ...	14,657	12,064	— 2,593	— 17.69
	No.	No.	No.	
Average number of trains over the whole line daily in both directions...	9.43	7.76	— 1.67	...
	Rs.	Rs.	Rs.	Rs.
Gross Earnings ...	29,291	17,857	— 11,434	— 39.04
Working Expenses ...	20,460	12,366	— 8,094	— 39.56
Net Earnings ...	8,831	5,491	— 3,340	— 37.82
Percentage of Working Expenses to Gross Earnings ...	69.85	69.25	— .60	...
Percentage of Net Earnings to Capital Outlay, including Suspense ...	1.49	.92	— .57	...

The Gross Earnings per mean mile worked per week averaged Rupees 81 against Rupees 133 and were realized at a cost of 69.25 per cent. against 69.85 per cent. in the corresponding half of the previous year.

The percentage of Working Expenses to Gross Earnings for the year 1898 was 58.07 against 63.20 for 1897.

The Net Earnings amounted to Rs. 5,490-10-9, which gives a return of 1.83 per cent. per annum on the total capital outlay including suspense.

Gross Earnings.

The following table shows the Gross Earnings for the half-year under review:—

	Half-year ending December 1897.	Half-year ending December 1898.	DIFFERENCE.	
			Amount.	Per cent.
	Rs.	Rs.	Rs.	Rs.
Coaching	16,963	15,310	- 1,653	- 9.74
Goods	12,215	2,461	- 9,754	- 79.85
Electric Telegraph	15	24	+ 9	+ 60.00
Steam-boat	98	62	- 36	- 36.73
Sundries	...	...	...	...
Total ...	29,291	17,857	- 11,434	- 39.04

Abstract H.—Coaching Traffic.—The number of passengers of the various classes carried including troops and police and season tickets, and the earnings therefrom, are as follows:—

	FIRST CLASS.		SECOND CLASS.		THIRD CLASS.		TOTAL.	
	No.	Earnings.	No.	Earnings.	No.	Earnings.	No.	Earnings.
		Rs.		Rs.		Rs.		Rs.
Second half of 1897 ...	699½	255	1,675	327	263,853½	15,788	266,228	16,370
Second half of 1898 ...	767	334	1,323	300	235,890½	14,013	237,980½	14,647

The receipts from passengers' luggage amount to Rs. 607.

The earnings under Horse, Carriage and Dog traffic are Rs. 21.

Parcels for the Public shew a receipt of Rs. 14.

Abstract I.—Goods Traffic.—The following is a summary of the tonnage of goods lifted and the earnings therefrom, as compared with the corresponding period of 1897:—

	HALF-YEAR ENDING DECEMBER 1897.		HALF-YEAR ENDING DECEMBER 1898.	
	Quantity.	Earnings.	Quantity.	Earnings.
	Tons.	Rs.	Tons.	Rs.
Merchandise, General	22,983	11,606	3,358	2,251
Military Stores	...	...	...	...
Railway materials for construction	66	15	...	...
Coal (including Locomotive Revenue)	8	4	505	183
Revenue Stores (including Locomotive Coal)	4,389	399	223	25
Other Goods Traffic	...	191	...	1
Less—Outstandings irrecoverable or not recovered ...	27,446	12,215	4,086	2,460
Total ...	27,446	12,215	4,086	2,460

The following table shews some of the principal commodities carried during the two half-years:—

	Half-year ending December 1897.		Half year ending December 1898.	
	Quantity.	Earnings.	Quantity.	Earnings.
	Tons.	Rs.	Tons.	Rs.
Metals—				
Iron	9,811	4,640	702	420
By Plant, &c.—				
Rails and Fish Plates	3,127	2,969	1,362	1,197
Timber	3,411	1,679	97	43

Working Expenses.

The working arrangement is embodied in letter, No. 159, dated 23th February 1896, addressed by you to the Consulting Engineer for Railways, Madras, the chief provisions being that the actual expenditure incurred upon the maintenance and renewal of way, works and stations shall be charged, other expenses to be calculated at the same percentage of the gross earnings of the State line as shall in each half-year be found to represent the percentage of working expenses (exclusive of maintenance and renewal of way, works and stations) on gross earnings of the amalgamated undertaking. Five per cent. of gross earnings of the State line to be paid to Madras Railway for use of rolling stock.

The following figures are taken from the printed accounts:—

	Rs.	A.	P.
Actual outlay on maintenance of way, works and stations...	4,223	7	8
Percentage expenses under other Abstract heads	7,249	14	5
Hire of rolling-stock, &c.	892	13	6

The actual outlay on engineering maintenance, Rs. 4,223, is equal to 23.65 per cent. of the gross receipts, as compared with 13.84 per cent. on the Madras Railway.

The sum of Rs. 7,250 paid to Madras Railway Company for charges under other Abstract heads of expenditure is equal to a payment of Rs. 0-9-7 on each of the 12,064 train miles run over the Madras-Ennur line, while the actual expenditure incurred by the Madras Railway under those heads of expenditure on the whole undertaking amounted to Rs. 1-9-8 per train-mile.

Yours faithfully,

F. DUNSTERVILLE,

Chief Auditor.

No. 301.

MADRAS RAILWAY COMPANY,
MEDICAL OFFICER'S OFFICE,
RAYAPURAM, 3rd March 1899.

To

THE AGENT AND MANAGER.

Madras Railway.

SIR,

I have the honor to forward you my report on the health of the Company's employés and on the conservancy of stations on both lines for the half-year ending 31st December 1898.

2. 3,003 admission sick certificates were granted during the half-year, as against 5,794 issued in the corresponding half of last year. I must explain that it was formerly the practice for some Apothecaries to include in their returns the cases of out-patients, *i.e.*, those receiving medicine while remaining at duty, but such cases are not now included in my half-yearly report, and that circumstance partly accounts for the large diminution of 2,791 in the cases treated during the half-year under review, compared with last year.

3. *Mortality.*—The number of deaths amongst the Company's employés during the half-year reported to me is 27, and this number includes only those who were being treated by the Company's staff at the time of their decease. No doubt there are others, mostly of the menial class, who go away in serious sickness to their villages to be among their relations, some of whom are never again seen or heard of, and no record can be obtained of the mortality amongst that class. The causes of death were various, the chief one being cholera of which there were six cases. There appear to me to be two noteworthy points in the mortality list *viz.*, no case of mortality from small-pox and only one from malarial fever. There were no less than 1,265 admissions for malarial fever during the half-year, with only one death, and considering that it is malarial fever that contributes so heavily to swell the death roll of Indian towns and villages, it is some satisfaction to me to be able to draw your attention to the solitary instance of mortality, out of 1,265 cases, on the Company's line, and to suggest that this happy record is largely owing to the skill and devotion to patients, which the Apothecary staff exercise in the conduct of their cases. The other circumstance to which I invite your kind notice is the absence of any mortality from small-pox during the half-year, and it has been my privilege, for several successive half-years, to record the same pleasing event. The number of cases of small-pox during each half-year is always small, and the cases are invariably of a benign type, and these circumstances are no doubt to be attributed to the strict manner in which the Company insists that every employé in their service, and every woman and child living on their premises, shall be vaccinated against small-pox. Employés to their credit recognise the beneficent character of the Company's vaccination rules, and not one of those misguided persons called "conscientious objectors," so numerous in some enlightened English towns, are to be found on the Madras Railway.

4. *Cholera.*—There have been thirteen cases of cholera amongst employés during the half-year, five of them at Renigunta, the only town on the line where the disease may be said to have been epidemic. The remaining eight cases were scattered over the line, each one at a different station.

5. *Plague.*—This epidemic had been raging in Bombay, and on the Great Indian Peninsula and Southern Mahratta Railways, for about two years before it invaded any station on the Madras Railway. Unhappily it appeared at Bangalore City Station, obviously imported from

some station on the Southern Mahratta Railway, in the beginning of September 1898. Several employes and members of their families were attacked, both at the Bangalore City and Cantonment Stations, but beyond these few instances no case of plague has occurred at any other station on the Railway. It has only as yet touched the fringe of the Company's system, and it is to be hoped that the active disinfecting measures which the Company's Apothecaries in the infected area are carrying out will prevent any further invasion of Railway premises. Employes on the Bangalore Branch came forward eagerly to be inoculated against plague when the disease was threatening their stations, but at other stations, remote from the infected district, the staff, for various reasons, put off the operation. If the epidemic unfortunately reaches their doors, they, in their turn, will, I am sure, immediately apply for the undoubted benefits of inoculation. I obtained some statistics a few weeks ago at Malur, a village on the Bangalore Branch of the Railway, which show its unquestionable efficacy against plague, and I think they are worth recording. They correspond, I may say, with statistics obtained as to the efficacy of inoculation from all other districts where the operation is practised, and they are perfectly reliable and accurate.

Malur population	...	...	...	...	3,180
Persons inoculated	...	...	...	...	377
Do. uninoculated	...	...	...	...	2,803
Attacks among inoculated	...	...	...	...	4 = 1.06%
Do. uninoculated	...	...	...	...	228 = 8%

If the inoculated had been attacked at the same rate as the uninoculated, 30 should have been seized, but only 4 were.

Of the 4 inoculated persons attacked none died, all recovered.

Of the 228 uninoculated attacked 198 died = 87%.

If the inoculated had died at the same rate as the uninoculated, 3½ of them should have died, but they all recovered.

6. *Quarantine.*—It was found necessary during the half-year to place 18 persons in quarantine at an expenditure in wages of Rs. 148-13-10, on account of the appearance of small-pox in their houses, and one person through plague having appeared in his home, the latter drawing Rs. 19-13-0.

7. *Staff.*—The medical and conservancy staff have, as a rule, acquitted themselves in the discharge of their duties to my complete satisfaction.

8. I have inspected all the dispensaries and conservancy arrangements on the line and found the same in good order.

I have the honor to be,

Sir,

Your most obedient servant,

J. CURRIE,
Medical Officer,
Madras Railway.

Comparative statement of cases treated during the half-years ending 31st December 1897 and 31st December 1898.

Date.	Small-pox.	Measles.	Influenza.	Plague.	Simple Fever.	Malarial Fever.	Remittent Fever.	Cholera.	Choleraic Diarrhoea.	Dysentery.	Diarrhoea.	Accidents and other diseases.	Total Treated.
1897.													
July ...	1	...	...	...	22	226	3	2	...	33	57	514	858
August ...	...	...	...	...	26	296	...	5	...	44	77	503	951
September ...	...	...	...	...	47	373	2	9	...	52	69	478	1,030
October ...	...	...	...	...	38	455	...	3	...	38	44	514	1,092
November ...	...	...	...	...	33	403	...	1	...	36	47	479	999
December ...	1	...	...	...	34	327	2	...	...	20	30	450	864
Grand Total ...	2	...	...	...	200	2,080	7	20	...	223	324	2,938	5,794
1898.													
July ...	...	...	1	5	9	191	1	1	...	24	39	178	440
August ...	...	...	...	4	24	233	...	2	...	36	41	244	584
September ...	...	...	2	3	21	214	1	2	...	24	25	172	464
October ...	...	...	2	2	22	217	1	1	...	21	23	204	493
November ...	...	...	1	5	14	219	...	4	...	28	23	269	567
December ...	...	...	...	2	13	191	...	3	...	18	30	189	416
Grand Total ...	5	1	21	4	103	1,265	3	13	...	151	181	1,256	3,003

Return of vaccination for the half-year ending 31st December 1898.

No. vaccinated.	Traffic Department.				Locomotive Department.				Engineer Department.			
	Sex.				Sex.				Sex.			
	Children.				Children.				Children.			
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
770	1	...	44	...	1	1	...	...	708	15	...	...

MADRAS RAILWAY COMPANY,
LOCOMOTIVE SUPERINTENDENT'S OFFICE,
Perambur Works, 22nd March 1899.

L. S. MOSS Esq.,
Agent and Manager,
Madras Railway.

SIR,

1. I have the honour to submit my report upon the working of the Locomotive, and Carriage and Wagon Departments, for the half-year ending 31st December 1898.

2. A tabular statement is attached, shewing the expenditure in detail, under each of the several sub-heads of account, as compared with similar figures for the previous and corresponding periods, the general totals as shewn in this statement being as follows:—

Half-year ending.	Mileage.	Total cost of Department including all charges.			Total cost per mile.		
		Rs.	As.	P.	Rs.	As.	P.
December 1897	1,616,892	13,90,471	5	7	0	13	9.11
June 1898	1,551,560	11,87,290	3	5	0	12	2.92
December 1898	1,559,578	12,90,399	14	6	0	13	2.86

3. From a comparison of the figures, the final results of the half-years' working will be found to be—

	Half-year ending 31st December 1898 compared with:—	
	Preceding half-year.	Corresponding half-year.
Miles run	Per cent. Increase 0.52	Per cent. Decrease 3.54
Total cost of Department, including working and repairs of engines, and vehicles, together with loss by exchange, carriage of Revenue Stores, &c.	Increase 8.68	Decrease 7.20
Total cost as above, per mile	Increase 8.13	Decrease 3.79.

which, bearing all the facts in mind, may be said to be fairly satisfactory.

4. A reduction in the mileage worked of 57,314 miles has occurred, and although a corresponding decline in the gross cost of working must necessarily therefore be looked for, there are certain fixed, and non-fluctuating, charges which cannot follow fluctuations in mileage, the effect of which is ordinarily, and as they are distributed over a shorter mileage, to bring about a correspondingly higher gross mileage rate.

5. It is satisfactory therefore to note that, in the half-year in question, the contrary has resulted, and that the gross cost per mile of working has, as a matter of fact, decreased to a greater degree, than has the total mileage run, or rather the total work done, the figures being—

Gross cost of working per mile Decrease 3.79 per cent.
Mileage run Decrease 3.54 per cent.

Locomotive Engines: Running.

6. In wages and salaries a reduction is seen under each head, the wages of Drivers and Firemen having fallen by 4.6 per cent., while the total wages of the Running Staff is 3.9 per cent. less than during the corresponding half year.

7. In Fuel there is, I am sorry to say, an increase more or less all round, and this increase may be attributed to several causes.

8. With regard to the Coal, the increase in total consumption per mile amounts to .68 lbs. the cost being enhanced by pies .58, and in explanation of this, I would refer to the unfortunate fire that broke out in the coal stacks at Raichur in May 1898.

9. As is recorded in correspondence, a total quantity of 822 tons of coal was destroyed in this fire, the value of this having been written off against the Fire Insurance Fund. You will however probably remember, I mentioned at the Official Meeting in July, when the matter was discussed, that considerable damage had also been done to the rest of the coal in the stacks, which had been on fire, and from the consumption sheets of the Engines which had been using the burnt, or rather scorched, coal, I estimated that it had deteriorated by probably 15 per cent. (Subsequent experience shewed that the more correct figure was probably 30 per cent.)

10. I suggested that a further debit should be passed to the Fire Insurance Fund on its account, but it was held that this could not be done, and the coal has therefore been used up as it was, and without allowance.

11. Undamaged coal was issued to all Mail train Engines, the damaged coal being used entirely on the Goods, and Mixed trains. The total quantity so scorched was about 1,855 tons, and as the greater part of this was issued during the half year under reference, this fact will more than account for the increase in the total consumption per mile, appearing in the statement. The increase in the cost, is of course due to the increase in the quantity burnt.

12. There still remained at the close of the half-year, a balance of about 680 tons of the burnt coal which had not then been used, but which is still being issued to all Goods and Mixed trains on the Division. Owing however to the cancelment of the second Mixed train, between Gooty and Raichur, the number of Engines using this coal is reduced, and the coal is therefore lasting longer, but I am hoping that, in any case, before the windy season begins, it will all be gone; if not, arrangements will have to be made to eke it out with a larger proportion of good coal.

13. The increase, both in quantity burnt, and cost per mile, under wood is somewhat larger, and in explanation of this I would cite, in the first place, the following figures:—

	Half-year ending December 1898.	Half-year ending December 1897.	Increase per cent.
Total number of vehicles in a Goods train. } Tons.	28.44	27.40	3.80
Average load of a loaded Goods vehicle. } "	6.15	6.07	1.32
Average weight of a Goods train. } "	373.03	367.12	1.61

from which it will be observed, that an appreciable increase in the weight of the trains handled has to be allowed for, and since the greater part of this extra loading has, it is understood, been upon the heavy coal trains working over the Ghant, and Jalarpet and Bangalore Division, where wood is exclusively used, the effect is naturally felt upon the wood mileage consumption.

14. An immense amount of trouble has been experienced for many months past, in regard to the wood supply, both at Jalarpet, and on the Western Coast.

15. On the Jalarpet District, partly due to the plague, and partly to other reasons, there has been the greatest difficulty in keeping up the supplies, and for months we have been living, so to speak, entirely from hand to mouth. On two or three occasions, the stocks ran down to under a fortnight's consumption, and it was only by taking the most vigorous, and prompt action with the Contractors, that I succeeded in staving off a wood famine.

16. The result of course has been that, not only have we been obliged, in order to keep things going, to accept inferior wood, which had the stocks been larger would have been rejected, but the wood that has come in has perforce had to be burnt green and wet, and as a consequence, in order to maintain steam, the Engines have had to be "flogged," which in its turn has meant considerable waste of fuel.

17. On the West Coast again, due in some measure to the abnormally heavy monsoon, and also to the extension in the use of wood fuel, in Mills and other Factories, which have been established in the Coimbatore and Palghat Districts, and to which reference has been made in previous reports, the supplies have been falling off continually.

18. The Contractors have over and over again demanded increases in their rates, and as the Government Forest Department have never been able to help us, in the matter of the wood supplies in Malabar, it has been a difficult matter to stand against the demands made.

19. Practically the whole of our supplies, on this District, are drawn from the jungles between Podanur and a little west of Olavakkot, and we have never been able to get wood, in any quantity, although several attempts to do this have been from time to time made, on the West Coast itself.

20. In December 1897 I succeeded in getting an offer for a large quantity of wood fuel, which was to be delivered by the back water at Kadalundi, and Ferok, and I hoped by this that I had succeeded in at last tapping a fresh source of supply. Unfortunately however, after a few months working, the quality of the back water wood became so bad, that a very large quantity of it had to be rejected, and the final outcome was that in the new contracts, which were entered into in December 1898, increased rates have had to be given. The new contracts are now working fairly well, and, although the wood, now coming in, is costing more, it is of first rate quality.

21. Although, upon the western half of the S. W. Line, wood fuel will probably, for some years to come, still continue to be used, the opening of the Bezwada-Madras Railway has rendered it possible to bring coal into Madras at a rate, which will enable it to finally oust wood elsewhere. Under the existing arrangements with the Government Forest Department, and with the Native Wood Contractors, we shall have to continue the use of wood on a part of the Jalarpet Division for some few months still, but I am arranging to introduce Singareni coal entirely, on the Arkonam-Nundalur District at once, and will also, so soon as the necessary alterations can be made in the engines, and stocks of coal can be worked up, substitute coal for wood between Jalarpet and Bangalore.

22. A series of trials was conducted during January and February last, to arrive at the relative value, of sea-borne coal from the Gourangdhi Field, and rail-borne Singareni coal, delivered over the B. M. Railway direct from the Mines.

23. The result of these trials is reported in my letter No. B. 2718/210 dated 1st March 1899, to your address, and they seem to shew that the quality of the two fuels is, for locomotive purposes, as nearly as possible similar.

24. It is hoped that the outcome of the new coal contract which has now been entered into, will be a very considerable reduction in the fuel bill in future half years.

25. Under Oil, Tallow, and Waste a slight increase occurs, which is fully accounted for by the still abnormally high price of castor oil.

26. So far as possible, mineral oils of different kinds have been substituted for castor oil, but it seems to be a very difficult thing to ensure that the supplies of these mineral oils shall be of an equable quality.

27. The Vacuum Oil Company, who have a practical monopoly of, at any rate, the Indian Mineral Oil Market, introduces from time to time, with a more or less loud flourish of trumpets, new brands of oil, each and all of which is, when produced, said to be superior to all its predecessors, but, so far as my own experience goes, they all seem to suffer from the same complaint, and each and all sooner or later merges into a more or less, generally a good deal more, unsatisfactory lubricant.

28. Our present brand of Mineral Oil is known as Crank Case Oil, and, as being now delivered, is better than the later shipments of Engine Axle Oil, which it succeeded.

29. So long as Castor Oil maintains its present very high market price, the use of a cheaper oil, for wagon and other stock so far as possible, is compulsory, but there is absolutely no question but that if Castor Oil could only be obtained at a fair price, it is infinitely superior for use in this country to any other oil, whether vegetable, or mineral.

Locomotive Engines : Repairs.

30. A saving in Wages, amounting to Rs. 10,509, is found under this head, and, although the total cost of repairs is Rs. 6,447 greater, than the expenditure for the corresponding half-year, the excess is entirely in Materials.

31. During the half-year, 30 engines passed through the Shops, as compared with 31 during the second half of 1897. It had been hoped that two of the new K. C.₂ engines which are under order, would have arrived in India in time to have allowed of their being charged off, during the half-year, but owing to a question that had arisen, as to certain alterations which were thought advisable in the design, their construction was delayed, and the engines have not yet been received.

32. It was found necessary to issue from Stores a larger quantity of material than usual, the following being the chief items :—

	Rs.
Four new locomotive boilers	31,998
Boiler plates, iron and copper	11,135
Boiler tubes, chiefly copper, to replace red metal tubes in the K. C. ₂ and other engines.	45,162
Engine tyres	10,327

33. The necessity for replacing the red metal tubes with tubes of other material, has formed the subject of correspondence, and, until the whole of these are replaced, I fear a somewhat heavy expenditure under this head must be looked for. The new boilers, and the remainder of the boiler material, have been issued to the older engines, of chiefly the K. A. and K. B.₂ Classes, many of which having now been running since 1877, must be expected to require heavy repairs.

34. The total expenditure upon Engines, Repairs, and Running is, it will be seen, Rs. 1,917 less than the amount for the corresponding term.

Carriages and Wagons : Running.

35. Special remark does not seem to be necessary under this head, although it is noted that there is a reduction under both Material and Wages, the cost per mile, during the half-year, being less by 5.77 per cent. than that during the half-year with which comparison is being made.

Carriages and Wagons : Repairs.

36. 2,620 vehicles were dealt with in the shops during the half-year, as compared with 3,017, which passed through during the second half of the previous year.

37. The last 12 of the Wooden Covered Goods Wagons, and one Low-Sided Wagon, were built, at the cost of Revenue, and the first of the three 58-foot bogie carriages, being built at the cost of Capital, was further completed, and handed over for use on the S. W. Line Mails between Madras and Bangalore.

38. The remaining two carriages are well in hand, and one of them at any rate will, I anticipate, be finished in time for the Easter traffic. The one Carriage that is running is, I believe, much appreciated by the travelling public, many of whom, as it runs of course on alternate days only, time their journeys so as to travel in it, in preference to the ordinary four-wheeled Carriages.

39. Sanction was given for the construction of 46 third class carriages, for which the Traffic Department had applied, as well as for the renewal of some 20 of the Engineering Department Ballast Wagons, in the form of Rail Trucks; but, owing to the proposition that has been put forward by the Consulting Engineer, with regard to the conversion of the gauge of the West Coast District, work upon both these sanctions has been postponed, and it was fortunate therefore that the construction of the Carriage Stock for the B. M. Railway so fitted in, as to have allowed of the utilization of the Carriage Building Shops upon it.

40. Had this not been so, it would have been necessary to temporarily largely reduce hands, pending the settlement of the West Coast Conversion question, and this I should have been most loth to do, since experienced Carriage builders cannot be picked up when wanted, and the body of men whom we have trained from their boyhood in the Workshops, if once dispersed, could probably never have been got together again.

41. The total amount spent under Carriages and Wagons Repairs is Rs. 64,298 less than that for the corresponding half-year, and, since the renewal of the whole of the old 8-ton wagon stock has now been completed, the expenditure under this head is not likely to again vary much.

Staff.

42. Mr. Pilkington, the Deputy Loco. Superintendent, was granted 3 months' privilege leave, from July 1898.

43. Mr. H. J. Stanley, 1st Assistant Loco. Superintendent, was granted furlough for 16 months, and left for England on the 3rd November 1898.

44. Mr. E. Outon, Lathe Shop Foreman, who, as recorded in my last half-year's report, was granted 6 months' leave, returned to duty on the 21st October 1898.

45. Covenanted Drivers Howard, and Malthouse, who were engaged by the Board on agreements for 3 years, arrived in India, and reported themselves for duty on the 5th December last.

46. Mr. O. Horrocks, who had been in the Company's service since August 1864, resigned his appointment at the close of the year. Mr. Horrocks was granted leave for two months during November and December and finally made over charge, and retired, on the 31st December 1898. In consideration of his long and faithful service, a special recommendation has been submitted in his behalf, for a gratuity of 12 months' pay of which, as advised, the Board have been good enough to approve.

I have the honour to be,

Sir,

Your most obedient servant,

C. E. PHIPPS,

Locomotive Superintendent.

MADRAS

RAILWAY.

Abstract of Expenditure for working and maintaining Locomotive Engines, Carriages and Wagons for the Half-year ending 31st December 1898.
LOCOMOTIVE DEPARTMENT.

HALF-YEAR ENDING	Total Engine Miles worked.	LOCOMOTIVE ENGINES—Running.																								Total Cost.	Cost per Mile.																	
		WAGES AND SALARIES.												COAL AND PATENT FUEL.								FIREWOOD.								Average Cost per Mile of Coal, Patent Fuel and Fire- wood.		OIL, TALLOW, WASTE, &c.												
		Drivers and Firemen.				Cleaners, Water and Fuel Coolies.				Total.				Cost per Mile.		Total Consumption.				Per Mile.				Total Consumption.						Per Mile.		Actual Cost.	Cost per Mile.											
		Quantity.		Cost.		Quantity.		Cost.		Quantity.		Cost.		Quantity.		Cost.		Quantity.		Cost.		Quantity.	Cost.																					
		RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.			P.	RS.					A.	P.	RS.	A.	P.	RS.	A.	P.							
Dec. 1897	1,616,892	1,48,726	0	7	41,628	6	10	1,90,354	7	5	0	1	10.60	368,566	2,54,073	8	9	49.59	0	4	10.60	100,631,750	2,13,842	7	6	128.29	0	4	4.34	0	4	7.56	32,981	11	1	0	0	3.92	6,91,252	2	9	0	6	10.08
June 1898	1,551,560	1,43,660	0	2	41,155	0	8	1,84,815	0	10	0	1	10.87	362,375	2,41,618	5	0	49.26	0	4	8.99	92,202,525	1,95,930	5	10	126.72	0	4	3.70	0	4	6.52	36,842	11	4	0	0	4.56	6,62,206	7	0	0	6	9.95
Dec. 1898	1,559,578	1,41,943	10	1	41,065	7	8	1,83,009	1	9	0	1	10.53	379,972	2,60,909	3	5	50.27	0	4	11.18	99,812,950	2,12,102	8	3	139.99	0	4	9.11	0	4	10.23	34,380	7	10	0	0	4.23	6,90,401	5	3	0	7	0.99

LOCOMOTIVE ENGINES—Gross Cost of Running																							
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

LOCOMOTIVE ENGINES—Gross Cost of Running and Repairs.

HALF-YEAR ENDING	Total Engine Miles worked.	LOCOMOTIVE ENGINES—Repairs.												Running, Total Cost.	Repairs, Total Cost.	Proportion of Supervision and Office Expenses.	Total Cost.	Deduct for K. G. F. Ry., Madras-Ennur Ry. and Fire In- surance Fund.	Nett Total.	Cost per Mile.													
		Cost of						Total Cost.	Cost per Mile.																								
		Material.		Wages of Work- men.		Total Cost.																											
		RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.		RS.	A.	P.	RS.	A.	P.	RS.	A.	P.		RS.	A.	P.						
Dec. 1897	...	1,616,892	1,28,546	0	1	1,38,035	5	10	2,66,581	5	11	0	2	7.66	6,91,252	2,66,581	5	11	66,341	9	2	10,24,175	1	10	27,531	0	7	9,96,641	1	3	0	9	10.35
June 1898	...	1,551,560	74,672	5	5	1,21,287	5	5	1,95,959	10	10	0	2	0.25	6,62,206	1,95,959	10	10	71,008	15	2	9,29,175	1	0	22,846	11	8	9,06,328	2	4	0	9	4.15
Dec. 1898	...	1,559,578	1,45,501	1	4	1,27,526	14	8	2,73,028	0	0	0	2	9.61	6,90,401	2,73,028	0	0	71,875	7	7	10,35,304	12	10	40,580	8	0	9,94,724	4	10	0	10	2.46

Figures in red show actual expenses after deducting value of two locomotive engines replaced at cost of Revenue in the corresponding half-year.

CARRIAGE AND WAGON DEPARTMENT.

CARRIAGE AND WAGON DEPARTMENT.																																															
CARRIAGES AND WAGONS—Gross Cost of Running and Repairs.																																															
HALF-YEAR ENDING	Total Engine Miles worked.	CARRIAGES AND WAGONS—Running.												Repairs.																																	
		CARRIAGES AND WAGONS—												Cost per Mile.	Running, Total Cost.	Repairs, Total Cost.	Proportion of Supervision and Office Expenses.	Total.	Deduct for K. G. F. Ry., Madras-Ennur Ry. and Fire Insurance Fund.	Nett Total.	Cost per Mile.																										
		Cost of						Total Cost.														Cost of						Total Cost.																			
Material.						Wages of Workmen.						Total Cost.						Material.						Wages of Workmen.						Total Cost.																	
RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.																					
Dec. 1897 ...	1,616,892	17,885	10	3	20,102	0	5	37,987	10	8	0	0	4.51	1,38,299	14	8	97,716	2	6	2,36,016	1	1	2	0	2	4.03	37,987	10	8	2,36,016	1	1	19,816	5	7	2,93,820	1	5	8,061	3	7	2,85,758	13	10	0	2	9.93
June 1898 ...	1,551,560	17,482	4	4	20,248	5	2	37,730	9	6	0	0	4.67	88,956	8	3	73,685	13	0	1,62,672	5	8	3	0	1	8.13	37,730	9	6	1,62,672	5	8	22,423	14	0	2,22,826	12	9	5,405	8	4	2,17,421	4	5	0	2	2.91
Dec. 1898 ...	1,559,578	14,831	1	10	19,756	12	10	34,587	14	8	0	0	4.25	96,052	2	2	75,665	13	4	1,71,717	15	6	6	0	1	9.14	34,587	14	8	1,71,717	15	6	17,968	13	11	2,24,274	12	1	6,215	4	10	2,18,059	7	3	0	2	2.84

and Carriage and Wagon Department.

SUMMARY—Total Gross Cost of Working the Locomotive and Carriage and Wagon Department.

HALF-YEAR ENDING	Locomotives, Total Cost.			Carriages & Wagons, Total Cost.			Total Cost.
	RS.	A.	P.	RS.	A.	P.	
December 1897	9,96,641	1	3	2,85,758	13	10	12,82,399
June 1898	9,06,328	2	4	2,17,421	4	5	11,23,749
December 1898	9,94,724	4	10	2,18,059	7	3	12,12,783

Cost per Mile.	Loss by Exchange and Carriage of Revenue Stores.			Final Total Cost of Working.			Final Total Cost per Mile.		
	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.
1	0	12	8.28	1,08,071	6	6	13,90,471	5	7
2	0	12	1.84	87,231	2	6	13,15,437	4	11
3	0	11	7.06	63,540	12	8	11,87,290	3	5
4	0	12	5.30	77,616	2	5	12,90,399	14	6

C. E. PHIPPS,

Locomotive Superintendent.

No. 8806/615.

MADRAS RAILWAY COMPANY,
TELEGRAPH ENGINEER'S OFFICE,
ARCONAM, 21th February 1899.

THE AGENT AND MANAGER,
Madras Railway.

DEAR SIR,

REPORT FOR THE HALF-YEAR ENDING 31st DECEMBER 1898.

I beg to submit my report for the half-year ending 31st December 1898.

OFFICES AND FITTINGS.

Telegraph instruments, fittings, &c., were shifted and refixed at the following stations in consequence of alterations to station buildings by the Engineering Department:—

Ambattur.
Oorgaum.
Tirur.
Koduru.
Razampeta.

Needle and block instruments were fixed at the undermentioned stations on the Nilgiri Mountain Railway and brought into use on the 1st October 1898:—

Mettupalaiyam.
Kullar.
Adderley.
Hill Grove.
Runnymede.
Coonoor.

The block instruments and the telephones were transferred from the wooden bunk into the new block cabin at Rayapuram.

Tangal Station on the Ennur Line was closed and the needle instrument there transferred to Korukkupett, which was re-opened.

ELECTRIC STARTING SEMAPHORES.

The Electric Starting Semaphores at the undermentioned stations were renewed:—

South-West Line.

Arcot ... Down.
Tiruvallam ... Up.
Lakkiti ... Down.
Ottapalam ... Down.

North-West Line.

Kamalapuram ... Down.
Rayalcheru ... Up.
Tungabhadra ... Down.

The levers of the undermentioned Electric Starting Semaphores were shifted into new pits owing to alterations of station buildings:—

Erode Down.
Olavakkot Up.

The terminal post of the Up Electric Semaphore at Feroke was renewed.

*Comparative statement of percentage of semaphore failures for the half-year ending
31st December 1898.*

	Half-year ending 31st December 1897.	Half-year ending 31st December 1898.
Total number of semaphore operations (not including those for ballast and locomotive wood trains)	154,364	146,907
Number of failures—		
(a) Due to Station Staff	89	55
(b) Due to faults in apparatus caused by lightning and interference without Inspector's knowledge ...	36	41
(c) Due to faults in apparatus	98	99
Total ...	223	195
Percentage of failures to number of operations	0.14	0.13

LINE WORK.

Telegraph alignments at the undermentioned stations were altered:—

Buddireddipatti.
Mettupalaiyam.
Nandalur.

The office standard at Bangalore City was shifted and cross-over wires were altered to enable the Engineering Department to erect covering over the passenger platform at that station.

A telegraph post was erected and wires raised at Mulanur in order to prevent the water coolies interfering with them.

Telegraph rail posts at $\frac{25}{9, 10 \& 11}$ near Trivellore were lengthened and wires raised to enable the Engineering Department to extend ballast siding.

Telegraph posts $\frac{257}{4 \& 8}$ were shifted to enable the Engineering Department to carry out the alteration to locomotive sidings at Gooty.

Insulators on No. 2 needle circuit were renewed between Salem and Podanur.

Time signal wires which were led to the old telegraph workshops were dismantled and new wires erected from 43/3 mile to the new telegraph workshops at Arkonam.

The following telegraph posts were renewed:—

South-West Line, $\frac{336}{3}$, $\frac{348}{11}$, $\frac{365}{13}$, & $\frac{387}{1}$.

Nilgiri Branch, $\frac{306}{2}$ & $\frac{310}{20}$.

Lakkiti Station yard, 1 post.

North-West Line, $\frac{110}{8}$, $\frac{167}{1}$, $\frac{168}{1 \& 13}$, $\frac{169}{1 \& 11}$, $\frac{173}{10}$, $\frac{176}{8 \& 9}$, $\frac{178}{4}$, $\frac{179}{3 \& 10}$, $\frac{183}{4 \& 5}$, $\frac{191}{4 \& 15}$, $\frac{193}{13}$, $\frac{194}{4}$, $\frac{196}{7}$, $\frac{199}{15}$,
 $\frac{202}{11}$, $\frac{204}{10 \& 12}$, $\frac{205}{9}$, $\frac{207}{7 \& 12}$ & $\frac{227}{5 \& 11}$.

LIGHTNING CONDUCTORS.

A lightning conductor with finial was erected on the Locomotive Foreman's bungalow at Nandalur.

BELL CIRCUIT.

The gate bell fixed in the station bunk was shifted to the adjacent Gateman's bunk at Veyasarpady.

The following are comparative statements of interruptions on the telegraph and block circuits:—

INTERRUPTIONS ON TELEGRAPH LINES.

	Interruptions caused by the neglect and carelessness of Signallers.	Accidental interruptions.	Total.
Half-year ending 31st December 1898 ...	8	39	47
Half-year ending 31st December 1897 ...	1	48	49

Of the accidental interruptions—

14 were due to instrumental faults.

12 „ „ to line faults.

8 „ „ to unknown causes.

3 „ „ to weak signals.

2 „ „ to battery faults.

INTERRUPTIONS OF BLOCK SECTIONS.

	Miles open.	No. of Circuits.	Interruptions caused by the neglect and careless- ness of Signallers.	Accidental interrup- tions.	Total.
Half-year ending 31st December 1898...	874½	131	17	82	99
Half-year ending 31st December 1897...	857½	126	12	66	78

Of the accidental interruptions—

35 were due to instrumental faults.

13 „ „ to line faults.

4 „ „ to battery faults.

30 „ „ to lightning.

INTERCOMMUNICATION.

The undermentioned vehicles were fitted with electrical intercommunication appliances at Perambur Works:—

	Vehicles newly fitted.	Vehicles refitted.
Bogie composite	1	...
Covered goods	12	6
Third-class carriages	...	34
First-class carriages	...	7
Engines	...	12
Second-class carriages	...	2
Brake vans	...	5
Baggage vans	...	3
Horse boxes	...	19
Ballast wagon	...	1
Carriage trucks	...	6
Tank wagon	...	1
Post office vans	...	4
Bogie engine	...	1

Statement showing the working of electrical intercommunication in trains.

	Half-year ending 31st December 1897.	Half-year ending 31st December 1898.
Total mileage of fitted trains	1,278,243	1,265,172
Mileage of fitted trains with complete communication ...	1,272,915	1,256,951
Percentage of interruption	0.41	0.65

List of cases in which electrical intercommunication was used and trains stopped during the half-year.

Date.	Particulars taken from the Guard's Journals.
1898.	<i>Fire.</i>
August 17	The 4-45 o'clock train was stopped near Kulipalaiyam Station to extinguish fire on O. G. 271.
September 13	The 4-45 o'clock train was stopped at $\frac{259}{18}$ mile to extinguish fire on C. G. 116.
December 5	The 18-15 o'clock mail train was stopped at $\frac{213}{18}$ mile to extinguish fire on A. 24.
	<i>Safety of Passengers and Public Property.</i>
July 7	The 20-0 o'clock train was stopped at Avadi immediately after being put in motion, in consequence of the Gateman opening the door of a third-class brake van and trying to push in two third-class passengers while the train was in motion.
August 25	The 9-0 o'clock train was stopped at 193rd mile owing to a large bundle of wool having dropped from O. G. 865.
September 21	The 18-30 o'clock mail train was stopped at Jalarpet west points to detect a passenger who jumped into brake van while the train was in motion.
" 29	The 18-30 o'clock mail train was stopped near Erode to detect three passengers who jumped into train while the train was in motion.
October 19	The 12-45 o'clock train was stopped at Bisanattam after being started to pick up the Collector on Plague Duty, who could not catch the train in time.
November 5	The 13-43 o'clock train was stopped after starting from Mulanur owing to another train having been sighted in the opposite direction.

ELECTRIC CLOCKS.

Statement showing the working of the electric clocks during the half-year.

	1898.						Mean of six months.
	July.	August.	September.	October.	November.	December.	
Clock failures. { Caused through circumstances beyond Signaller's control. { Caused through the negligence of Signallers. } "	0.00	0.19	0.78	1.52	0.39	0.00	0.48
Clock errors 2 minutes and over ... "	0.19	0.00	0.39	0.00	0.00	0.00	0.10
Do. under 2 minutes but 1 minute and over. }	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Do. under 1 minute ... "	99.05	99.81	97.65	97.34	98.04	98.86	98.46
Clock stopped ... "	0.00	0.00	0.00	0.00	0.00	0.38	0.06
	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Appended is a statement showing the total cost of maintenance of the Electric Telegraph during the half-year under report.

Yours faithfully,

JOHN B. DUNCAN,

Ag. Telegraph Engineer.

MADRAS RAILWAY COMPANY,
TRAFFIC MANAGER'S OFFICE,
MADRAS, 1st April 1899.

To

THE AGENT AND MANAGER,
Madras Railway Company,
RAYAPURAM.

SIR,

I have the honor to submit my report upon the traffic of the Madras Railway for the half-year ending 31st December 1898.

2. OPEN MILEAGE.—The open mileage (including the Kolar Gold Fields and Madras-Ennur Railways worked by the Madras Railway Company) on the 31st December 1898 was the same as on the 30th June 1898, viz., 850 miles.

3. TRAIN SERVICE.—A revised train service was introduced on the 16th November 1898.

Down Trains—S. W. Line.

- No. 75 a new Local Passenger train leaves Madras at 5-45 for Trivellore.
- No. 111 Local Passenger train leaves Madras at 17-35 instead of 17-30 and is cancelled from Trivellore to Arkonam.
- No. 31 Mixed train leaves Salem at 18-40 instead of 19-0.
- No. 87 Mail train leaves Madras at 18-15 instead of 18-30, Mettupalaiyam arrival 9-24 instead of 9-40 and Calicut 14-9 instead of 14-22.
- No. 83 Mixed train leaves Arkonam at 4-50 instead of 5-0, Jalarpet arrival 11-50 instead of 12-15.
- No. 17 Mixed train leaves Madras at 5-0 instead of 4-45 and arrives at Coimbatore 18-47 instead of 18-17.
- No. 73 Mixed train leaves Madras at 19-0 instead of 13-0 and arrives at Katpadi 1-55 instead of 20-45.
- No. 121 Mixed train leaves Podanur at 18-45 instead of 18-30 and arrives at Olavakkot at 21-5 instead of 20-48.

Up Trains—S. W. Line.

- No. 203 a new Local Passenger train leaves Trivellore at 7-20 for Madras.
- No. 172 Local Passenger train is cancelled from Arkonam to Trivellore and leaves Trivellore at 19-40 instead of 20-50 and arrives at Madras 21-0 instead of 22-5.
- No. 102 Mixed train leaves Mettupalaiyam at 20-25 instead of 21-25 and arrives at Madras 18-45 instead of 19-0.
- No. 30 Mixed train leaves Coimbatore at 5-20 instead of 5-40 and arrives at Arkonam 11-30 instead of 11-42 and is cancelled beyond Arkonam.
- No. 42 Mail train leaves Calicut at 9-40 instead of 9-15 and arrives at Madras 7-0 instead of 6-30.
- No. 132 Mixed train leaves Calicut at 12-20 instead of at 12-30 and arrives at Podanur at 22-10 instead of 22-11.
- No. 8 Mixed train leaves Jalarpet at 8-0 as before and is extended to Madras where it arrives at 20-45.

Down Trains—Bangalore Branch.

No. 149 Mixed train leaves Jalarpet at 14-30 as before but does not run beyond Bowringpet.

No. 151 Mixed train leaving Bangalore Cant. at 6-0 is cancelled.

Up Trains—Bangalore Branch.

No. 50 Mixed train leaves Bangalore City at 12-45 as before but does not run beyond Bowringpet.

Down Trains—N. W. Line.

No. 37 Passenger train leaves Madras at 9-0 as before and arrives at Gooty at 4-4 instead of 4-26.

No. 39 Mixed train leaves Madras at 13-30 instead of 18-40 and arrives at Raichur at 1-15 instead of 5-45.

No. 181 Mixed train leaves Arkonam at 9-10 instead of 9-15 and arrives at Renigunta at 12-24 instead of 12-30.

No. 81 Mail train leaves Madras at 18-45 instead of 20-45 and arrives at Raichur as before stopping at 14 additional stations.

Up Trains—N. W. Line.

No. 14 Mail train leaves Raichur at 15-0 as before and arrives at Madras at 6-15 instead of 5-45.

No. 32 Mixed train leaves Gooty at 21-10 instead of 20-42 and arrives at Madras at 15-20 instead of 16-0.

No. 4 Mixed train leaves Raichur at 0-5 instead of 0-45 and arrives at Arkonam at 3-20 instead of 3-35.

No. 28 Mixed train leaves Arkonam at 7-0 instead of 6-50 and arrives at Madras at 9-25 as before.

Rayapuram, Palghat and Nilgiri Branches.

Rayapuram, Palghat and Nilgiri Branch trains have been re-timed to connect with the altered main line trains.

Down Trains—Madras-Ennur Railway.

No. 195 Mixed train leaves Rayapuram at 18-5 instead of 18-0 and arrives at Ennur at 18-47 instead of 18-45.

4. FARES AND RATES—The **PASSENGER FARES** were not altered during the half-year ending 31st December 1898. They are shown below:—

First class	...	...	...	12 pies.
Second class	...	...	...	6 "
Third class	{ Mail	...	...	2 1/2 "
	{ Other trains	...	...	2 "

The following changes in the **GOODS RATES** were made during the half-year:—

JULY.

Commodities.	Conditions.	Rates per md. per mile.	Alterations.	Rates per md. per mile.	Remarks.
Wool, Loose	In wagon loads of 81 mds.	0-666 pie.	In wagon loads from Bangalore to via Itarsi for Traffic to Cawnpore, Agra and via.	0-333 pie.	To create new traffic.

AUGUST.

Commodities.	Conditions.	Rates per md. per mile.	Alterations.	Rates per md. per mile.	Remarks.
Chillies, Dry	In wagon loads Madras to Bombay at O. R.	4 annas per wagon per mile.	In wagon loads between Madras and Bombay.	3 annas per wagon per mile.	In competition with sea traffic.
Flour	O. R.	0-370 pie.	In wagon loads of (270 mds.) at O. R. between Bombay and Madras.	0-132 pie.	Do.
Grain and Seeds	In wagon loads of (270 to 324 mds.) at O. R.	0-200 pie.	In wagon loads of 270 to 324 mds. at O. R. from via Raichur to Bangalore for traffic from G.I.P. and connected Railways.	0-128 pie.	Equalization of rates.
Horns	At O. R. from Madras to Bombay.	0-296 pie.	Between Madras & Bombay.	0-180 pie.	In competition with sea traffic.
Oats	In wagon loads of 8 tons at O. R. for distances of 350 miles and over.	0-204 pie.	Via Raichur to Bangalore for traffic from Poona.	0-131 pie.	Equalization of rates.
Twist	From Bombay to Madras.	0-353 pie.	Between Bombay & Madras.	0-262 pie.	In competition with sea traffic.

DECEMBER.

Cotton, Pressed to 25 lb. and over.	From Devangiri to Madras via Bangalore City.	0-592 pie.	Cotton pressed to over 25 lb.	0-356 pie.	To Equalise with the longer route.
Grain and Seeds, Common.	In wagon loads of 270 to 324 mds at O. R. between via Raichur and Bangalore.	0-128 pie.	For traffic from I. M. Ry. Stations via Raichur.	0-118 pie.	Equalization with the rate via Guntakul.
Cotton, Loose in Borahs.	At O. R. in wagon loads of 90 mds. from Raichur to Guntakul.	1-111 pie.	At O. R. wagon loads of 90 mds. from Raichur to Guntakul.	0-888 pie.	To bring down loose cotton to Guntakul to be pressed there and rebooked.

The rates here given do not include the many rapid and temporary changes which have taken place in consequence of the Marmagao dispute, as the commodities and rate lists which would have to be included to make them intelligible, even to a Traffic Officer, would necessitate an appendix.

5. TRAFFIC TRAIN MILES—The traffic train mileage for the December half-years of 1897 and 1898 is shown in the following table:—

Allocation.	Description of train.	December 1897.				December 1898.			
		Madras Railway.	K. G. F. Railway.	Madras-Ennur Railway.	Total.	Madras Railway.	K. G. F. Railway.	Madras-Ennur Railway.	Total.
		Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
Coaching...	Mail	322,736	...	...	322,736	322,736	...	...	322,736
	Passenger	169,698	...	...	169,698	170,866	...	...	170,866
	Special	1,570	...	...	1,570	3,995	...	64	4,059
Mixed	Troops	6,490	...	...	6,490	1,799	...	...	1,799
	Ordinary	616,020	14,750	12,000	642,770	573,657	14,720	12,000	600,377
	Extra	46,943	...	1,607	48,550	47,839	...	...	47,839
Goods	Ballast trains for construction.	92,914	4,214	...	97,128	94,534	4,674	...	99,208
	Light engines	36,795	360	76	37,231	26,863	530	...	27,393
	Maintenance	8,991	...	974	9,965	10,892	...	...	10,892
	Fuel	16,495	...	...	16,495	17,344	...	...	17,344
	Total	1,318,652	19,324	14,657	1,352,633	1,270,984	19,924	12,064	1,302,972

Excluding maintenance and fuel mileage the total train mileage of the Madras Railway was 1,242,748 against 1,293,166 for the corresponding period of 1897 or a decrease of 50,418 miles, equivalent to 3-90 per cent.

Taking the figures as shown in the Capital and Revenue accounts where Mixed and Light Engine mileage is divided between the Coaching and Goods traffic, a decrease of 28,311

occurs in Coaching and 22,107 in Goods train mileage on the Madras Railway, a decrease of 1,428 in Coaching and an increase of 2,028 in Goods on the K. G. F. S. Railway, and an increase of 852 in Coaching and a decrease of 2,471 in Goods on the Madras-Ennur Railway.

6. GROSS AND NET TRAFFIC FOR YEARS 1889 to 1898.—The following table is designed to show the gross traffic receipts, total expenses, net receipts, number of passengers, tonnage of goods, traffic expenses, and percentage of traffic expenses on gross receipts, for 10 years ending 31st Dec. 1898.

Years.	Gross Receipts.	Total Expenses.	Net Receipts.	No. of Passengers carried including Troops and Police.	Tons of Goods carried including Railway Material and Revenue Stores.	Expenses of Traffic Department.	Percentage of Traffic Expense on Gross Receipts.
	Rs.	Rs.	Rs.	No.	No.	Rs.	Rs.
1889 ...	91,10,895	53,72,473	37,38,422	8,528,953	1,097,441	7,99,976	8.7
1890 ...	95,06,134	49,84,654	45,21,480	8,433,081	1,193,415	8,20,687	8.6
1891 ...	93,44,638	54,38,158	39,06,530	8,240,222	1,177,910	8,54,582	10.9
1892 ...	96,24,670	53,32,537	42,92,133	8,889,950	1,118,857	8,43,744	8.8
1893 ...	1,05,05,036	50,83,294	54,21,742	9,826,256	1,156,894	8,99,985	8.6
1894 ...	1,03,21,012	53,73,150	49,47,862	10,160,062	1,076,542	8,69,955	8.4
1895 ...	1,12,08,407	53,29,676	58,78,731	8,983,791	1,129,221	8,31,875	7.4
1896 ...	1,08,80,251	54,94,961	53,85,290	9,723,265	1,117,213	8,61,827	7.9
1897 ...	1,14,65,314	54,63,126	60,02,188	10,073,753	1,239,848	8,25,838	7.2
1898 ...	1,07,20,433	52,18,578	55,01,905	8,331,703	1,166,416	8,49,896	7.9

7. GROSS AND NET EARNINGS.—Compared with the corresponding period of 1897 the earnings from all sources for the half-year ended December 1898 were Rs. 50,85,747 against Rs. 56,75,752 or a decrease of Rs. 5,90,005 equivalent to 10.40 per cent.

The net earnings were Rs. 23,45,016 against Rs. 29,12,551 or 46.11 per cent. of Revenue.

The working expenses were Rs. 27,40,731 against Rs. 27,63,200 or 53.89 per cent. of Revenue.

The average receipts per train mile were Rs. 4.00 against Rs. 4.30 in consequence of light trains owing to plague.

8. The increases and decreases in the gross earnings are shown in the following table:—

Heads.	EARNINGS.		Increase.	Decrease.	Net decrease.
	Half-year ending Dec. 1897.	Half-year ending Dec. 1898.			
	Rs.	Rs.	Rs.	Rs.	Rs.
Passengers ...	18,45,458	14,23,915	...	4,21,543	...
Troops and Police ...	78,222	61,544	...	16,678	...
Passengers' luggage ...	86,995	66,226	...	20,769	...
Parcels ...	1,69,623	1,49,232	...	20,391	...
Parcels (Revenue) ...	3,370	3,178	...	192	...
Horses, carriages and dogs.	37,901	34,520	...	3,381	...
Special trains ...	366	2,570	2,204	...	...
Goods ...	31,96,980	31,02,852	...	94,123	...
Goods (Revenue) ...	64,929	86,966	22,037	...	...
Railway material ...	871	5,423	4,552	...	...
Live stock ...	19,588	12,370	...	7,218	...
Rents and demurrage ...	7,025	6,862	...	163	...
Miscellaneous ...	5,015	5,755	740	...	...
Haulage of postal vans ...	24,917	24,470	...	447	...
Sundries ...	1,24,723	91,277	...	33,446	...
Telegraph ...	9,769	8,587	...	1,182	...
Total ...	56,75,752	50,85,747	29,533	6,19,538	5,90,005

9. The net decrease in the working expenses is explained as follows:—

Heads.	EXPENDITURE.		Increase.	Decrease.	Net decrease.
	Dec. 1897.	Dec. 1898.			
	Rs.	Rs.	Rs.	Rs.	Rs.
Permanent way ...	6,27,504	7,03,741	76,237	...	...
Locomotive ...	10,79,081	10,53,342	...	23,742	...
Repairs to carriages and wagons.	3,11,387	2,35,053	...	76,329	...
Traffic ...	4,21,155	4,29,914	8,759	...	...
General charges ...	2,82,841	2,72,281	...	10,560	...
Special and miscellaneous ...	41,229	44,395	3,166	...	...
Total ...	27,63,200	27,40,731	88,162	1,10,631	22,469

10. PASSENGER TRAFFIC.—The receipts from passengers (exclusive of troops and police) were Rs. 14,23,914 against Rs. 18,45,459 or a decrease of Rs. 4,21,545 equivalent to 22.84 per cent. The lowest class contributed in money 87.05 per cent. against 90.12 per cent. and in number 98.64 per cent. against 98.84 per cent.

11. The receipts from each class of passengers are shown in the following table:—

Half-years ending	First class.	Second class.	Third class.	Total.
	Rs.	Rs.	Rs.	Rs.
31st Dec. 1898 ...	88,357	95,981	12,39,576	14,23,914
Do. 1897 ...	83,571	98,665	16,63,223	18,45,459
Increase in 1898 ...	4,786	...	...	...
Decrease in 1898 ...	...	2,684	4,23,647	4,21,545
Increase per cent. ...	5.73	...	...	...
Decrease do. ...	...	2.72	25.47	22.84

12. The numbers carried in each class were:—

Half-years ending	First class.	Second class.	Third class.	Total.
	No.	No.	No.	No.
31st Dec. 1898 ...	9,978	39,008	3,554,861	3,603,847
Do. 1897 ...	11,189	45,403	4,821,593	4,878,185
Increase in 1898 ...	...	...	...	...
Decrease in 1898 ...	1,211	6,395	1,266,731	1,274,337
Increase per cent. ...	...	...	...	...
Decrease do. ...	10.82	14.08	26.27	26.12

13. The percentage of numbers and average mileage of each class were as follows:—

Periods.	Percentage of numbers.			Average mileage.		
	First class.	Second class.	Third class.	First class.	Second class.	Third class.
Half-year ending 31st Dec. 1898.	0.28	1.08	98.64	*149	95	32
Do. do. 1897.	0.23	0.93	98.84	155	110	32

* What would seem to be an consistency in the decreased average mileage of 1st class passengers is due to decrease of Rs. 2,139-6-6 in 1st class periodical ticket receipts, and to the manner in which, under Government orders a periodical ticket-holder is counted as 40 single journey passengers.