

# FEDERATED MALAY STATES RAILWAYS.

## ANNUAL REPORT FOR THE YEAR 1920.

### REVIEW OF THE YEAR'S WORKING.

The working of the Federated Malay States Railways during the year 1920 has produced a net profit of \$563,185.49 compared with \$3,310,446.62 in 1919, representing 0.39 per cent. on the total capital expenditure against 2.67 per cent. last year.

2. The main factors contributing to this large decrease in the amount of profit earned by the Railways may be briefly enumerated as follows:

- (a) The increases in rates of pay and allowances granted to the staff;
- (b) The arrears of these increases in respect of 1919 paid during 1920 amounting to more than \$650,000;
- (c) The increased cost of materials of almost every description used in railway working, whether locally produced or imported;
- (d) A corresponding increase in all branches of contract work;
- (e) The trade depression consequent upon the fall in price of rubber and tin.

3. The increases in rates of pay granted to the various branches of the staff are as follows:

The percentage of increase in the clerical service rises from 56 to 90 per cent.; in the traffic operating grades increases vary from 80 to 106 per cent. whilst the monthly paid subordinate staff have been granted an increase of 75 per cent. Daily-paid staff have been granted increases of pay amounting to 25 per cent. and in addition have been supplied with rice and bread at cheap rates, making in all an increase of about 60 per cent.

Materials, stores and railway equipment show increases from 50 to 500 per cent.

4. With a view to maintaining the railways on a paying basis it has been necessary to increase the terminal charges pertaining to goods train traffic also to increase the rates for parcels and perishable traffic carried by passenger train. The revised rates came into operation during July and November, 1920, respectively.

A ferry toll was introduced on traffic dealt with by our ferries between Johore Bahru and Woodlands in September, 1920.

5. A reduction in passenger fares from 50 per cent. to 25 per cent. above pre-war rates came into operation as from 1st January, 1920.

6. Traffic between the Federated Malay States and Siam has continued to develop during the year under review and the following figures show the amount of traffic dealt with during the last two years:

the last two years :

				1919.	1920.
				No.	No.
Through passenger traffic, F.M.S. to Siam	}	1st class	...	569	760
		2nd "	...	1,437	2,338
		3rd "	...	16,880	22,213
				18,886	25,311
Through passenger traffic, Siam to F.M.S.	}	1st class	...	624	951
		2nd "	...	2,299	3,135
		3rd "	...	23,869	27,302
				26,792	31,388
Goods traffic.				Pks. Kts.	Pks. Kts.
F.M.S. to Siam	...	...	...	8,974 80	34,044 97
Siam to F.M.S.	...	...	...	170,341 84	70,334 40
Parcels traffic.				No.	No.
F.M.S. to Siam	...	...	...	842	1,129
Siam to F.M.S.	...	...	...	28	38

The reduction in the amount of goods traffic dealt with ex Siam is consequent upon the suspension of the export of rice from that country during the whole of the year 1920.



7. On 1st February, 1920, a new goods yard at Brickfields Road, Kuala Lumpur, was opened for dealing with all traffic to and from Kuala Lumpur not required to be stored under cover. This has relieved the congested state of Kuala Lumpur goods yard.

8. The Railway Sanatorium at  $5\frac{1}{2}$  mile, Port Dickson, for the use of European officers of the railway administration was opened in September, 1920.

9. The Crag Hotel, Penang Hills, came under the management of the Railway Department as from 1st May, 1920, and the construction of the hill railway is being expedited to the fullest extent.

10. The number of round trips made in connection with the Pahang river launch service during the year was 38 as compared with 46 in 1919. The decrease is in consequence of several trips being cancelled owing to low water and to unavoidable break-downs.

11. Two steam tugs "Prince" and "Mary" were purchased from Hongkong and added to the fleet at Port Swettenham on 29th September and 8th October, 1920, respectively.

12. Towards the end of the year a depôt was opened at Brickfields goods yard, Kuala Lumpur, for the retail sale of bakau firewood to the public for domestic purposes. The results have already fully justified this innovation.

13. Stores and materials to the value of \$8,840,749 were purchased during the year 1920, representing an increase of \$1,817,768 as compared with 1919. The tonnage in respect of the Crown Agents' shipments aggregating 7,785 tons as against 2,267 tons in 1919, in addition to which 103 tons and 3,774 tons were received from Canada and Australia, respectively.

14. During the year, the Railway Police were brought under the provisions of the Police Force Enactment of the Federated Malay States and Johore, and of the Police Ordinance of the Straits Settlements, and are being vested with the rights and powers of Police Officers within prescribed limits (any railway premises or the approaches thereto). The necessary amendments to the Police Force Enactments of the other States concerned are in hand.

All Railway Police recruits are now sent to the Federated Malay States Police Force for training and appointment as Peace Officers by the Commissioner of Police.

15. Two Chinese were arrested for placing sleepers across the line at Rengam on 23rd December, 1920, and were subsequently sentenced to three years' rigorous imprisonment and to receive 18 strokes with a rattan.

#### MILEAGE OF LINES.

16. The new line from Pasir Mas to Rantau Panjang in Kelantan, total length 11 miles 37 chains, was opened for traffic on 1st September, 1920.

17. The total mileage of running lines (reduced to single track) open on 31st December, 1920, was 1,014 miles 67 chains (including Johore leased line), and of running lines and sidings 1,150 miles 71 chains, as compared with 1,002 miles 55 chains and 1,131 miles 75 chains at the end of 1919. Details are shown in statement I A.

#### STATIONS AND HALTS.

18. The following stations were opened for traffic during the year:

Wakaf Bharu (Kelantan, formerly halt) ...	opened from	1- 2-20
Teluk Gadong (formerly halt) ... ..	"	13- 2-20
Sungei Keladi ..	"	15- 3-20
Gual Periok ... ..	"	1- 9-20
Rantau Panjang ... ..	"	1- 9-20
Ayer Hitam (formerly halt) ... ..	"	27- 9-20
Jeransong ..	"	27- 9-20
Sungei Klamah ... ..	"	18-10-20
Rimba Panjang ... ..	"	15-11-20
Sungei Lalang (formerly halt) ... ..	"	6-12-20

19. New halts were opened as under:

Kempas	Repek (Kelantan)
Maxwell Road	Lubok Batel (Kelantan)
Pumpun	Tanjong Rimau
Taboh Naning	

20. The following halts were closed during the year:

Kuala Teh ... ..	from	1-3-20
Kubang Tiga ... ..	"	1-9-20
Pulau Krina ... ..	"	15-9-20

21. On 31st December, 1920, there were open for traffic 222 permanent stations, and 24 flag stations or halts.



## CAPITAL ACCOUNT.

(See STATEMENTS 1 AND 2.)

22. The total capital expenditure to 31st December, 1920, is \$144,134,625.50. The expenditure during the year was \$20,452,767.43 as compared with \$14,709,733.64 in 1919. Of the current years expenditure \$6,353,849.20 is in connection with the construction of new lines, \$7,884,049.78 for widenings and additions, including new wharves, etc., at Prai and the Johore Causeway, and \$3,598,244.33 for new rolling stock.

## REVENUE RECEIPTS AND EXPENDITURE.

(See STATEMENT No. 3.)

23. The receipts from all sources amounted to \$17,316,533.69 compared with \$14,957,468.53 in 1919, an increase of \$2,359,065.16 (15.8 per cent.)

24. The revenue expenditure on all accounts amounted to \$16,753,348.20 compared with \$11,286,126.69, an increase of \$5,467,221.51 (48.4 per cent.)

25. It will be noticed that there is no figure in the current year's accounts to correspond with the appropriation in 1919 of \$360,895.22 as contribution to the Imperial Government for war purposes.

## RAILWAY WORKING.

(See STATEMENTS No. 4, VII, IX, X.)

## RECEIPTS.

26. Passenger receipts have increased by \$1,576,352.78 (20.9 per cent.) in spite of the reduction in passenger fares. The number of passengers carried has increased very largely, being 3,227,315 (31.72 per cent.) more than in the previous year. In addition there has been a considerable accession of passengers to the higher classes, the percentage of increase in the various classes being :

First class	...	...	...	...	...	...	...	56.18 per cent.
Second „	...	...	...	...	...	...	...	37.55 „
Third „	...	...	...	...	...	...	...	9.98 „

It is impossible to estimate what the increase in receipts or numbers would have been had the fares not been reduced, but the fact that additional revenue has accrued from this class of traffic justifies the policy of providing cheap travel facilities.

27. Season tickets show an increase of nearly \$8,000 and there is a small increase from carriage of mails.

28. Parcels and other merchandise by passenger train record an increase of \$158,576.73 (27.4 per cent.) Revised rates for parcels traffic operated from 1st November, 1920, and for perishables from 15th November, 1920, and the additional revenue accruing therefrom is about \$23,000.

29. There is a total increase on goods train traffic of \$420,283.59 (7.4 per cent.), of which approximately, \$140,000 may be taken as having accrued from the increased terminal charges introduced as from 1st July, 1920. There are increases in four of the six divisions of goods traffic, the exceptions being tin and rubber, which both show decreases in consequence of the low prices ruling towards the end of the year. The increase in coal, coke and firewood traffic is \$94,221.69 (14.8 per cent.), of which \$66,000 is accounted for by the larger output from the Malayan Collieries at Batu Arang. The increase in other minerals is \$22,985.11 (26.0 per cent.), which is mainly on account of stone, etc., traffic carried for the Public Works Department and for construction purposes.

30. There is an increase of \$33,053.23 under miscellaneous, arising mainly from demurrage, warehouse rent, and yard rent.

## EXPENDITURE.

31. The total expenditure shows an increase of \$4,874,979.42 (48.6 per cent.) over 1919, while the percentage to the total traffic receipts has increased from 72.34 per cent. to 91.48 per cent.

32. Examination of the abstracts will show that every item wherein salaries and wages are included shows a very considerable increase over 1919, and detailed comment is, therefore, only necessary in regard to exceptional items.

33. The increase under maintenance and renewals of ways and works (abstract A) is \$1,098,142.71 (40.6 per cent.). The amount included under this abstract in respect of special services chargeable to revenue is \$1,044,402.05 as compared with \$498,062.06 last year. There is a decrease in the item materials under the head "repairs of running lines and sidings" amounting to about \$83,000 due to the difficulty in obtaining sufficient sleepers.



34. Under the heading of maintenance and renewal of rolling stock there are increases of \$333,737.61 (45.0 per cent.) in respect of locomotives (abstract B 1) and \$133,679.72 (33.0 per cent.) in respect of carriages (abstract B 2), while in abstract B 3, there is a reduction of \$131,715.18 accounted for by the amount of \$8,426.66 only being included this year for purchase of new wagons, compared with \$200,435.71 in 1919. The amount included under abstract B 2 for purchasing new carriages chargeable to revenue account is \$126,943.81 compared with \$135,918.35 in 1919.

35. Under locomotive running expenses, very heavy increases are recorded, notably \$876,939.85 for fuel, due to the insufficiency of local supplies of fuel necessitating the purchase of imported coal at very high prices.

36. The cost of fuel per engine mile has increased from 28 cents in 1919 to 39 cents in 1920. The total running costs per engine mile are 64 cents for 1920 compared with 46 cents for 1919.

37. Traffic expenses (abstract D) show very high increases all round, the most noticeable apart from salaries and wages being an increase of 57 per cent. in printing, advertising, stationery and tickets.

38. The increase under general charges is \$1,035,464.36 (67.4 per cent.) Passages of officers have increased from \$41,640.02 to \$113,285.40, a large portion of which is due to the increase in passage rates. Temporary allowances including the cost of supplying rice and bread at cheap rates are \$767,000.01 (70 per cent.) more than in 1919. More than \$200,000 in this item is, however, in respect of arrears for 1919 paid in 1920.

39. Assessment of Tamil labour has more than doubled, the payments in 1920 amounting to \$166,237 against \$70,884.30 in 1919. This is mainly due to the increased rates chargeable.

#### STEAMER AND FERRY SERVICES.

40. There are increases on both sides of this account and the final result is again a loss, the amount however being \$83,548.33 against \$110,168.12 last year.

41. The expenditure incurred in maintaining the steam ferries, Pahang river launches, wagon ferries and tongkangs during the year was \$486,680.24 as compared with \$313,114.85 in 1919, an increase of \$173,565.39 or a percentage of 55.43 as against the previous year, and the cost per mile was \$5.36 as against \$3.34 in 1919. The abnormal increase in expenditure was due to the enhanced price of stores, materials and wages, etc., incurred by the fleet and also the heavy docking expenses incurred during the year for certain boats.

#### DOCKS, HARBOURS AND WHARVES.

42. There is a small increase in receipts in this account, but a far larger increase in expenditure, and consequently the loss on this service has increased from \$5,409.31 to \$76,365.87.

#### MISCELLANEOUS.

43. Receipts from rents show an increase of \$37,253.47 mainly due to the higher rents charged to the hotel contractors. The cost of upkeep of property stands at \$624,166.39 against \$298,832.42 in 1919. The current year's figure includes \$323,068.96 for special expenditure compared with \$48,601.25 last year, the greater portion of which is for the erection of new temporary quarters chargeable to revenue.

#### CANADIAN AND AUSTRALIAN PURCHASES.

44. The total disbursements on these accounts during the year 1920 were:

Canadian purchases	...	...	...	...	...	\$ 470,105.36
Australian	...	...	...	...	...	1,181,926.26

Including the balance from last year the amounts still remaining to be absorbed at the close of 1920 were \$7,246.09 and \$1,503,666.02, respectively.

#### TRAFFIC AT THE PORTS.

45. The following is a comparison of goods and mineral traffic dealt with at the Ports during the last ten years:

Date.	Teluk Anson.		Port Swettenham.		Port Dickson.	
	Received by rail.	Forwarded by rail.	Received by rail.	Forwarded by rail.	Received by rail.	Forwarded by rail.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1911 ...	32,487	109,159	37,570	207,894	4,576	29,955
1912 ...	34,947	125,654	44,569	219,037	5,549	35,610
1913 ...	42,955	137,393	53,795	250,852	6,678	40,143
1914 ...	42,496	120,820	53,414	233,046	5,917	35,780
1915 ...	41,713	125,406	53,542	171,345	5,780	32,212
1916 ...	42,516	122,699	58,670	158,521	7,038	35,335
1917 ...	41,798	109,244	64,228	144,267	8,291	26,865
1918 ...	43,905	87,961	60,157	135,422	7,999	21,425
1919 ...	43,080	76,924	68,505	141,875	9,904	28,403
1920 ...	40,012	62,378	68,317	184,211	10,786	17,054



Date.	Prai.			Received by rail and shipped to Penang.	Penang.
	Received by rail.		Forwarded by rail.		Received and shipped to Prai.
	Tons.		Tons.	Tons.	Tons.
1911 ...	2,624	...	50,890	7,292	25,177
1912 ...	3,004	...	56,540	9,431	31,038
1913 ...	5,080	...	98,411	9,095	28,282
1914 ...	10,601	...	67,396	11,862	26,942
1915 ...	4,180	...	40,691	11,913	23,512
1916 ...	12,754	...	23,218	13,204	27,123
1917 ...	13,521	...	9,929	18,758	30,713
1918 ...	20,324	...	12,232	22,280	37,913
1919 ...	57,030	...	28,072	30,388	31,133
1920 ...	62,989	...	52,110	27,549	28,168

These figures do not include fuel, stores or railway material for Railway Department carried free.

46. During the year, 6,212 tons of coal were carried from Prai, on which freight was paid as against 913 tons in 1919.

47. Forty thousand nine hundred and twenty-nine tons of rubber were exported through Port Swettenham during 1920 against 44,514 tons in 1919.

#### OCEAN STEAMERS CALLING AT PORT SWETTENHAM.

48. During the year, 104 ocean steamers called at Port Swettenham with import cargo as against 63 during 1919, and 60 ocean steamers called for export cargo as against 32 during 1919. These figures are exclusive of the British India Company's steamers which call regularly at this port. The ocean steamers calling at Port Swettenham (excluding British India Company's boats) included the following:

	Calling with import cargo.			Calling for export cargo.		
Alfred Holts Blue Funnel	...	...	...	36	...	25
Ben Line	...	...	...	18	...	1
Glen Line	...	...	...	14	...	—
Shire Line	...	...	...	5	...	—
P. & O. S. N. Company	...	...	...	20	...	22
Others	...	...	...	11	...	12
Total	...	...	...	104	...	60

#### WAGON FERRY, JOHORE BAHRU-WOODLANDS.

49. The wagon ferry service between Johore Bahru and Woodlands worked satisfactorily during the past year and the following figures show the number of vehicles dealt with by the ferries:

	1916.	1917.	1918.	1919.	1920.
Loaded wagons forwarded to Singapore	9,508	11,801	15,085	19,211	20,900
Empty wagons forwarded to Singapore	12,517	15,811	10,961	8,432	8,088
Loaded wagons received from Singapore	21,824	26,950	25,002	25,324	24,716
Empty wagons received from Singapore	377	54	468	1,777	3,409
Total number of trips	7,583	9,529	9,171	10,680	12,548

50. Messrs. Topham, Jones & Railton's launch collided with our ferry barge No. 1 in mid-stream between Woodlands and Johore Bahru at 8.10 p.m. on 14th March, 1920, the former being sunk. The ferry barge was not damaged. The crew of the launch were picked up by the ferry.

#### ACCIDENTS, DERAILEMENTS, ETC.

51. Seventy-nine fatal accidents were recorded during 1920. Of these, 16 were railway servants and the remainder were mostly trespassers. Inquests were held in all but 19 cases. The 79 persons killed were of the following nationalities:

	Railway servants.		Others.		Total.
Tamiks	...	14	...	25	39
Chinese	...	1	...	26	27
Malays	...	—	...	9	9
Nationality not known	...	1	...	3	4
Total	...	16	...	63	79



52. Seventy-two cases of personal injury were recorded during 1920 as under :

Railway servants	...	...	...	...	...	...	...	...	47
Passengers	...	...	...	...	...	...	...	...	19
Trespassers	...	...	...	...	...	...	...	...	6
									—
Total	...								72
									—

53. There were 296 derailments during 1920 as under :

Engines	...	...	...	...	...	...	...	...	57
Goods vehicles	...	...	...	...	...	...	...	...	218
Passengers coaches	...	...	...	...	...	...	...	...	4
Brake vans	...	...	...	...	...	...	...	...	15
Travelling cranes	...	...	...	...	...	...	...	...	2
									—
Total	...								296
									—

of these, 275 occurred within station limits and 21 at intermediate sidings and on line between stations.

54. Level crossing gates were run into and damaged on 29 occasions during 1920 as under :

By engine or train	...	...	...	...	...	...	...	...	21
„ motor car	...	...	...	...	...	...	...	...	8
									—
									29
									—

55. Three cases were recorded in 1920 where trollies were run into by trains. These cases were fortunately unattended with any personal injuries.

56. Eleven joint enquiries into derailments, collisions, etc., were held during 1920.

57. The charge for a berth in a sleeping saloon was raised to \$2.00 from 1st January, 1920. A charge is now also made for a sleeping berth made up in a first class carriage.

58. The office of the Assistant Traffic Manager, Taiping, was removed to Bukit Mertajam on 1st December, 1920.

59. The new goods yard at Tanjong Malim was brought into use on 9th November, 1920.

60. The Railway rest-house at Alor Star was closed on 1st June, 1920.

61. A revised train service came into operation on 22nd November, 1920.

62. An amount of \$27,887.34 was paid out in respect of claims during the year against \$28,937.68 in 1919, of this amount \$3,947.47 was recovered so that the actual charge against this vote was reduced to \$23,939.87.

#### WAYS AND WORKS DEPARTMENT.

63. The permanent ways and works were maintained in efficient working order during the year and amongst the renewals made, were the following :

Rails	...	...	...	...	...	...	...	...	534
Points	...	...	...	...	...	...	...	...	32
Crossings	...	...	...	...	...	...	...	...	54

64. Seventy-three thousand six hundred and forty-seven cubic yards of ballast were supplied and 72,543 cubic yards of earth for cessing deposited on banks. Four thousand three hundred and ninety-three cubic yards of stone and 8,424 cubic yards of sand were used for special service works in addition to the above.

#### WAYS AND WORKS DEPÔT.

65. The following machines were installed during the year :

- (1) Punching and shearing machine;
- (2) Vertical drilling machine;
- (3) Bolt threading machine.

66. The principal items of manufacture were :

Sets of points 465, crossings 281, check rails 439, buffer stops 58, point locks 352.

#### LEVEL CROSSINGS.

67. All level crossings were maintained in good order and 13 additional occupation and public level crossings were provided during the year, whilst one was closed.



## BRIDGES AND CULVERTS.

68. All bridges and culverts were kept in thorough repair during the year; the girders of 195 bridges were painted, 10 longitudinal timbers were removed, 12 new bridges and culverts were built, and 14 bridges and culverts were reconstructed.

## FENCING.

69. 569.53 miles of wire fencing were maintained during the year, 8.93 miles of new fencing were erected and 166.26 miles were removed adjacent to rubber estates where a reserve boundary fence was no longer necessary. Eight hundred and fourteen fencing posts were renewed.

## WHARVES AND JETTIES.

70. These were maintained in good repair during the year; the quay and wharf frontage at the close of the year amounted to 4,876 lineal feet.

## SLIPS AND FLOODS.

71. There were 12 minor land slips during the year and the line was flooded at 22 places, but no serious damage to line or delay to trains was caused thereby.

## RELAYING.

72. The relaying of 6 miles 48 chains of the Tronoh Branch Line with Australian 60 pounds materials was completed.

## MAINTENANCE.

73. The total length of running lines, 1,014 miles 67 chains, and sidings 136 miles 4 chains were maintained in good running order during the year at a cost of \$46.08 per mile per week of line open as compared with \$37.48 in 1919.

## SPECIAL SERVICE DEPARTMENT.

74. The value of special service works carried out by this department during the year was \$1,110,691.18 revenue account, and \$1,938,044.95, capital account, as compared with \$440,609.39 and \$1,197,708.65, respectively, in 1919.

75. The principal items of expenditure were:

Relaying Branch Line, Teluk Anson	...	...	...	\$ 52,973.42
" " Tronoh	...	...	...	198,497.56
Alteration to yard, Tanjong Malim	...	...	...	70,559.62
Marshalling sidings, engine and carriage sheds and new station at Gemas	...	...	...	337,803.06
Goods station and goods yard, Johore Bahru	...	...	...	53,152.85
Extension of wagon, boiler, carriage and machine shops, Central Workshops	...	...	...	383,541.04
Additional wharf accommodation at Port Swettenham	...	...	...	58,264.74
New quarters for European and subordinate staff, Kuala Lumpur	...	...	...	105,002.33

## LOCOMOTIVES, ROLLING STOCK, ETC.

76. All locomotives, carriages, motor cars, steam boats, tongkangs, machinery and other plant were maintained in an efficient state during the year.

77. In statement VII details are given of the number of locomotives and other rolling stock renewed and repaired during the year.

## LOCOMOTIVES.

78. Sixteen new "P" class locomotives were received from the North British Locomotive Works, Glasgow, during the year and added to the stock. Four "Q" class pacific type locomotives purchased in 1919 from the Baldwin Locomotive Works, Philadelphia, were also erected and added to the stock during the year thus making an addition to the open line stock of 20 new locomotives.

79. Orders for 30 new locomotives for the Open Line and 10 for the Construction Department were also placed during the year as follows:

*Open Line.*—

20 "L" class from England.

10 six-wheel coupled side tank locomotives from Baldwin Locomotive Works.

*Construction Department.*—

10 Tender locomotives from Baldwin Locomotive Works.



80. One open line locomotive No. 11 "A" class was sold to the Construction Department during the year. One open line locomotive was loaned to the Malayan Collieries, Ltd., from the latter half of the year.

81. The open line stock of locomotives including the steam rail motors was 204 on the 31st December, 1920. The number of Construction Department locomotives was 22 as against 21 in 1919. Details will be found in statements 11, A and B.

#### MILEAGE OF ENGINES AND TRAINS.

82. The total engine mileage including maintenance ballast miles for the year under review was 5,666,121 as compared with 5,006,936 in 1919, an increase of 659,185 miles or 13.17 per cent.

83. The train mileage was 3,940,732 as against 3,463,405 in 1919, an increase of 477,327 miles or 13.78 per cent.

84. The percentage of increase in train miles, over engine miles, is due to a decrease in the engine miles under departmental shunting and other miles.

85. The average daily miles per engine actually at work was 108.6 as against 108.25 in 1919.

#### RUNNING COSTS.

86. The total running cost per engine mile for the year 1920 was cents 64 (*vide* abstract C) as compared with cents 46 in 1919.

#### FUEL.

87. The following table gives particulars of firewood and coal consumed by the locomotives during the year:

Description of Fuel.	Local weights.		In terms of imported coal.			
	Pkls.	Kts.	Tons.	Cwt.	Qrs.	Lbs.
<i>Bakau firewood.</i> —						
Converted at a ratio of $2\frac{1}{2}$ to 1 of imported coal ... ..	3,007,719	21	71,612	7	0	27
<i>Jungle firewood.</i> —						
Converted at a ratio of 3 to 1 of imported coal ... ..	2,021 $\frac{1}{4}$	passangs	1,604	3	1	9
<i>Rawang coal.</i> —						
Converted at a ratio of 1.6 to 1 of imported coal ... ..	80,222 $\frac{1}{2}$	tons	50,139	1	1	0
Imported coal ... ..	—		12,251	4	1	20
			135,606	16	1	0

#### MACHINERY.

88. All machines were maintained in good order and the following new machines were installed at the works during the year:

Machine shop	...	...	One vertical high speed drilling machine
Boiler shop	...	...	Two cold sawing machines
Carriage shop	...	...	{ One vacuum testing machine
			{ Five paint grinding machines
Saw mill	...	...	One boring and morticing machine

89. All tanks and water columns, turn-tables, weighbridges and weighing machines, cranes and pumps were maintained in excellent order during the year.

90. One 60-ton weighbridge was newly erected at Tanjong Pagar.

91. Two 10-ton travelling cranes were newly erected during the year.

#### COACHING VEHICLES.

92. Details of coaching stock are shown in statement 11 C.

93. Thirty-two mail type bogie passenger carriages were newly built at the works and turned out to traffic as against 18 in 1919 as under:

2	Bogie first class ;
4	„ first and second compos ;
4	„ second class ;
10	„ third „
10	„ third and van ;
1	„ postal sorting van ;
1	„ sleeping saloon.



94. The bogie sleeping saloon is of a new design with transverse berths instead of longitudinal berths as in the old sleeping coaches and all the eight cabins are of the same size. The number of berths is the same as in the old coaches—*viz.*, sixteen.

95. The following mail type bogie passenger carriages were under construction at the end of the year:

- 1 Bogie sleeping saloon ;
- 3 „ restaurant carriages ;
- 6 „ first and second compos ;
- 5 „ third class ;
- 6 „ third and van.

96. One bogie first class and five bogie third and vans were converted into bogie reserved saloon and bogie full vans, respectively.

97. One bogie second class No. 4 and one bogie third and van No. 44 were condemned as unfit for further service.

98. Two hundred and forty-eight coaches of all types passed through the shops for heavy and light repairs during the year as compared with 226 in 1919 at an average cost of \$1,299.23 per vehicle as compared with \$928.10 in 1919.

#### MERCHANDISE AND MINERAL VEHICLES.

99. Details of merchandise and mineral vehicles are shown in statement 11 D.

100. The total stock of bogie goods vehicles on 31st December, 1920, was 169 as compared with 132 in 1919 or an increase of 37 wagons.

101. The construction of 47 bogie flat wagons was in progress at the end of the year.

102. Three hundred and seventy-four wooden wagons were constructed during the year at Central Workshops comprising 50 H.S., 99 F.T., and 225 L.S.

103. In addition to the above, 340 covered goods (steel) were received from the Crown Agents and erected at Port Swettenham on contract by Messrs. D. G. Robertson & Co. These wagons are part of 500 steel covered goods ordered in England in 1919.

104. Ten fish vans were in process of construction at the end of the year.

105. One thousand one hundred and ten wagons of all types passed through the shops for heavy and light repairs during the year as compared with 1,209 in 1919. This represents a decrease of 8.19 per cent. on the previous years working.

#### STEAM BOATS, ETC.

106. Sixteen steam launches, three at Prai, four at Port Swettenham, three at Johore Bahru, four at Tumpat, and two at Kuala Krau were maintaining the passenger ferry or tug service during the year.

107. The steam tug “Ethel” at Tumpat was brought to Singapore and docked for general repairs at a cost of \$12,574.58.

108. s.s. “Singapore” was sent to docks and remained there at the end of the year.

109. Out of the 10 new wooden lighters (teak) on order at Singapore docks in 1919, four were received during the year at a cost of \$16,000 each for Port Swettenham.

110. One steel lighter No. 122 was repaired at the Singapore docks at a cost of \$7,516.79.

111. Twenty-six tongkangs were repaired on the foreshore at Port Swettenham and 16 on the slipway during the year.

112. The total stock of steel lighters on service was 56 and wooden lighters 21 as against 56 and 17 in 1919.

113. The fleet of ferry and tug boats including the river launches and wagon ferries on 31st December, 1920, was 19 as compared with 17 in 1919.

114. The mileage of ferry boats plying between Penang and Prai, Johore Bahru and Woodlands, Tumpat, Kota Bharu and Palekbang, Kuala Krau and Pekan and wagon ferries at Johore Bahru was 90,876 as compared with 93,830 in 1919, the mileage of launches at Port Swettenham not being reckoned.

115. The wagon ferry travellers between Johore Bahru and Woodlands worked satisfactorily during the year.

116. The wagon ferries worked 3,924 night trips and 10,847 day trips as compared with 11,042 night trips and 5,957 day trips in 1919.

117. The launch service between Kuala Krau and Pekan was maintained by the two launches “Sah” and “Tungku Miriam.”

118. The mileage run was 9,509 at a total cost of \$19,236.86 as compared with 10,567 miles at a cost of \$17,028.50 in 1919. The cost per mile for 1920 was \$2.02 as against \$1.61 in 1919.



## ELECTRICAL BRANCH.

119. Train lighting was satisfactory during the year, light failures being very few.
120. Electric light was installed at Tampin and the Central Workshop stations and in the new carriage shop at the Central Workshops, also at the Sanatorium, Port Dickson.

The lighting of the following stations was in progress at the close of the year :

Prai, Taiping, Kampar, Tapah Road, Rawang, Kajang and Gemas.

## TIMBER DEPARTMENT.

121. The organization of the Timber Department was during the year 1920 placed under the joint control of the General Manager for Railways and the Conservator of Forests with the object of the establishment of a central purchasing and distributing agency for timber required for Government purposes.

122. The following is a comparative statement of sleepers purchased during 1919 and 1920 :

Description.	1919.	1920.
First class ... ..	186,834	97,116
Second class ... ..	21,125	6,000
Third class ... ..	3,858	701
Crossing sleepers ... ..	8,282	6,586

The total value of 1920 purchases being \$238,275.90 as compared with \$409,422.73 in 1919.

123. Sleepers sold during the year were 207,171 compared with 282,951 in 1919, the cost being \$390,279.09. The book balance on hand on 31st December, 1920, was 37,062 sleepers, the value of which were \$85,536.43.

124. Firewood (bakau and jungle) was dealt with, and sold to various Government Departments—*viz.*, the Prisons, Veterinary, Police, Agricultural, Public Works Department, Medical, Sanitary Boards, etc.

125. Shortage of labour in the jungle and a growing scarcity of popular lumber adjacent to means of communications led to a large increase in the price of timber during the year. There was difficulty in maintaining a sufficient supply of sleepers, but timber cutters began to show renewed interest in this work towards the end of the year. It is becoming imperative to introduce mechanical means for the extraction of timber to rail side from the jungle, as the economical haul limit for buffaloes appears to have been nearly reached. For experimental purposes a caterpillar tractor was purchased and delivered towards the end of the year, and experiments will be carried out with it during 1921.

126. A small temporary saw-mill and dépôt was started at Gemas and a portable band saw-mill was ordered with a view to seeing if local timbers can be economically cut on high speed band saw machinery using local labour. Six hundred and sixteen tons of soft wood were cut during the year and yielded nearly 450,000 feet run of lumber.

127. Owing to pressure of work tests on the mechanical properties of Malayan timbers had to be discontinued during the year.

128. The supply of logs to the Public Works Department Factory was continued during the year.

## STORES.

129. Considerable difficulty was again experienced in maintaining supplies of many essential materials, this being due to industrial conditions—prices were high throughout the year. Shortage of staff was again severely felt owing to heavy increase of business and of railway food distribution.

130. Issues to departments amounted to \$8,468,596.04, an increase of \$1,506,178.90 over the figure of the previous year.

131. Stores and materials on hand at 31st December, 1920, amounted to \$2,735,407.75, an increase of \$1,219,693.94 as compared with the previous balance. This includes a large quantity of Australian rails purchased for special services.

132. Indents to the number of 127 and of an estimated value of \$5,231,740.46 were despatched to the Crown Agents for the Colonies, of which three indents with estimated value of \$88,971.43 have since been cancelled as compared with 95 indents of an estimated value of \$4,021,645.07 in 1919.

133. The Stores Department executed 13,063 indents as compared with 11,106 in 1919.

134. The tailoring shops executed 1,998 uniform orders comprising 7,783 suits, 86 coats, 193 pairs of trousers, 93 flannel singlets, 451 caps, 332 cap covers, 1,192 cash bags and 274 cloth chevrons for Railway Police. They also renewed, repaired and reconditioned the bedding of sleeping coaches as required.



135. The clock and watch repairing department executed repairs to 123 clocks, 239 watches, 7 tower clocks also regulating and fixing all other railway clocks and watches as required.

136. A sum of \$29,205.12 was realized as the result of the sale of scrap materials through the Stores Department during the year.

137. The Stores Department purchased and distributed to staff the following quantities of rice :

Parboiled rice	...	...	...	...	...	683,698	gantangs.
Polished „	...	...	...	...	...	290,400	„

138. Daily supplies of bread were baked and issued to all stations and State departments requiring them, the total supply for the year being 1,561,827 loaves.

#### SIGNAL AND TELEGRAPH DEPARTMENT.

##### TELEGRAPHS.

139. The total length of railway telegraph, telephone, tablet, bell and repeater wires was 3,749 miles 53 chains on 31st December, 1920, an increase of 190 miles 8 chains on the previous year; 196 miles 45 chains were newly erected and 6 miles 37 chains were dismantled during the year.

140. Eleven new telegraph offices were opened during the year—*viz.*, Rimbau Panjang, Pumpang Halt, Mandai, Jeransong Halt, Ayer Hitam, Sungei Klamah, Pasir Mas, Gual Periok, Rentam Panjang, Sungei Keladai and Pasir Mas signal cabin, making a total number of 242 telegraph stations.

141. Telegraph circuits Nos. 2 and 5 mains and 25 local lines were run via Kuala Lumpur—Salak South deviation and the lines from Sultan Street to Salak South were dismantled.

##### TRENGGANU GOVERNMENT TELEGRAPHS.

142. The construction of a telegraph line from Kuala Trengganu to Kuantan in Pahang was undertaken by this department in June, 1920, and the work is satisfactorily progressing, the line head being 36 miles from Kuala Trengganu with telephones installed at Kuala Trengganu, Marang and Merehang. Mr. A. W. Maxwell, Assistant Telegraph Engineer, has made three inspection trips—*viz.*, June, July and October, respectively.

##### TELEPHONES.

143. A new 200 line switchboard was installed at Kuala Lumpur and a 30 line board at Ipoh.

144. Twenty-one new telephones were fixed in connection with the exchange at Kuala Lumpur and one at Ipoh.

145. Long distant telephone wires were erected from Kuang to Batang Benar and telephones have been installed at Segambut, Sungei Buloh, Kuang, Sungei Besi, Serdang, Kajang and Bangi and are working very satisfactorily. The rest of the work is in progress.

##### ELECTRIC TRAIN TABLETS.

146. Sixteen electric train tablet instruments were newly installed at Pumpang Halt, Rimba Panjang, Sungei Klamah, Mandai, Gemas, Rompin, Bahau, Pasir Mas, Gual Periok and Rentau Panjang, making a total of 364 instruments.

147. The long section tablet instruments between Sedenak and Rengam were completed and brought into use.

148. The total number of tablet failures during the year throughout the railway was 456 compared with 366 in 1919. The failures during the two years in question were due to the following causes :

Reasons	1919.	1920.
Instruments faults	46	34
Tablet jamming	31	42
Battery faults	23	24
Breakage of earthwires	13	1
Breakage of line wire, etc.	229	305
Line contacts	3	3
Bad manipulation by traffic staff	1	14
Shortage of tablet in instruments	4	11
Tablets damaged...	5	2
Tablets lost	4	11
Other causes	7	9

149. The telegraph, telephones, tablets, bells and repeater instruments were overhauled, and the batteries cleaned regularly throughout the whole year.



## POSTS AND TELEGRAPHS DEPARTMENT WIRES ON RAILWAY POLES.

150. The total length of post and telegraph and other wires on railway poles on 31st December, 1920, was 1,293 miles 29 chains, a decrease of 18 miles 38 chains on the previous year and which length was dismantled during the year.

151. The post and telegraph and other lines on railway poles were maintained and kept in working order.

## SIGNALLING AND INTERLOCKING.

152. The signalling and interlocking at Taiping, Tasek, Sungei Merbau, Sungei Ghoh and at stations on Pasir Mas—Rantau Panjang extension and temporary signalling at Sungkai, Pimpan Halt, Sungei Klamah and Rimbau Panjang were completed and the signalling and interlocking at Kamoar, Rawang, Ulu Yam and Rasa were in progress towards the end of the year.

## INTERLOCKING OF GATES, ETC.

153. Three level crossing gates were interlocked and four were in progress towards the end of the year.

154. The machinery in all workshops was working very satisfactorily and a fair percentage of signalling materials used for maintenance and special services were turned out. The demands made on the plant have been very heavy throughout the year, the pressure being mainly due to the large number of wayside stations to be interlocked. Owing to non-arrival of materials from England a fair proportion of fittings had to be made in the shops.

155. An engraving and a brass sawing machine were fitted in the shops and have proved most useful.

## RAILWAY POLICE.

156. The approved strength on the 1st January, 1920, was:

1 Assistant Commissioner of Police	1 Head Detective
3 European Police Inspectors	14 Corporals
4 Assistant Investigating Officers	22 Lance-Corporals
2 Munshis and Hindustan Interpreters	360 Constables (I)
1 Jemadar	214 Constables (II)
2 Sergeant-Majors	160 Constables (III)
8 Sergeants	12 Detectives
	4 Orderlies
	4 Peons

The actual strength on the 31st December, 1920, was:

1 Assistant Commissioner of Police	1 Head Detective
2 European Police Inspectors	20 Corporals
4 Assistant Investigating Officers	30 Lance-Corporals
2 Munshis and Hindustan Interpreters	286 Constables (I)
1 Jemadar	186 Constables (II)
2 Sergeant-Majors	141 Constables (III)
12 Sergeants	12 Detectives
	3 Peons
	2 Orderlies

157. During the year, 172 men presented themselves for enlistment—of this number, 154 were found to be medically fit and were appointed. The nationalities are:

Sikhs	...	...	...	...	...	...	...	...	...	71
Pathans	...	...	...	...	...	...	...	...	...	76
Punjabi Mohamedans	...	...	...	...	...	...	...	...	...	6
Hindu	...	...	...	...	...	...	...	...	...	1
										—
Total										154
										—

158. It was found necessary during the year to increase the force by the addition to the approved strength, of four Sergeants, six Corporals and eight Lance-Corporals.

159. During the year, 120 men were struck off the strength, of these nine died, three were pensioned off, one received a compassionate allowance, and the remainder were discharged or resigned.



160. Discipline has not improved, 323 men were dealt with departmentally as compared with 274 in 1919, the fines imposed amounting to \$627 as compared with \$396.88 in 1919, 32 constables were charged before the Magistrate with offences of theft and dishonesty, and of these 22 were convicted and dealt with, three were committed for trial and await final hearing, and seven were acquitted, those convicted were dismissed the Force. For offences against discipline 48 constables were charged before the Magistrate and 31 were convicted and dealt with.

161. The detective branch of the Force was kept at full strength during the year and did useful work in investigation and detection.

162. There were 971 prosecutions during the year classified as under :

Offences under Railway Enactments	...	...	...	...	382
Thefts	...	...	...	...	365
Possession of stolen property	...	...	...	...	37
Cheating	...	...	...	...	14
Criminal breach of trust	...	...	...	...	9
Receiving illegal gratification	...	...	...	...	9
Assault and voluntarily causing hurt	...	...	...	...	113
Other offences	...	...	...	...	42
Total					971

163. The prosecutions for theft show an increase of 133 over 1919, and cases of assault and voluntarily causing hurt have also increased.

164. Out of the total number of prosecutions, 769 resulted in a conviction; four persons were committed for trial to the Supreme Court and await final hearing, and 198 were discharged. Included in the above total are 225 prosecutions of Railway employees or persons employed by Railway contractors resulting in 172 convictions and the subsequent dismissal from the service of the employees concerned.

165. The total fines imposed by the courts amounted to \$7,349.45, an increase of \$2,313.45 over 1919.

166. Amongst the most serious cases are the following :

Three Railway Police constables and an ex-Police constable were charged with the theft of 16 bags tin-ore at Temoh and committed for trial; the stolen ore has been recovered and the case awaits final hearing. One of the Police constables involved was found to have two revolvers and ammunition concealed in his quarters and he will be charged with this offence on conclusion of the theft case.

Twenty pick-pockets arrested by Railway Police and detectives were subsequently convicted and dealt with in court.

#### CONSTRUCTION DEPARTMENT.

167. The total expenditure during the year 1920 on construction and surveys of new line in the Federated Malay States, Straits Settlements and Johore amounted to \$14,237,898.98 as compared with \$7,656,402.38 during 1919.

#### EAST COAST RAILWAY: KELANTAN SECTION.

168. This railway starts from Tumpat and proceeds southwards towards Kuala Lipis in Pahang, the distance from Tumpat to Pahang-Kelantan boundary being  $140\frac{1}{2}$  miles, of which 32 miles from Tumpat to Tanah Merah were opened for traffic on 1st July, 1915. The construction work of this section, which was stopped for three years during the war, was recommenced in January, 1918.

All the necessary land has been acquired to the Pahang boundary from Tanah Merah. Jungle has been felled for 40 miles and cleared for 37 miles. Earthwork is completed to the 57th mile to Pahi Station and is in progress for a further 15 miles. One million six hundred and seven thousand and three hundred and one cubic yards of earthwork and 98,810 cubic yards of rock have been excavated. The permanent way is laid to Sungei Nal, the  $47\frac{1}{2}$  mile. A start has been made on the Sungei Kelantan Bridge and a large quantity of the steelwork for this has been delivered.

The expenditure during the year amounted to \$3,496,045.09.



EAST COAST RAILWAY, PASIR MAS TO RANTAU PANJANG EXTENSION  
(TO CONNECT WITH SIAMESE RAILWAYS).

169. This railway starts from the south end of Pasir Mas Station on the East Coast Railway, Kelantan Section, and runs in a westerly direction to the Golok River at Rantau Panjang on the Siamese boundary, a distance of  $11\frac{3}{4}$  miles. This line was inspected on the 15th August, 1920, handed over to the open line and opened for traffic on the 1st September, 1920. All work on this line has been completed except the joint bridge over the Golok. A temporary wooden bridge has been erected over the Golok and rails were connected with the Siamese Railway in June.

The expenditure during the year amounted to \$642,310.14.

EAST COAST RAILWAY: PAHANG SECTION.

170. This railway was opened for traffic as far as Kuala Lipis ( $141\frac{3}{4}$  miles from Gemas) on October, 1917. The work now in progress commencing from Kuala Lipis runs northwards towards Tumpat. The distance from Kuala Lipis to the Pahang-Kelantan boundary is  $46\frac{1}{2}$  miles and the total distance Kuala Lipis to Tumpat is 187 miles.

All the land has been acquired. Jungle has been felled and cleared for 28 miles. Out of a total of 9,446,949 cubic yards, 6,005,601 cubic yards of earthwork and 670,422 cubic yards of rock have been excavated. The permanent way has been laid to the 160th mile from Gemas or  $18\frac{1}{2}$  miles beyond Kuala Lipis and ballasted for 10 miles.

Bridges and culverts are completed to the 149th mile and in progress to the 158th mile. A commencement has been made with the large bridge over the Sungai Jelai.

The expenditure during the year amounted to \$1,843,102.38.

PERLIS RAILWAY EXTENSION (TO CONNECT WITH SIAMESE RAILWAYS).

171. This railway, which starts from Alor Star, the capital of Kedah, runs through Perlis to Padang Besar on the Siamese Frontier, over a length of 42 miles, was completed and opened for traffic on 1st March, 1918. The steel tops for eight bridges, which were not delivered from England owing to the war, have now been received and the temporary trestle bridges have been pulled down and replaced by steel tops.

The expenditure during the year amounted to \$160,291.63.

NEW ENGINE SHED, CARRIAGE SHED AND GOODS YARD, IPOH.

172. The work on the new engine and carriage sheds and goods yard, Ipoh, was commenced in April, 1918. The earthwork on the site for new engine and carriage sheds at Pumpan, also for the new goods yard is well advanced.

Seven hundred and twenty-thousand three hundred and thirty cubic yards of earthwork and 10,093 cubic yards of rock have been excavated. Three girder bridges and three culverts are in progress. Four culverts out of seven in the estimate have been completed. Ten married clerks' quarters, seven European drivers' quarters, one Loco. Foreman's and one District Locomotive Officer's quarters have been completed. One running bungalow, 46 unmarried clerks' quarters, 18 married clerks' quarters and four European drivers' quarters are in progress.

The expenditure during the year amounted to \$935,276.31.

ADDITIONAL GOODS AND MARSHALLING ACCOMMODATION, KUALA LUMPUR.

173. The work on above was commenced in September, 1917. Earthwork has been completed except the filling of the adjacent Public Works Department land, which is in progress. Two hundred and ninety-seven thousand four hundred and sixty-one cubic yards of excavation have been completed. Bridges and culverts are complete except for the foot bridge over the main lines. Permanent way is completed except for one or two crossings which were put in temporarily and have to be replaced. Buildings are practically complete except that further rolling is necessary.

The expenditure during the year amounted to \$137,282.40.

NEW CARRIAGE AND ENGINE ACCOMMODATION, SEREMBAN.

174. The work on the new carriage and engine accommodation, Seremban, was commenced in February, 1918. Foundations for turntable, engine, and carriage sheds are completed and the new bridges over the Temiang river and on the Rasa road division are in progress. The goods yard and approach roads thereto have been metalled and rolled.

Two hundred and eighty-six thousand and thirty-two cubic yards of earthwork have been excavated. Sidings have been laid in for over  $3\frac{1}{2}$  miles. The goods shed, three class V, twelve class VIII, 80 units menial staff quarters and one goods office have been completed. One class IV, two class V, five class VI, eight class VII, six class VIII, one running bungalow, twenty units menial staff quarters and one District Engineer's Office are in progress.

The expenditure during the year amounted to \$704,896.13.



DOUBLING LINE SINGAPORE RAILWAY, NEW STATION ON FORT CANNING  
AND QUARTERS NEAR KILLENEY ROAD.

175. The surveys for the doubling of the line Woodlands to Fort Canning, detailed surveys of Fort Canning Station, bridges at Tank Road, Killeney, Orchard Roads and Newton surveys for roads to be built for the Colonial Government in connection with the railway have been completed except for certain minor alterations which were found necessary.

Consequent upon the necessity for the abolition of the Bukit Timah level crossing it was found to be advisable to make an entirely new deviation of the line to the east of the present line at Bukit Timah which will materially improve the location.

The land throughout is being acquired, but in the neighbourhood of Singapore this is a difficult and slow process. A quarry has been opened at the 8th mile on the Bukit Timah-Woodlands road, a siding laid and stone crushing plant installed. Good progress has been made on the earthwork Woodlands to Mandai and a commencement made on the excavation at Fort Canning station. The total amount of earthwork excavated is 160,146 cubic yards. Nineteen menial staff quarters, one temporary engine shed, one temporary carriage shed and one turntable are in progress.

The expenditure during the year amounted to \$980,463.84.

PRAI WHARVES.

MESSRS. TOPHAM, JONES AND RAILTON'S CONTRACT.

176. The new dredger "Merwede" which was sent out from England started work on 23rd February, and the "Shrimp" was then returned to Singapore. The total amount of material removed by dredging up to the end of 1920 was 1,032,000 cubic yards, 604,000 being done during the year.

Seven hundred and eleven thousand cubic yards have been pumped into the southern reclamation and the balance of 321,000 cubic yards was taken to sea. These figures are solid measurement calculated from the original sections and do not include the siltage which occurs during construction and which is very considerable.

Three of the enclosures into which the southern reclamation has been divided have been filled up to the full height with the mud obtained from dredging and they are settling and drying out satisfactorily, and pumping continues into the other six enclosures which are being rapidly filled up. The continued settlement of the bund into the soft mud of the foreshore causes some delay in the completion of this reclamation. The bunds enclosing the land to be reclaimed at Bagan Buar are nearing completion and preparations are in hand for pumping into this area.

Good progress has been made with the construction of the jetty. Two hundred and thirteen of the concrete cylinders had been sunk up to the end of the year, out of the 323 required. These are all founded in the layer of coarse sand at about 53 feet below low water level and have all passed the prescribed loading test. The concrete hearting to cylinders and mass concrete capping beams are following closely behind and a start has been made to the reinforced concrete decking. It is expected that about 850 feet of the jetty will be opened for traffic by the end of 1921.

The supply of labour is plentiful and at the end of the year 52 Europeans and 2,000 Asiatics were employed on the works.

The value of the work done at 31st December, 1920, was \$3,699,857 or about 38 per cent. of the whole contract.

The expenditure during the year amounted to \$2,993,170.90

CAUSEWAY ACROSS JOHORE STRAITS.

177. The contractors, Messrs. Topham, Jones and Railton, Ltd., made good progress with construction of these works during the year.

The construction of the lock at Johore was well advanced and the north wall of the lock was about one half completed. In addition, the first two lengths of the east and west wing walls were built. The eastern portion of the watertight cofferdam enclosing the south wall of the lock was ready for closing at the end of the year.

The passenger landing stage at Johore Bahru Station was removed to a position clear of the works on the 14th August, without causing any interruption to traffic.

During the year 18,100 cubic yards of excavation were removed from the site of the lock and 5,480 cubic yards of concrete were deposited in the lock walls.



The official inauguration of the causeway works took place on the 24th April, 1920, when His Excellency the Governor deposited two barge loads of rubble in the centre of the Straits. The depositing of rubble has continued regularly but owing to delays in delivery of plant and on account of the long period necessary for the development of the quarry at Pulau Ubin the full output of stone was not attained.

During the year under review a total of 83,222 cubic yards of stone were deposited on the Woodlands site of the Straits.

The expenditure during the year amounted to \$1,209,577.13.

#### DOUBLING LINE, KUALA LUMPUR TO PORT SWETTENHAM.

178. The survey for the doubling of line, Kuala Lumpur to Port Swettenham, was completed in 1918. Work was commenced in February, 1920, and the progress made on construction is as follows:

One hundred and forty-eight thousand three hundred and ninety-four cubic yards of earthwork have been excavated and this is now nearly complete from Kuala Lumpur to Klang. Nine culverts have been completed and nine in progress.

Bores for the new Klang river bridge at Connaught Bridge Junction have been taken.

The expenditure during the year amounted to \$353,324.52.

#### DOUBLING LINE, BATU JUNCTION TO KUALA LUMPUR AND SUNGAI BESI.

179. The survey of the whole nine miles has been completed. Construction was commenced in 1920. Good progress has been made on the earthwork; 75,057 cubic yards were excavated. Ten culverts have been completed and masonry for one girder bridge, eighteen culverts and two bridges are in progress.

The expenditure during the year amounted to \$195,032.58.

#### KUALA KUBU DEVIATION.

180. The survey of the whole line has been completed to a distance of  $5\frac{1}{4}$  miles. Work of construction was commenced in August. Felling and clearing is completed over three miles and 53,051 cubic yards of earthwork were excavated.

The expenditure during the year amounted to \$12,995.87.

#### WATER SUPPLY SCHEME FOR PRAI AND BUKIT MERTAJAM.

181. The survey for the reservoir and dam has been completed for the reservoir at Bukit Serayah about eleven miles from Prai and the Bukit Mertajam road.

Work of excavating on the site of the dam was taken over from Messrs. Topham, Jones and Railton, Ltd., and continued departmentally. A large quantity of material has been excavated from the site of the dam and a good foundation established.

A quarry has been opened on the site and access roads have been made and the hauling machinery for the construction have been installed.

The expenditure during the year amounted to \$290,102.36.

#### GODOWNS, TELUK AYER, SINGAPORE.

182. Tenders were invited for the construction of six godowns at Teluk Ayer reclamation, Singapore, and a contract was let to Messrs. Robert Young & Co., Ltd., Penang, for \$1,423,400, and to be completed on or before the 30th April, 1922. All the six godowns are now in hand and good progress has been made with the filling and concreting of the founds.

The expenditure during the year amounted to \$38,478.12.

#### PENANG HILLS RAILWAY.

183. When work was recommenced after an interval of about six years, the previously executed permanent works were found practically to be undamaged and in good condition. The temporary works had entirely perished.

The following new works were completed or are in progress:

- (1) Construction of hauls No. 3, 4 and 5 and erection of winches and boilers for same completed.
- (2) Excavation of cuttings between pegs 0-20 lower section in progress.
- (3) Construction of viaducts between pegs 21-25, 44-49 and 86-90 lower section in progress.
- (4) Haulage of materials to sites along the whole length of the line in progress.
- (5) Construction of pump house and reservoir for temporary water supply to top of line in progress.
- (6) Construction of permanent quarters in progress.

The expenditure during the year amounted to \$149,889.03.



## SURVEY OF THE PROPOSED KUALA KRAU TO KUANTAN LINE.

184. The examination of all routes between terminal points was completed, entailing considerable time and mileage traversed, five months was spent on reconnaissance.

The northern route was run from  $\frac{3}{4}$  mile to the 21st mile from Kuala Krau, where impassable country was met which necessitated abandoning six miles of line. From the 15th mile on the survey an alternative route was started following the Tekam valley and on the 31st December had reached the 31st mile from Kuala Krau.

A southern route was started from Kuala Krau and the line was run five miles when the survey was temporarily abandoned so as to concentrate on the northern route. Likewise the southern route was started from Kuantan and abandoned temporarily also after 13 miles of detail, reconnaissance had been carried out.

An attempt was made to try a line following the valley of the Sungei Kelayu, a tributary of the Sungei Kuantan; after six weeks of detail examination involving  $5\frac{1}{2}$  miles of traverse, etc., this was abandoned temporarily and party was sent to Kuantan to investigate best site for station and wharfage accommodation near that town.

The expenditure during the year amounted to \$49,502.73.

## MALACCA TO GEMAS RAILWAY.

185. The survey of this is completed. Permanent location fixed and pegged from Malacca to Chabau (24 miles) and a preliminary survey is completed from Chabau to Gemas ( $20\frac{1}{2}$  miles.)

Distance Malacca-Gemas  $44\frac{1}{2}$  miles.

The expenditure during the year amounted to \$12,708.20.

186. The following miscellaneous short surveys were also made during the year:

- (a) *Seremban Station Yard*.—Survey was made of existing yard and works, works in progress, land boundaries. Calculation of points and crossings and setting out of same, setting out of roads, buildings, etc.
- (b) *Ipoh Yard Survey*.—Commencement was made with the survey of the Ipoh Yard, etc. on same lines as at Seremban but instructions given the surveyor to confine himself to purely survey work.
- (c) *Penang Foreshore Survey*.—A survey was completed of foreshore including Railway and Butterworth ferry jetties, adjacent streets, buildings, etc., and soundings taken seaward between the two jetties. Boring operations for new jetty site were commenced.
- (d) *Prai Yard Survey*.—A survey was started on the 15th December, of Prai Yard, Railway lands, existing works and works in progress.

## CONSTRUCTION STORES.

187. During the year, stores and materials for the Railway Construction were purchased to the value of \$9,645,904.21, of which the amount paid through the Crown Agents was \$7,636,369.83. Value of the stores in hand at the close of the year 1920 was \$237,011.71.

Indents to the number of 38 and estimated value of \$3,107,447.46 were despatched to the Crown Agents for the Colonies.

## PUBLIC OFFICERS' GUARANTEE FUND.

188. The number of officers' in the Railway Department contributing to the Public Officers' Guarantee Fund was 2,313 as compared with 2,143 at the end of the previous year. The entrance fees and contributions paid amounted to \$4,215.05.

## WIDOWS AND ORPHANS' PENSION ENACTMENT.

189. There were 927 Railway contributors under the Widows and Orphans' Pension Enactment at the end of 1920 as compared with 849 at the end of 1919.

## RAILWAY SERVANTS' BENEFIT FUND.

190. The total receipts on account of the Railway Servants' Benefit Fund during the year amounted to \$7,159.29, an increase of \$1,811.83, on 1919. The payments from the Fund totalled \$6,427.23, leaving a balance to the credit of the fund on 31st December, 1920, of \$13,325.46, of which a sum of \$10,000 is invested in the War Loan Investment Trust of Malaya.

## STATION AUDITS.

191. One thousand six hundred and seventy station audits were held during the year, comprising 1,398 complete, 137 partial and 135 surprise audits. There were in addition 391 complete and 35 partial inspections carried out by Audit Inspectors.



## TICKET PRINTING.

192. During the year 19,757,625 tickets were printed and issued to stations. The percentage to classes are:

First class	...	...	719,150	...	3.64 per cent.
Second „	...	...	2,855,550	...	14.45 „ „
Third „	...	...	14,794,500	...	74.88 „ „
Bicycle	...	...	72,100	...	.37 „ „
Motor cycle	...	...	2,925	...	.01 „ „
Special {	Rice...	...	796,650	...	4.03 „ „
	Bread	...	507,750	...	2.57 „ „
	Firewood	...	9,000	...	.05 „ „

## GENERAL.

Mr. F. H. English, Office Assistant to General Manager, was appointed Secretary to General Manager, with effect from 1st January, 1920.

Mr. F. Titcombe, Stenographer, General Manager's Office, was appointed Assistant Secretary to General Manager, with effect from 1st January, 1920.

Mr. G. L. Miller, who was appointed and assumed duty on 2nd February, 1920, as Assistant Accountant, was transferred to the General Manager's Office as Assistant Secretary on 1st December, 1920.

Mr. W. C. King, Deputy Accountant, who was granted one month's full-pay leave from 17th June, 1920, retired from the service on pension from 17th July, 1920.

Mr. A. I. Mackenzie, Assistant Accountant, was promoted to Deputy Accountant on 17th July, 1920, on the retirement from the service of Mr. W. C. King.

Mr. D. Philp was appointed and assumed duty as Assistant Accountant, with effect from 28th January, 1920.

Mr. F. L. Dennis was appointed and assumed duty as Assistant Accountant, with effect from 4th March, 1920.

Mr. L. Richardson, who was appointed and assumed duty on 28th May, 1920, as Stock Verifier, was transferred to the Stores Department as Stores Accountant, with effect from 18th October, 1920.

Mr. H. E. Oldbury, who was appointed and assumed duty on 10th July, 1920, as Audit Inspector, was transferred to the Timber Department temporarily as Timber Department Accountant, with effect from 12th October, 1920.

Mr. P. H. Henshaw, Traffic Manager, who proceeded on long leave on 1st May, 1919, returned and resumed duty, with effect from 26th October, 1920.

Mr. P. G. Beal, Deputy Traffic Manager, who had been acting Traffic Manager during the period of Mr. Henshaw's absence, reverted to his substantive appointment as Deputy Traffic Manager—Mr. F. R. Voddan, Assistant Traffic Manager, acted as Deputy Traffic Manager during the period, *vice* Mr. Beal.

Mr. F. N. Ireland was appointed and assumed duty as Superintendent of Hotels, Restaurant Cars and Restaurant Rooms, with effect from 22nd December, 1920.

Mr. W. H. Elkins, Assistant Traffic Manager, proceeded on long leave on 18th May, 1920, after having been demobilized from His Majesty's Forces and he was still on leave at the end of the year.

Mr. F. Heginbotham, Assistant Traffic Manager, proceeded on long leave on 8th November, 1920, and was still on leave at the end of the year.

Mr. J. Ross, Assistant Traffic Manager, proceeded on long leave on 19th June, 1920, and was still on leave at the end of the year.

Mr. R. W. Hiam, Engineer for Ways and Works, proceeded on long leave on 22nd November, 1920, and was still on leave at the end of the year.

Mr. J. H. Logan, District Engineer (I), who proceeded on long leave on 8th January, 1920, returned and resumed duty, with effect from 29th August, 1920.

Mr. W. J. Haskins, District Engineer (II), who proceeded on long leave on 31st March, 1919, returned and resumed duty, with effect from 7th March, 1920, and took over the duties of Acting Engineer for Ways and Works from 22nd November, 1920, on the departure of Mr. Hiam on leave.

Mr. A. Palmer, District Engineer (II), who proceeded on long leave on 10th January, 1920, returned and resumed duty, with effect from 21st December, 1920.



Mr. T. P. Sargent, District Engineer (III), proceeded on long leave on 26th June, 1920, and was still on leave at the end of the year.

Mr. J. W. Lewis, District Engineer (III), proceeded on long leave on 29th August, 1920, and was still on leave at the end of the year.

Mr. R. H. A. Jeff, District Engineer (III), who proceeded on long leave on 20th December, 1919, returned and resumed duty, with effect from 14th August, 1920.

Mr. H. J. Vogel, Assistant Engineer, proceeded on long leave on 25th February, 1920, and was still on leave at the end of the year.

Mr. J. F. Bell, Assistant Engineer, proceeded on long leave on 12th June, 1920, and was still on leave at the end of the year.

Mr. G. S. Helps, Assistant Engineer, proceeded on long leave on 5th June, 1920, and was still on leave at the end of the year.

Mr. H. D. Bindley was appointed and assumed duty as Assistant Engineer, with effect from 27th March, 1920.

Mr. G. B. Mathews was appointed and assumed duty as Assistant Engineer, with effect from 10th April, 1920, and he resigned the service on 30th November, 1920.

Mr. A. E. Fawcett was appointed and assumed duty as Assistant Engineer, with effect from 10th April, 1920.

Mr. F. W. Jarman was appointed and assumed duty as Assistant Engineer, with effect from 1st November, 1920.

Mr. H. F. F. Bedington was appointed and assumed duty as Assistant Engineer, with effect from 20th November, 1920.

Mr. R. D. Walker was appointed and assumed duty as Assistant Engineer, with effect from 18th December, 1920.

Mr. W. Dick was appointed and assumed duty as Assistant Engineer, with effect from 18th December, 1920.

Mr. B. S. Taylor was appointed and assumed duty as Engineering Accountant, with effect from 20th November, 1920.

Mr. A. W. S. Graeme, Deputy Locomotive Superintendent, proceeded on long leave on 15th May, 1920, and was still on leave at the end of the year.

Mr. C. Wilson, District Locomotive Superintendent, who proceeded on long leave on 18th September, 1919, returned and resumed duty, with effect from 11th May, 1920, and again proceeded on three months' leave on 20th November, 1920, prior to retirement.

Mr. A. C. Ferdinands, District Locomotive Superintendent, proceeded on three months' leave on 23rd December, 1920, prior to retirement.

Mr. A. W. Butterworth, District Locomotive Superintendent, who proceeded on long leave on 8th January, 1920, returned and resumed duty, with effect from 21st December, 1920.

Mr. A. E. A. Ridgway, Electrical Assistant to Locomotive Superintendent, who proceeded on long leave on 8th January, 1920, returned and resumed duty, with effect from 14th December, 1920.

Mr. E. Hibberd, Assistant Locomotive Superintendent, was deputed to act as District Locomotive Superintendent, Johore Bahru, with effect from 19th December, 1920.

Mr. J. C. Lapage was appointed and assumed duty as Running Superintendent, with effect from 7th May, 1920.

Mr. E. Robertson was appointed and assumed duty as Assistant Locomotive Superintendent, with effect from 21st December, 1920.

Mr. P. W. Redfearn was appointed and assumed duty as Locomotive Accountant, with effect from 1st February, 1920.

Mr. P. Wilson was appointed and assumed duty as Chief Draftsman, Locomotive Department, with effect from 28th April, 1920.

Mr. F. W. Stones, Stores Superintendent, proceeded on long leave on 12th May, 1920, and was still on leave at the end of the year.

Mr. B. S. Mee, Deputy Stores Superintendent, acted as Stores Superintendent, with effect from 12th May, 1920, when Mr. F. W. Stones went on leave.

Mr. L. P. Watts, who was appointed as Storekeeper with effect from 6th March, 1920, acted as Deputy Stores Superintendent from 12th May, 1920, *vice* Mr. B. S. Mee.



Mr. J. E. Cumming, Assistant Telegraph Engineer, Posts and Telegraphs Department, was transferred to Signal and Telegraph Department as Assistant Telegraph Engineer, with effect from 1st July, 1920.

Mr. C. Guthridge, Assistant Telegraph Engineer, proceeded on long leave on 27th May, 1920, and was still on leave at the end of the year.

Mr. C. L. Parsons, Assistant Signal Engineer, who proceeded on long leave on 14th May, 1919, returned and resumed duty, with effect from 3rd February, 1920.

Mr. H. N. Bayes, Assistant Signal Engineer, proceeded on long leave on 28th June, 1920, and was still on leave at the end of the year.

Mr. H. Richmond, Chief Signal Inspector, acted as Assistant Signal Engineer, with effect from 28th June, 1920, when Mr. H. N. Bayes went on leave.

Mr. C. H. Wyatt, Assistant Commissioner of Railway Police, proceeded on long leave on 5th May, 1920, and was still on leave at the end of the year.

Mr. R. Morgan, Inspector of Police, acted as Assistant Commissioner of Railway Police, with effect from 5th May, 1920, during the period of Mr. Wyatt's absence.

#### CONSTRUCTION.

Mr. F. D. B. Openshaw, Chief Resident Engineer, proceeded on eight months' medical leave on 18th June, 1920, and was still on leave at the end of the year.

Mr. T. Grieve, Deputy Chief Resident Engineer, who proceeded on long leave on 5th July, 1919, returned and resumed duty, with effect from 30th March, 1920, and acted as Chief Resident Engineer during the absence of Mr. Openshaw on leave.

Mr. H. J. Highfield, Chief Surveyor, who proceeded on long leave on 27th March, 1920, returned and resumed duty, with effect from 27th November, 1920.

Mr. A. Morley, Accountant and Auditor, retired from the service on pension, with effect from 1st March, 1920.

Mr. C. H. Rowe, Assistant Accountant, was confirmed in the appointment as Construction Accountant, with effect from 1st March, 1920.

GENERAL MANAGER'S OFFICE,  
Kuala Lumpur, 29th April, 1921.

P. A. ANTHONY,  
*General Manager*  
*and Chief Engineer, F.M.S. Rlys.*



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Dr.

## No. 1.—RECEIPTS AND EXPENDITURE ON CAPITAL ACCOUNT.

Cr.

To Expenditure.	Amount expended to 31st December, 1919.	Amount ex- pended during year as per No. 2.	Transfers from Lines not open for traffic to Open Line account.	Amount expended to 31st December 1920.	By Receipts.	Amount received to 31st December, 1919.	Amount received during year.	Total.
	\$ c.	\$ c.	\$ c.	\$ c.		\$ c.	\$ c.	\$ c.
Lines open for Traffic ... ..	80,170,294 98	874,091 30	2,602,342 70	83,646,728 98	Received from Federal Government—	123,681,858 07	20,452,767 43	144,134,625 50
Lines not open for Traffic—								
New Lines ... ..	6,894,639 02	6,353,849 20	Cr. 2,602,342 70	10,646,145 52				
Widenings and Additions ...	4,466,175 11	7,884,049 78	...	12,350,224 89				
Lines Leased ... ..	341,218 56	162,719 34	...	503,937 90				
Rolling Stock ... ..	20,469,167 05	3,598,244 33	...	24,067,411 38				
Manufacturing and Repairing Works and Plant ... ..	2,472,197 43	547,363 02	...	3,019,560 45				
Total Capital Expended on Railway ... ..	114,813,692 15	19,420,316 97	...	134,234,009 12				
Steamer and Ferry Service ...	753,003 43	Cr. 16,000 00	...	737,003 43				
Docks, Harbours and Wharves...	5,854,513 70	647,199 98	...	6,501,713 68				
Hotels ... ..	584,000 00	32,134 38	...	616,134 38	Total Receipts ...	123,681,858 07	20,452,767 43	144,134,625 50
Electric Power Stations ...	120,255 43	4,462 52	...	124,717 95				
Land and Property not forming part of the Railway or Stations	1,554,789 33	322,878 88	...	1,877,668 21				
Saw Mill ... ..	1,604 03	41,774 70	...	43,378 73				
Total Expenditure ...	123,681,858 07	20,452,767 43	...	144,134,625 50				



## No. 2.—DETAILS OF CAPITAL EXPENDITURE FOR THE YEAR ENDING 1920.

Item Nos. in 1920 Estimates.	Vote chargeable.	Amount.	Total.
	LINES OPEN FOR TRAFFIC.	\$ c.	\$ c.
1	Extension to Telephone Installation, Central Workshops ... ..	1,470 54	
2	Wagon Weighbridge, Padang Besar ... ..	121 40	
3	Office and Store for Locomotive Department, Alor Star ... ..	1,787 23	
5	Standard Crossing Loop with Siding, Simpang Lima ... ..	415 71	
6	Do. do. do. Sungei Bogak ... ..	40 77	
7	Additional Goods Yard Accommodation, Taiping ... ..	8,452 17	
8	68th Mile Crossing Loop on Pass Section ... ..	83 33	
9	New Railway Station at 95th Mile ... ..	22,350 23	
10	108th Mile New Station Crossing Loop and Goods Siding... ..	10,000 99	
11	New Station Goods Siding and Lock-up, Banir ... ..	8,275 64	
12	New Passenger and Goods Station at 148th Mile-post ... ..	14,124 77	
14	Additional Goods Accommodation and Roadway, Teluk Anson Wharf ...	7,089 21	
15	Carriage Shed, Tanjong Malim ... ..	2,412 00	
16	Alterations to Yard, Tanjong Malim ... ..	70,559 62	
20	New Railway Offices for District Officers, Kuala Lumpur ... ..	55,831 86	
21	Extension of Goods Shed, New Cattle Loading Dock, etc., Kuala Lumpur ... ..	24,225 84	
22	New Central Offices, Kuala Lumpur ... ..	9,622 79	
26	Additional Passenger and Goods Accommodation, Tampin ... ..	201 57	
27	Extension of Spans of Bridges, Raising Line, etc., Tampin and Gemas ...	99,932 37	
28	Station Building at Tebong Siding ... ..	3,417 12	
30	Intermediate Station with Crossing Loop between 344 <sup>1</sup> / <sub>4</sub> th and 345th Mile ... ..	31,698 27	
31	New Station Marshalling Sidings, Engine and Carriage Shed, Gemas ...	337,803 06	
32	Raising Railway Line at various points ... ..	54,049 30	
33	Weighbridge and Sidings, Tanjong Pagar ... ..	10,110 20	
34	New Goods Yard, Shed and alterations to Roadways, etc., Tanjong Pagar ... ..	7,537 28	
36	Siding Accommodation to Cattle Quarantine, Port Weld ... ..	8,372 19	
37	Additional Goods Accommodation, Kundang ... ..	54 84	
38	Extension of Roads, Central Workshops ... ..	1,846 27	
39	Extension of Locomotive Superintendent's Office, Central Workshops ...	3,694 50	
41	Additional Accommodation, Central Stores, Central Workshops... ..	5,512 84	
42	Establishment of Railway School of Signalling ... ..	3,449 66	
43	Goods Shed and Additional Siding, Klang ... ..	4,640 19	
44	Carriage Shed, Port Swettenham ... ..	113 10	
45	Reclamation do. ... ..	16,933 80	
46	Goods Shed do. ... ..	14,165 12	
48	New Passenger Station and Additional Goods Accommodation, Bahau ...	17,817 12	
49	Parcels Office, Seremban ... ..	4,995 88	
50	Station Building, New Station Goods Yard, Kemayan ... ..	10,038 98	
Re-vote	Crossing Loop and New Goods Yard, Jéram ... ..	3,088 61	
"	Alterations to Old Railway Offices, Kuala Lumpur ... ..	1,500 00	
"	Diversion of Line and New Station, Kuala Kubu ... ..	1,849 90	
"	Completion of New Station, Degong ... ..	1,031 71	
"	New Station, Ipoh ... ..	5,747 03	
"	Relaying Tronoh Branch ... ..	Cr. 15,783 94	
"	Additional Goods Accommodation, Mambau ... ..	540 00	
"	Do. do. Pulau Saigon ... ..	842 77	
"	Crossing Loop and New Goods Yard, Assam Java ... ..	922 81	
"	Additional Mileage Siding, Batu Village ... ..	348 00	
"	Office Accommodation for District Engineer, Kuala Krau ... ..	178 00	
"	Goods Yard, Batu Village ... ..	106 40	
"	Office for Assistant Traffic Manager and Clerks, Bukit Mertajam... ..	100 00	
"	New Customs Shed and Siding, Taiping ... ..	16 28	
"	Loop Line with Station Building and Quarters, etc., Degong Halt ...	36 95	
Unprovided	Office for Goods Staff, Pulau Saigon ... ..	4,725 40	
	Sundry Credits ... ..	Cr. 4,406 38	
			874,091 30
	Carried over ... ..		874,091 30



## No. 2.—DETAILS OF CAPITAL EXPENDITURE FOR THE YEAR ENDING 1920—(cont.)

Item Nos. in 1920 Estimates.	Votes chargeable.	Amount.	Total.
		\$ c.	\$ c.
	<i>Brought forward</i> ...	...	874,091 30
	<b>LINES NOT OPEN FOR TRAFFIC.</b>		
1	East Coast Railway, Kelantan Section ... ..	3,496,045 09	
2	Do. do. Pasir Mas to Rantau Panjang Extension ... ..	642,310 14	
3	Do. do. Pahang Section... ..	1,843,102 38	
4	Perlis Railway Extension ... ..	160,291 63	
16	Malacca to Gemas Railway ... ..	12,708 20	
23	Surveys of the Proposed Kuala Krau to Kuantan Line ... ..	49,502 73	
	Penang Hills Railway ... ..	149,889 03	
			6,353,849 20
	<b>Widenings and Alterations.</b>		
5	Prai Doubling, Wharves, Alterations, Additions and Purchase of Land ...	2,993,170 90	
6	Cause-way across Johore Straits ... ..	1,209,577 13	
7	New Engine Shed, Carriage Shed and Goods Yard, Ipoh ... ..	935,276 31	
9	Additional Goods and Marshalling Accommodation, Kuala Lumpur ...	137,282 40	
10	New Carriage and Engine Accommodation, Seremban ... ..	704,896 13	
11	Doubling Line, Singapore Railway, New Station Fort Canning, etc. ...	980,463 84	
12	Do. Kuala Lumpur to Port Swettenham ... ..	353,324 52	
13	Do. Batu Junction to Kuala Lumpur and Sungei Besi ... ..	195,032 58	
14	Kuala Kubu Deviation ... ..	12,995 87	
17	Water Supply Scheme for Prai and Bukit Mertajam ... ..	290,102 36	
20	Raising or Deviation of the Line between Ulu Yam and Sungei Choh ...	26,362 23	
21	Godowns Teluk Ayer, Singapore ... ..	38,478 12	
	Perlis Coalfields... ..	7,087 39	
			7,884,049 78
	<b>LEASED LINES.</b>		
	<b>Johore State Railway.</b>		
52	Menial Staff Quarters with out-buildings, Segamat... ..	3,932 37	
53	New Goods Yard, Segamat ... ..	6,304 28	
54	Clerks' Quarters Do. ... ..	2,560 00	
56	Additional Goods Yard Accommodation, Rengam ... ..	4,840 39	
57	Drainage to Station Yard, etc., Lyang Lyang ... ..	965 74	
58	New Goods Yard, Kluang ... ..	28,074 29	
60	Temporay Quarters for Menial Staff, Johore Bahru ... ..	3,420 00	
62	Water Supply, Johore Bahru ... ..	19,252 19	
64	Goods Station and Goods Yard, Johore Bahru ... ..	53,152 85	
65	Quarters for Clerks (Eight Units) do. ... ..	2,756 34	
66	Wire Fencing, Johore Railway ... ..	4,918 11	
67	Buildings, etc., on account of Locomotive Department between Johore Bahru and Niyor ... ..	16,245 30	
70	Level Crossing at Mengkibol Station ... ..	567 58	
Re-vote	Goods Shed Loading Dock, etc., Rengam ... ..	2,380 34	
"	New Station Building, Batu Anam ... ..	1,872 38	
"	Do. do. Segamat ... ..	1,855 30	
"	New Mileage Siding, Batu Anam ... ..	2,708 20	
"	Quarters for Clerks, Johore Bahru ... ..	2,190 98	
"	Quarters, Office and Store for Telegraph Department, Labis ... ..	3,031 38	
"	Extension of Pond Locomotive Well, Johore Bahru ... ..	9 00	
"	Interlocking Facing points with Signal Do. ... ..	1,832 32	
	<i>Sundry Credits</i> ... .. <i>Cr.</i>	150 00	
			162,719 34
	<b>ROLLING STOCK.</b>		
73	Additional Rolling Stock, 1920 ... ..	2,006,771 13	
74	Locomotives " ... ..	294,386 05	
75	Do. " ... ..	34 61	
76	Supplement to Locomotives items, 66, 74 and 82 1919 Estimates, 1919, 1916 and 1915 respectively ... ..	296,314 82	
	<i>Carried over</i> ...	2,597,506 61	15,274,709 62



## No. 2.—DETAILS OF CAPITAL EXPENDITURE FOR THE YEAR ENDING 1920—(cont.)

Item Nos. in 1920 Estimates.	Vote chargeable.	Amount.	Total.
		\$ c.	\$ c.
	<i>Brought forward</i> ...	2,597,506 61	15,274,709 62
	<b>ROLLING STOCK—(cont.)</b>		
77	Twelve Fish Vans (1919) ... ..	49,056 35	
78	Twenty Locomotives „ ... ..	50,388 64	
79	Four Rakes of Coaches (1918) ... ..	167,992 69	
80	Three hundred Covered Goods Wagons (1918) ... ..	106,877 48	
81	Fifty Timber Trucks (1918) ... ..	11,876 18	
82	One hundred and fifty Bogie Coal Trucks (Steel) (1918) ... ..	244,557 15	
83	Fifty (12-ton) High-side Wagons (Timber) (1918) ... ..	29,224 50	
84	Two hundred and fifty Low-side Wagons (1918) ... ..	159,307 29	
85	Seven Rakes of Coaches (1916) ... ..	151,330 19	
86	Two hundred Additional Goods Vehicles (1917) ... ..	1,286 56	
87	Additional Rolling Stock (1916) ... ..	30,136 47	
88	Do. Locomotive Rolling Stock (1915) ... ..	756 61	
89	One Mail Sorting Van (1919) ... ..	2,239 43	
Re-vote	Two Travelling Cranes „ ... ..	28,753 93	
	<i>Sundry Credits</i> ... .. <i>Cr.</i>	33,045 75	3,598,244 33
	<b>MANUFACTURING AND REPAIRING WORKS AND PLANT.</b>		
90	Additional Machinery and Plant for Loco Workshops ... ..	76,882 68	
91	One overhead Travelling Crane ... ..	25,189 80	
95	Re-roofing Boiler Shop, Central Workshops ... ..	3,526 17	
96	Bush and Axle Box Packing Shed, Central Workshops ... ..	4,335 50	
97 & 98	Extension of Wagon and Boiler Shop do. ... ..	294,285 93	
99	Additional Sidings to Works, Central Workshops ... ..	13,429 57	
100	New Wagon Weighbridge (20-tons) for Stores, Central Workshops ... ..	2,749 85	
101	Do. (60-tons) and Sidings for Locomotive Work-shops ... ..	7,269 02	
102	Stone Crushing Plant Batu Caves ... ..	7,825 21	
103	Concrete Floor for Engine washing, Central Workshops ... ..	1,285 77	
104	Extension of Carriage Shop Office, one Bay, Central Workshops ... ..	1,591 57	
105	Extension to Machine Shop Office, Central Workshops ... ..	1,963 53	
107	Extensions to Machine Shop, Central Workshops ... ..	28,551 84	
108	Development of Way and Works Depot ... ..	6,033 87	
Re-vote	Workshop Accommodation, Central Workshops ... ..	6 64	
„	New Paint Shop, Central Workshops ... ..	1,225 56	
„	Purchase of Plant and Machinery, etc. ... ..	8,761 91	
„	Siding and Pit for Examination of Vacuum Fitted Wagon Stock, Central Workshops ... ..	2,451 75	
„	New Carriage Shop and Cranes, Central Workshops ... ..	57,144 17	
„	Extension of Locking Frame Shop, Bungsar Road ... ..	2,852 68	547,363 02
	<b>STEAMER AND FERRY SERVICE.</b>		
	<i>Sundry Credits</i> ... ..	...	<i>Cr. 16,000 00</i>
	<b>DOCKS, HARBOURS AND WHARVES.</b>		
110	Tug for Port Swettenham ... ..	359,634 44	
111	Ten Teakwood Lighters, Port Swettenham ... ..	158,400 00	
113	New Wharf Accommodation, Port Swettenham ... ..	6,378 54	
114	Extensions to Tongkang Wharf, Sungei Aur, Port Swettenham ... ..	25,000 00	
115	Direct access to Wharf, Port Swettenham ... ..	26,886 20	
116	Marine Police Station and Barracks Accommodation, etc., Port Swettenham ... ..	1,975 35	
117	New Slipway, Tumpat ... ..	1,273 70	
Unprovided	Purchase of a small Tug ... ..	67,651 75	647,199 98
	<i>Carried over</i> ...		



## No. 2.—DETAILS OF CAPITAL EXPENDITURE FOR THE YEAR ENDING 1920—(cont.)

Item Nos. in 1920 Estimates.	Vote chargeable.	Amount.	Total.
		\$ c.	\$ c.
	<i>Brought forward</i> ...	...	20,083,651 33
	<b>ELECTRIC POWER STATIONS.</b>		
31	Power House and Plant, Gemas ... ..	...	4,462 52
	<b>HOTELS.</b>		
118	Annex to Station Hotel, Ipoh ... ..	27,137 92	
119	Do. Kuala Lumpur ... ..	4,317 16	
Unprovided	Hotel, Penang Hills ... ..	679 30	32,134 38
	<b>LAND, PROPERTY, ETC., NOT FORMING PART OF RAILWAY OR STATIONS.</b>		
123	Menial Staff Quarters, Alor Star ... ..	3,719 00	
127	Police Barracks for 10 single and three married men, Bukit Mertajam ...	928 43	
128	Quarters for Clerical Staff, Bukit Mertajam ... ..	3,419 84	
129	Menial Staff Quarters, Bukit Mertajam ... ..	25,471 62	
130	Quarters for Assistant Traffic Manager, Bukit Mertajam ... ..	7,637 78	
131	Clerk's Quarters, Bukit Mertajam ... ..	20,225 22	
133	Quarters for Clerical Staff, Nebong Tebal ... ..	4,864 00	
136	Police Barracks, Taiping ... ..	9,900 00	
140	Additional Water Supply, for Locomotive Department, Sungkai ...	1,533 09	
141	Do. Clerks' Quarters, Sungkai ... ..	5,396 48	
147	Quarters for Permanent Way Inspector, Kuala Kubu ... ..	838 20	
148	Menial Staff Quarters, Kuang ... ..	1,740 00	
149	Maxwell Road European Quarters, Kuala Lumpur ... ..	56,808 49	
151	Quarters for Clerical Staff, Kuala Lumpur ... ..	48,194 04	
157	Menial Staff Quarters (four blocks of eight units each), Batu Road ...	14,065 60	
159	Acquisition of Land for Quarters, Tampin ... ..	1,800 00	
160	Railway Police Barracks for 30 single and six married men, Gemas ...	14,400 00	
165	Quarters for Clerical Staff, Gemas ... ..	2,776 92	
166	Do. Clerks (Four units), Gemas ... ..	2,855 15	
167	Clerks' Quarters (Five Units), Gemas ... ..	2,990 00	
169	Purchase of Land for European Quarters, Central Workshops ... ..	20,215 29	
170	Five Quarters for European Staff Locomotive Department, Central Workshops ... ..	17,514 14	
171	Levelling Site and making Roadway for Artizan's Quarters, Central Workshops ... ..	11,489 38	
172	Artizans' Quarters, Central Workshops ... ..	3,056 35	
177	Barracks for Loading and Unloading Coolies etc., Port Swettenham ...	2,190 00	
179	Purchase of Land for Quarters and Levelling Sites, Pondok Tanjong ...	800 00	
180	Quarters for Electric and Train Lighting Staff at various Stations ...	2,182 50	
31	New Quarters, Gemas ... ..	3,330 00	
Re-vote	Three European Quarters, Kuala Lumpur ... ..	3,543 39	
"	Artizans' Quarters, Central Workshops ... ..	957 90	
"	Quarters for two European Officers, Kuala Krau ... ..	2,876 58	
"	Do. Married Clerks, Seremban ... ..	660 00	
"	Five Blocks Menial Staff Quarters, Central Workshops ... ..	4,124 75	
"	Menial Staff Quarters, Kapar ... ..	26 00	
"	Do. Ampang ... ..	75 00	
"	Quarters for European Driver, Gemas ... ..	1,772 29	
"	Menial Staff Quarters, Gemas ... ..	11,672 85	
"	Do. Teluk Anson Wharf ... ..	117 00	
"	Two Lines (8 units each) including Bath Rooms, Teluk Anson Wharf ...	117 00	
"	Quarters for Driver, Kuang ... ..	1,977 70	
"	Purchase of Land for Sanitorium, Port Dickson ... ..	547 50	
"	Menial Staff Quarters, Central Workshops ... ..	3,921 40	
"	Quarters for Clerks (3 units) S. & T. Dept., Tampin ... ..	148 00	322,878 88
	<b>OTHER BUSINESS.</b>		
181	Saw-mill and Timber Depôt, Gemas ... ..	...	41,774 70
		...	20,452,767 43



No. 3.—REVENUE RECEIPTS AND EXPENDITURE OF THE  
WHOLE UNDERTAKING.

Dr.

Cr.

See State- ment.		Gross Receipts.	Expenditure.	Net Receipts.	1919.		
					Gross Receipts.	Expenditure.	Net Receipts.
		\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
4	Railway ... ..	16,292,485 61	14,905,276 18	1,387,209 43	14,104,454 56	10,030,296 76	4,074,157 80
5	Steamer and Ferry Services	329,740 54	413,289 07	Dr. 83,548 53	237,451 27	347,619 39	Dr. 110,168 12
6	Docks, Harbours and Wharves	426,881 37	503,247 24	Dr. 76,365 87	379,057 11	384,466 42	Dr. 5,409 31
7	Steamship Agency ... ..	10,551 81	700 00	9,851 81	9,915 02	600 00	9,315 02
8	Exploitation of Timber ... ..	...	181 80	Dr. 181 80			
	Total ...	17,059,659 33	15,822,694 29	1,236,965 04	14,730,877 96	10,762,982 57	3,967,895 39
	Miscellaneous Receipts—						
	Rents from Houses and Lands ... ..		167,742 78				152,711 41
	Rents from Hotels ... ..		45,154 50				27,600 00
	Other Rents ... ..		41,208 96				36,541 36
			254,106 24				216,852 77
	Less Upkeep of Property ... ..		624,166 39				298,832 42
	General Interest ... ..			Dr. 370,060 15			Dr. 81,979 65
				2,768 12			9,737 80
	Total Net Income ... ..			869,673 01			3,895,653 54
	Deduct—Rentals and Fixed Charges—						
	Rents Payable ... ..		86,487 52				4,311 70
	Rent of Leased Lines ... ..		220,000 00				220,000 00
				306,487 52			224,311 70
				563,185 49			3,671,341 84
	Appropriation for Special Purposes—						
	Contribution to Imperial Government for War Purposes ... ..						360,895 22
	Total Net Profit ... ..			563,185 49			3,310,446 62



Dr.

## No. 4.—RECEIPTS AND EXPENDITURE IN RESPECT OF RAILWAY WORKING.

Cr.

See Abs- tract.	To Expenditure.	1920.		1919.		Percentage of Traffic Receipts.		By Gross Receipts.	1920.		1919.		Percentage of Traffic Receipts.	
						1920.	1919.						1920.	1919.
		\$	c.	\$	c.				\$	c.	\$	c.		
(A)	Maintenance and Renewal of Way and Works	3,802,172	32	2,704,029	61	23.34	19.50	Passenger Train Traffic—						
								Ordinary Passengers, 1st Class	1,256,173	62	804,318	22		
								2nd "	2,263,105	74	1,645,244	74		
								3rd "	5,525,396	79	5,023,866	49		
(B)	Rolling Stock—							Immigrants	33,140	63	35,820	14		
	(1) Locomotives	1,075,952	16	742,214	55	...	...							
	(2) Carriages	539,009	76	405,330	04	...	...							
	(3) Wagons	377,713	22	509,428	40	...	...							
		1,992,675	14	1,656,972	99	12.23	11.95	Season Tickets, 1st Class	8,701	85	3,657	87		
								2nd "	34,950	13	33,430	42		
								3rd "	8,590	36	7,368	46		
(C)	Locomotive Running Expenses	3,503,080	66	2,183,373	77	21.50	15.75							
(D)	Traffic Expenses	2,842,040	66	1,848,148	00	17.44	13.33							
		6,345,121	32	4,031,521	77	38.94	29.08	Total Receipts from Passengers						
									52,242	34	44,456	75	0.32	0.32
									9,130,059	12	7,553,706	34	56.99	54.48
(E)	General Charges	2,570,968	21	1,535,503	85	15.78	11.07	Mails	32,250	55	31,831	05	0.20	0.23
	Legal Expenses	1,405	25	669	74	...	...	Parcels and Other Merchandise by Passenger Train	737,053	53	578,476	80	4.60	4.17
	Assessment on Tamil Labour	166,237	00	70,884	30	1.02	0.51							
	Importation of Labour	2,757	07	5,242	68	0.02	0.04							
	Compensation	23,939	87	25,471	82	0.15	0.19							
								Total Passenger Train Receipts						
									9,899,363	20	8,164,014	19	61.79	58.88
	Total Traffic Expenditure	14,905,276	18	10,030,296	76	91.48	72.34	Goods Train Traffic—						
								Merchandise	3,872,393	12	3,580,512	00	24.17	25.82
								Live Stock	217,261	57	191,314	45	1.35	1.38
								Tin and Tin-ore	193,019	22	198,712	15	1.20	1.43
								Rubber	999,503	71	1,008,562	23	6.24	7.27
								Coal, Coke and Firewood	728,637	06	634,385	37	4.55	4.58
								Other Minerals	111,778	03	88,792	92	0.70	0.64
								Total Goods Train Receipts						
									6,122,562	71	5,702,279	12	38.21	41.12
	Miscellaneous							Total Traffic Receipts						
									16,021,925	91	13,866,293	31	100.00	100.00
	Total Expenditure	14,905,276	18	10,030,296	76			Mileage, Demurrage and Wagon Hire, etc.						
	Net Receipts	1,387,209	43	4,074,157	80				Dr. 54	32	600	46		
								Miscellaneous	270,614	02	237,560	79		
	Total	16,292,485	61	14,104,454	56			Total						
									16,292,485	61	14,104,454	56		



## ABSTRACT A.—MAINTENANCE AND RENEWAL OF WAY AND WORKS.

	1920.		1919.
	\$	c.	\$ c.
1.—Superintendence—			
Salaries ... ..	493,457	34	252,012 85
Office Expenses... ..	31,638	78	18,513 25
		525,096 12	
2.—Maintenance of Roads, Bridges and Works—			
Earthworks ... ..	133,258	78	116,732 74
Bridges, Tunnels, Culverts, Retaining Walls, River			
Improvements and Other Works ... ..	139,173	68	89,393 05
Roads and Fences ... ..	78,037	45	47,337 05
		350,469 91	
3.—Maintenance of Permanent Way—			
Renewals of Running Lines and Sidings—			
Wages... .. 12,022 86	252,023 18	...	{ 4,442 24
Materials ... .. 238,944 42			{ 39,329 14
Engine Power ... .. 1,055 90			{ 3,438 40
Repairs of Running Lines and Sidings—			
Wages... .. 1,198,670 50	1,660,229 54	...	{ 880,321 46
Materials ... .. 380,031 25			{ 463,794 53
Engine Power and Wagon Repairs 81,527 79			{ 74,223 82
		1,912,252 72	
4.—Maintenance of Signalling ... ..		285,846 78	193,237 78
5.— „ Telegraphs ... ..		237,915 77	134,614 18
6.—Maintenance of Stations and Buildings—			
Stations, Depôts and Offices ... ..	328,047 16		302,071 41
Engine and Carriage Sheds ... ..	24,531 06		9,570 10
Locomotive Carriage and Wagon Workshops ... ..	67,537 48		12,338 19
Other Buildings ... ..	39,399 95		37,791 25
		459,515 65	
7.—Miscellaneous ... ..		31,075 37	24,868 17
Total ... ..		3,802,172 32	2,704,029 61



## ABSTRACT B.—MAINTENANCE AND RENEWAL OF ROLLING STOCK.

## (1) LOCOMOTIVES.

	1920.		1919.	
	\$	c.	\$	c.
1.—Superintendence—				
Salaries ... ..	86,929	56	47,968	86
Office Expenses ... ..	6,570	42	3,852	65
		93,499 98		51,821 51
2.—Complete Renewals—				
Wages ... ..	...		...	
Materials ... ..	...		...	
3.—Repairs and Partial Renewals—				
Wages ... ..	477,580	79	317,707	74
Materials ... ..	399,665	31	296,198	18
		877,246 10		613,905 92
4.—Purchase of New Locomotives ... ..				
5.—Workshop Expenses—				
Repairs and Renewals of Machinery and				
Plant ... ..	65,134	65	53,710	39
Other Expenses ... ..	78,191	17	60,301	47
		143,325 82		114,011 86
Deduct Engine Power Supplied ... ..		1,114,071 90		779,739 29
		38,119 74		37,524 74
Total ...		1,075,952 16		742,214 55

## (2) CARRIAGES.

	1920.		1919.	
	\$	c.	\$	c.
1.—Superintendence—				
Salaries ... ..	33,179	20	18,195	09
Office Expenses ... ..	2,561	84	1,461	35
		35,741 04		19,656 44
2.—Complete Renewals—				
Wages ... ..	...		...	
Materials ... ..	...		...	
3.—Repairs and Partial Renewals—				
Wages ... ..	184,325	50	120,523	64
Materials ... ..	137,883	97	89,227	45
		322,209 47		209,751 09
4.—Purchase of New Carriages ... ..		126,943 81		135,918 35
5.—Workshop Expenses—				
Repairs and Renewals of Machinery and				
Plant ... ..	24,449	19	18,845	75
Other Expenses ... ..	29,666	25	21,158	41
		54,115 44		40,004 16
Total ...		539,009 76		405,330 04

## (3) WAGONS.

	1920.		1919.	
	\$	c.	\$	c.
1.—Superintendence—				
Salaries ... ..	24,414	15	16,540	99
Office Expenses ... ..	2,120	75	1,328	50
		26,534 90		17,869 49
2.—Complete Renewals—				
Wages ... ..	40	68	...	
Materials ... ..	14,731	68	33	51
		14,772 36		33 51
3.—Repairs and Partial Renewals—				
Wages ... ..	133,457	90	109,893	17
Materials ... ..	144,920	69	135,191	73
		278,378 59		245,084 90
4.—Purchase of New Wagons ... ..		8,426 66		200,435 71
5.—Workshop Expenses—				
Repairs and Renewals of Machinery and				
Plant ... ..	22,656	71	21,672	62
Other Expenses ... ..	26,944	00	24,332	17
		49,600 71		46,004 79
Total ...		377,713 22		509,428 40



## ABSTRACT C.—LOCOMOTIVE RUNNING EXPENSES.

		1920.	1919.
	\$ c.	\$ c.	\$ c.
1.—Superintendence—			
Salaries ... ..	109,259 16		61,180 29
Office Expenses ... ..	9,878 96		6,059 63
		119,138 12	
2.—Steam Train Working—			
Wages connected with the running of Locomotives	865,827 65		521,389 88
Fuel ... ..	2,273,388 92		1,396,449 07
Water ... ..	115,332 84		94,143 01
Lubricants ... ..	208,329 50		181,604 21
Other Stores, including Clothing ... ..	44,083 80		42,072 37
Miscellaneous ... ..	11,310 69		7,633 50
		3,518,273 40	
		3,637,411 52	2,310,531 96
Deduct Engine Power Supplied ...		134,330 86	127,158 19
Total ...		3,503,080 66	2,183,373 77

## ABSTRACT D.—TRAFFIC EXPENSES.

		1920.	1919.
	\$ c.	\$ c.	\$ c.
1.—Salaries and Wages—			
Superintendence ... ..	322,021 71		161,075 68
Station Masters and Clerks ... ..	1,055,330 39		644,738 96
Signalmen and Gatemen ... ..	224,024 78		161,241 45
Porters, etc. ... ..	328,517 79		231,274 62
Police ... ..	127,825 04		116,472 15
Guards ... ..	226,431 01		132,985 88
Shunting... ..	57,567 54		35,791 41
		2,341,718 26	1,483,580 15
2.—Fuel, Lighting, Water and General Stores ... ..		156,230 90	114,572 69
3.—Clothing ... ..		51,187 19	45,657 29
4.—Printing, Advertising, Stationery, and Tickets ... ..		136,704 50	87,296 65
5.—Cleansing, Lubricating, and Lighting of Vehicles ... ..		148,513 18	112,110 17
6.—Miscellaneous ... ..		7,686 63	4,931 05
Total ...		2,842,040 66	1,848,148 00

## ABSTRACT E.—GENERAL CHARGES.

		1920.	1919.
	\$ c.	\$ c.	\$ c.
Salaries of G.M.R. C.A. and Staff—			
Salaries ... ..		372,194 69	199,571 17
Office Expenses ... ..		30,157 67	13,352 47
Medical Expenses ... ..		36,657 74	32,290 80
Allowance and Office Expenses to Consulting Engineers ... ..		15,606 99	19,997 72
Contribution to cost of External Audit Department ... ..		19,273 00	18,690 00
Gratuities ... ..		2,885 23	870 70
Pensions and Gratuities under Pension Laws ... ..		67,352 52	60,149 40
Passages of Officers ... ..		113,285 40	41,640 02
Education Fees for the children of Police Officers and Constables ... ..		389 00	106 00
Temporary Allowance ... ..	1,262,531 91		810,292 28
„ (Rice and Bread Account) ... ..	598,573 35		283,812 97
		1,861,105 26	
Food Production ... ..			31,344 12
Gemas Allowance ... ..		26,776 66	14,175 72
Contribution to Railway Institutes ... ..		2,664 01	
Sundries ... ..		22,620 04	9,210 48
Total ...		2,570,968 21	1,535,503 85



## No. 5.—RECEIPTS AND EXPENDITURE IN RESPECT OF STEAMER AND FERRY SERVICES.

Dr.

Cr.

To Expenditure.	1920.	1919.	By Gross Receipts.	1920.	1919.
	\$ c.	\$ c.		\$ c.	\$ c.
1. Salaries and Wages ... ..	154,837 12	134,247 12	1. Passengers ... ..	233,660 82	162,871 05
2. Fuel ... ..	108,818 14	78,645 24	2. Parcels and other Coaching Traffic	22,158 50	16,522 08
3. Stores, Lubricants, Water, etc. ...	47,406 49	39,753 49	3. Mails ... ..	2,340 00	2,220 00
4. Repairs ... ..	101,274 39	90,005 30	4. Goods ... ..	62,180 48	48,766 34
5. Harbour Fees and Light Dues ...	180 00	180 00	5. Live Stock ... ..	1,010 69	1,258 28
6. Miscellaneous ... ..	772 93	4,788 24	6. Miscellaneous ... ..	8,390 05	5,813 52
			Total Receipts ...	329,740 54	237,451 27
			Balance ...	83,548 53	110,168 12
Total ...	413,289 07	347,619 39	Total ...	413,289 07	347,619 39

## No. 6.—RECEIPTS AND EXPENDITURE IN RESPECT OF DOCKS, HARBOURS AND WHARVES.

Dr.

Cr.

To Expenditure.	1920.	1919.	By Gross Receipts.	1920.	1919.
	\$ c.	\$ c.		\$ c.	\$ c.
1. Superintendence ... ..	5,673 77	2,728 28	1. Wharfage ... ..	336,563 71	275,060 34
2. Maintenance—Wharves, etc. ...	62,414 21	33,254 37	2. Lighterage and Towage ... ..	8,017 48	4,759 21
3. Do. Tugs and Tongkangs ...	152,039 14	161,128 99	3. Cooly Labour ... ..	57,880 96	32,235 48
4. Wages not included in above ...	234,909 88	161,234 55	4. Miscellaneous ... ..	24,419 22	67,002 08
5. Miscellaneous ... ..	48,210 24	26,120 23			
			Total Receipts ...	426,881 37	379,057 11
			Balance ...	76,365 87	5,409 31
Total ...	503,247 24	384,466 42	Total ...	503,247 24	384,466 42

Dr.

## No. 7.—STEAMSHIP AGENCY.

Cr.

—	1920.	1919.	—	1920.	1919.
	\$ c.	\$ c.		\$ c.	\$ c.
Salaries ... ..	700 00	600 00	Commission Received... ..	10,551 81	9,915 02
Balance ... ..	9,851 81	9,315 02			
Total ...	10,551 81	9,915 02	Total ...	10,551 81	9,915 02



Dr.

## No. 8.—ELECTRIC POWER AND LIGHT ACCOUNT.

Cr.

		1920.		1919.				1920.		1919.	
		\$	c.	\$	c.	\$	c.	\$	c.	\$	c.
1.—Superintendence—											
Salaries .. .. .	35,662	90		17,910	47						
Office Expenses .. .. .	848	10		811	30						
Total Superintendence ..			36,511	00		18,721	77				
2.—Generation—											
Maintenance of Buildings ..	7,877	50		5,455	77						
“ of Plant, Machinery											
and Tools .. .. .											
Maintenance of Feeders, Cables	16,120	16		7,902	86						
and Accessories .. .. .											
Wages .. .. .											
Fuel .. .. .	11,988	37	44,157	98	27,026	06					
Oil, Waste, Water and Stores ..	8,171	95									
Total Generation ..											
3.—Distribution—											
Maintenance of Feeders, Mains	67,992	38	155,251	07	106,902	93					
and Apparatus .. .. .											
Maintenance of Meters, Switches,											
Fuses, Lamps, etc. .. .. .	87,258	69		54,047	07						
Wages .. .. .											
Total Distribution ..											
4.—Purchase of Current .. .. .			40,755	75		61,918	25				
Total ..			276,675	80		214,569	01				

		1920.		1919.			
		Number of Units.	\$	c.	Number of Units.	\$	c.
Current Supplied—							
For Power .. .. .	668,596	138,408	26	554,011	104,528	59	
“ Lighting .. .. .	314,633	65,133	23	260,711	49,188	93	
“ Other Consumers .. .. .	...	6,071	83	...	3,996	63	
Train Lighting—							
Wages and Materials .. .. .	...	67,062	48	...	56,854	86	
Total ..			276,675	80		214,569	01



## 1.—MILEAGE OF LINES.

## A.—Mileage of Lines Open for Traffic.

	Running Lines.						Sidings reduced to Single Track.	Total of Single Track including Sidings.	Year 1919, Total of Single Track including Sidings.		
	Length of Road Single Track.		Second Track.		Total Miles reduced to Single Track.						
LINES OWNED BY FEDERATED MALAY STATES RAILWAYS.	M.	C.	M.	C.	M.	C.	M.	C.	M.	C.	
Main and Principal Lines—											
Prai to Gemas ... ..	351	16	28	03	379	19	64	68	444	07	439 18
Bukit Mertajam to Padang Besar ...	99	04	5	12	104	16	5	32	109	48	109 48
Kuala Lumpur to Port Swettenham ...	25	52	2	06	27	58	14	71	42	49	42 49
Gemas to Kuala Lipis ... ..	141	08	3	25	144	33	3	24	147	57	147 00
Woodlands to Pasir Panjang ... ..	19	59	1	52	21	31	6	10	27	41	27 15
Kelantan ... ..	45	27	1	61	47	08	3	64	50	72	39 04
Total Main and Principal Lines ...	682	06	41	79	724	05	98	29	822	34	804 54
Minor and Branch Lines—											
Port Weld ... ..	7	40		34	7	74	1	45	9	39	9 11
Tronoh ... ..	15	32	1	05	16	37	1	37	17	74	17 63
Teluk Anson ... ..	17	73		51	18	44	3	76	22	40	22 35
Batang Berjuntai ... ..	14	10		71	15	01	3	30	18	31	18 31
Batu Caves ... ..	5	40		46	6	06	11	76	18	02	17 68
Kuala Selangor ... ..	29	56	1	45	31	21	3	76	35	17	35 17
Sultan Street, Ampang and Salak South	8	24		52	8	76	1	55	10	51	10 51
Port Dickson ... ..	24	67	1	00	25	67	2	01	27	68	27 63
Malacca ... ..	21	13		56	21	69	1	23	23	12	23 12
Kuala Pilah ... ..	13	00		24	13	24		35	13	59	13 59
Lines Leased—											
Johore ... ..	120	64	4	59	125	43	6	01	131	44	131 11
	960	25	54	42	1,014	67	136	04	1,150	71	1,131 75

## B.—Mileage of Lines Authorized but not Open for Traffic.

	Miles Authorized.	Miles Constructed but not Open for Traffic.		Miles under Construc- tion.	Miles not Commenced or in Abeyance.	
	Length of Road.	Length of Road.	Length (including) Sidings.	Length of Road.	Length of Road.	
LINES OWNED BY FEDERATED MALAY STATES RAILWAYS.	M.	C.	M.	C.	M.	C.
New Lines—						
East Coast Railway, Kelantan Section ... ..	108	15	...	...	85	00
„ Pahang Section ... ..	46	21	...	...	46	21
Widenings and Additions—						
Doubling Singapore Line ... ..	15	9	...	...	15	9
Doubling Line, Port Swettenham Junction to Port Swettenham ... ..	25	36	...	...	25	36
Doubling Line, Kuala Lumpur to Batu Junction and Sungei Besi ... ..	9	3	...	...	9	3
Kuala Kubu Deviation ... ..	* 4	77	...	...	4	77

\* Approximate Length.



## II.—ROLLING STOCK.

## A.—Steam Locomotives and Tenders.

Description.	Number 1920.	Total.	Year 1919, Number.
Tender Engines—			
0 4 2 Wheel Type ... ..	8	...	8
4 4 0       "       ... ..	18	...	18
4 6 0       "       ... ..	42	...	42
4 6 2       "       ... ..	92	...	72
0 6 6 0       "       ... ..	2	162	2
Tank Engines—			
0 6 0 Wheel Type ... ..	1	...	1
0 6 4       "       ... ..	31	...	31
4 4 0       "       ... ..	25	...	25
4 4 2       "       ... ..	3	60	3
Total Engines ... ..	...	222	202
"   Tenders ... ..	...	163	143

## B.—Rail Motor Vehicles.

	Year 1920.		Year 1919.	
	Number.	Carrying Capacity.	Number.	Carrying Capacity.
		Seats.		Seats.
Steam Power ... ..	4	300	4	300

## C.—Coaching Vehicles.

	Bogie.	four Wheeled.	Number.	Seats or Berths.			Total in 1920.	Year 1919.	
				1st Class.	2nd Class.	3rd Class.		No.	Seats or Berths.
PASSENGER CARRIAGES.									
Carriages of Uniform Class	213	25	238	806	2,023	12,129	14,958	231	14,108
Composite Carriages ...	173	12	185	878	1,426	4,330	6,634	181	6,443
Restaurant Cars ... ..	10	...	10	212	...	...	212	10	212
Miscellaneous ... ..	7	1	8	95	17	...	112	7	96
Total ... ..	403	38	441	1,991	3,466	16,459	21,916	429	20,859
Sleeping Cars ... ..	8	...	8	128	...	...	128	7	112
TOTAL PASSENGER CARRIAGES ... ..	...	...	449				22,044	436	20,971
OTHER COACHING VEHICLES.									
Post Office Vans ... ..	3	...	3					2	
Luggage, Parcel and Brake Vans ... ..	5	9	14					11	
Carriage Trucks ... ..	...	36	36					36	
Horse-Boxes ... ..	...	31	31					31	
Miscellaneous ... ..	2	41	43					44	
TOTAL OTHER COACHING VEHICLES ... ..	...	...	127					124	
TOTAL COACHING VEHICLES ... ..	...	...	576					560	



*D.—Merchandise and Mineral Vehicles.*

	Bogie Stock.	4-wheeled Stock.	Number.	Year 1919, Number.
Open Wagons—				
Under 8 tons ... ..	...	53	53	52
8 and up to 12 tons... ..	5	1,776	1,781	1,437
Over 12 and up to 20 tons ... ..	9	...	9	9
Over 20 tons (other than special) ... ..	30	...	30	30
Covered Wagons—				
Under 8 tons ... ..	...	47	47	47
8 and up to 12 tons... ..	4	2,117	2,121	1,783
12 and up to 20 tons ... ..	...	...	...	...
Over 20 tons... ..	2	...	2	2
Mineral Wagons—				
Under 8 tons ... ..	...	...	...	...
8 and up to 12 tons... ..	...	...	...	...
Over 12 and up to 20 tons ... ..	...	...	...	...
Over 20 tons... ..	115	...	115	78
Special Wagons (for loads of exceptional dimensions and weights) ... ..	...	...	...	...
Cattle Trucks ... ..	...	281	281	282
Rail and Timber Trucks (including Twin Trucks) ... ..	...	308	308	320
Brake Vans ... ..	4	108	112	114
Miscellaneous ... ..	...	...	...	...
Total ...	169	4,690	4,859	4,154

*E.—Railway Service Vehicles.*

	Number.	1919 Number.
Locomotive Coal Wagons ... ..	1	1
„ Firewood Trucks ... ..	77	101
Ballast Wagons ... ..	279	256
Mess and Tool Vans... ..	3	3
Break-down Crane ... ..	1	1
Travelling Cranes ... ..	34	33
Construction Wagons ... ..	453	452
Miscellaneous ... ..	81	43
Total ...	929	890

III.—ROAD VEHICLES FOR CONVEYANCE OF  
PASSENGERS AND GOODS.

	Number.	1919 Number.
Goods and Parcels Roads Vehicles—		
Lorries ... ..	3	2
	3	2
Passenger Vehicles—		
Road Motors ... ..	...	...







## VII.—MAINTENANCE AND RENEWAL OF ROLLING STOCK—(ABSTRACT B.)

	In Railway Workshops. Total.	Year 1919, Total.
Locomotives—		
Renewed ... ..		
Repaired—		
Heavy repairs ... ..	68	69
Light     " ... ..	15	10
Under or awaiting repair at end of year ... ..	27	24
Rail Motors—		
Renewed ... ..		
Repaired—		
Heavy repairs ... ..	2	
Light     " ... ..		1
Under or awaiting repairs at end of year ... ..	3	2
Coaching Vehicles—		
(a) Carriages—		
Renewed ... ..		
Repaired—		
Heavy repairs ... ..	217	183
Light     " ... ..	29	43
Under or awaiting repairs at end of year ... ..	49	80
(b) Other Coaching Vehicles— ... ..		
Renewed ... ..		
Repaired—		
Heavy repairs ... ..	55	32
Light     " ... ..	15	31
Under or awaiting repairs at end of year ... ..	7	29
Wagons		
Renewed ... ..		
Repaired—		
Heavy repairs ... ..	665	795
Light     " ... ..	377	351
Under or awaiting repairs at end of year ... ..	85	263

## VIII.—ENGINE MILEAGE.

	1920.				1919.			
	Train Miles, including empty trains.	Shunting, Miles.	Other Miles (Assisting Light, etc.)	Total Engine Miles.	Train Miles, including empty trains.	Shunting, Miles.	Other Miles (Assisting Light, etc.)	Total Engine Miles.
A.—Miles run in relation to Railway Traffic Receipts ... ..	3,940,732	942,881	135,154	5,018,767	3,463,405	828,868	120,628	4,412,901
B.—Miles run in relation to Railway Expenditure ... ..	4,545,277	959,539	161,305	5,666,121	3,989,894	862,014	155,028	5,006,936
C.—Miles run by Federated Malay States Railways Engines, Steam Tenders and Tank Engines ...	4,519,097	959,539	161,164	5,639,800	3,957,900	862,014	154,833	4,974,747
Rail Motors ... ..	26,180		141	26,321	31,994		195	32,189
Total ... ..	4,545,277	959,539	161,305	5,666,121	3,989,894	862,014	155,028	5,006,936



## IX.—RAILWAY PASSENGER TRAFFIC AND RECEIPTS.

	1920.			1919.		
	Number.	Receipts.	Average Fare per Passenger.	Number.	Receipts.	Average Fare per Passenger.
		\$ c.	\$ c.		\$ c.	\$ c.
Ordinary—						
1st Class ... ..	395,985	1,256,173 62	3 17	220,542	804,318 22	3 65
2nd „ ... ..	2,013,336	2,263,105 74	1 12	1,292,231	1,645,244 74	1 27
3rd „ ... ..	10,938,737	5,525,396 79	51	8,603,863	5,023,866 49	58
Immigrants ... ..	53,474	33,140 63	62	59,393	35,820 14	60
Total ... ..	13,401,532	9,077,816 78	68	10,176,029	7,509,249 59	74
Season Tickets—						
1st Class ... ..	238	8,701 85	36 56	143	3,657 87	25 58
2nd „ ... ..	3,572	34,950 13	9 78	2,819	33,430 42	11 86
3rd „ ... ..	6,512	8,590 36	1 32	5,548	7,368 46	1 33
Total ... ..	10,322	52,242 34	5 06	8,510	44,456 75	5 22

## X.—RAILWAY GOODS TRAFFIC AND RECEIPTS.

	1920.			1919.		
	Tonnage.	Receipts.	Average Receipt per ton.	Tonnage.	Receipts.	Average Receipt per ton.
		\$ c.	\$ c.		\$ c.	\$ c.
Merchandise ... ..	840,034	3,872,393 12	4 61	767,926	3,580,512 00	4 66
Tin and Tin-ore ... ..	48,255	193,019 22	4 00	49,903	198,712 15	3 98
Rubber ... ..	111,309	999,503 71	8 98	118,129	1,008,562 23	8 54
Coal, Coke and Firewood ...	546,007	728,607 06	1 33	528,556	634,385 37	1 20
Other Minerals ... ..	135,559	111,778 03	82	111,442	88,792 92	80
Total ... ..	1,681,164	5,905,301 14	3 51	1,575,956	5,510,964 67	3 50
Live Stock ... ..	No. of Tons. 2,398			No. of Tons. 2,801		
„ ... ..	No. of Heads. 171,657	217,261 57	Per Head. 1 27	No. of Heads. 142,621	191,314 45	Per Head. 1 34

## XI.—SUMMARY OF FINANCIAL RESULTS SECURED.

	1920.	1919.	1918.	1917.	1916.
	\$	\$	\$	\$	\$
Total Expenditure on Capital Account ...	144,134,625	123,681,858	108,972,124	105,388,013	102,211,994
Gross Receipts from business carried on by the Railway (No. 3) ... ..	17,059,659	14,730,878	12,890,408	12,989,046	11,429,909
Revenue Expenditure on business carried on by the Railway (No. 3) ... ..	15,822,694	10,762,983	8,743,117	7,775,944	7,335,367
Net Receipts from business carried on by the Railway (No. 3) ... ..	1,236,965	3,967,895	4,147,291	5,213,102	4,094,542
Miscellaneous Receipts (Net) ... ..	Dr. 367,292	72,242	12,892	37,902	52,969
Total Net Income ... ..	869,673	3,895,654	4,160,183	5,251,004	4,147,511
Rentals and fixed charges ... ..	306,488	224,312	223,818	225,539	120,282
Contribution to Imperial Government for War Purposes ... ..	...	360,895	537,007	857,143	...
Total Net Profit ... ..	563,185	3,310,447	3,399,358	4,168,322	4,027,229
Yield per cent. ... ..	0.39%	2.67%	3.12%	3.95%	3.94%



**XII.—NET PROFIT EARNED BY FEDERATED MALAY STATES  
RAILWAYS BETWEEN 1885 AND 1920, INCLUSIVE.**

Year	Perak.	Selangor.	Remarks.
	\$ c.	\$ c.	
1885	15,080 46	...	First section in Perak opened on 1st June, 1885. First section in Selangor opened on 15th September, 1886, for light traffic only; earnings, \$9,579.18 only to 31st December, 1886, but no statistics kept.
1886	18,363 11	...	
1887	21,923 27	57,703 46	
1888	38,357 18	199,724 27	
1889	37,878 73	194,078 36	
1890	30,211 15	221,369 82	
1891	30,113 23	187,452 30	
1892	15,469 94	231,064 65	
1893	30,597 34	329,775 46	
1894	72,224 58	387,033 43	
1895	165,419 27	425,291 87	
1896	251,314 14	309,405 22	
1897	238,770 88	280,514 43	
1898	233,089 74	248,613 28	
1899	372,346 72	376,076 55	
1900	503,510 87	531,857 96	
1901	502,551 51	576,566 39	
1902	714,210 95	624,082 37	
	3,291,433 07	5,180,609 82	= 8,472,042 89
		Federal—	
		1903 ...	1,881,685 11
		1904 ...	1,474,911 07
		1905 ...	1,663,048 15
		1906 ...	1,572,337 51
		1907 ...	1,553,617 74
		1908 ...	1,609,130 60
		1909 ...	1,488,343 34
		1910 ...	2,247,073 79
		1911 ...	3,281,274 91
		1912 ...	2,666,345 23
		1913 ...	2,707,696 23
		1914 ...	2,029,187 22
		1915 ...	2,636,397 93
		1916 ...	4,027,228 54
		1917 ...	4,168,322 06
		1918 ...	3,399,358 19
		1919 ...	3,310,446 62
		1920 ...	563,185 49
		Total ...	50,751,632 62

**XIII.—MONTHLY RAILWAY EARNINGS OF COACHING AND GOODS, 1920.**

	Passengers numbers.	Coaching.	Goods.	Total.
		\$ c.	\$ c.	\$ c.
January ...	1,036,144	765,333 06	549,825 12	1,315,158 18
February ...	1,189,701	828,126 72	461,364 42	1,289,491 14
March ...	1,227,457	919,854 81	524,560 62	1,444,415 43
April ...	1,199,849	910,348 90	493,452 17	1,403,801 07
May ...	1,152,185	863,126 08	512,028 16	1,375,154 24
June ...	1,147,348	821,075 79	504,882 47	1,325,958 26
July ...	1,119,594	840,588 28	540,974 41	1,381,562 69
August ...	1,096,384	810,438 90	544,675 67	1,355,114 57
September ...	1,051,472	784,138 52	502,054 60	1,286,193 12
October ...	1,064,717	787,150 40	527,683 50	1,314,833 90
November ...	1,061,660	766,534 49	472,699 61	1,239,234 10
December ...	1,055,021	802,647 25	488,361 96	1,291,009 21
Total ...	13,401,532	9,899,363 20	6,122,562 71	16,021,925 91



XIV.—STATEMENT SHOWING THE DATES ON WHICH THE VARIOUS  
SECTIONS WERE OPENED FOR TRAFFIC.

Date of opening.	From where opened.	To where opened.	Distance. M. CH.
1st June, 1885 ...	Taiping ...	Port Weld ...	8 6
6th May, 1890 ...	Taiping ...	Kamunting ...	3 50
1st July, 1892 ...	Kamunting ...	Ulu Sa'petang ...	5 22
7th November, 1892 ...	Batu Junction ...	Rawang ...	} ... 36 33
10th July, 1893 ...	Rawang ...	Serendah ...	
6th October, 1894 ...	Serendah ...	Kuala Kubu ...	
19th May, 1893 ...	Telok Anson ...	16th mile ...	16 00
6th September, 1893 ...	16th mile ...	Tapah Road ...	1 12
17th October, 1893 ...	Batu Gajah ...	Ipoh ...	8 72
27th April, 1894 ...	Kota Bharu ...	Batu Gajah ...	5 44
29th September, 1894 ...	Tapah Road ...	Talam ...	7 17
18th March, 1895 ...	Talam ...	Kampar ...	2 19
1st May, 1895 ...	Kampar ...	Kota Bharu ...	8 48
1st June, 1896 ...	Ipoh ...	Tanjong Rambutan ...	8 25
27th November, 1896 ...	Tanjong Rambutan ...	Chemor ...	4 66
5th July, 1897 ...	Chemor ...	Sungei Siput ...	7 72
1st July, 1898 ...	Sungei Siput ...	Enggor ...	7 79
1st July, 1899 ...	Prai ...	Bukit Mertajam ...	6 40
1st September, 1899 ...	Ulu Sa'petang ...	Pondok Tanjong ...	3 48
1st November, 1899 ...	Krian River ...	Bagan Serai ...	11 8
1st September, 1900 ...	Bukit Mertajam ...	Nebong Tebal ...	13 70
15th September, 1900 ...	Enggor ...	Kuala Kangsar ...	5 34
1st November, 1900 ...	Perak Boundary ...	Tanjong Malim ...	7
1st August, 1900 ...	Kuala Kubu ...	Kalumpang ...	} ... 14 47
1st November, 1900 ...	Kalumpang ...	Tanjong Malim ...	
1st May, 1901 ...	Bagan Serai ...	Alor Pongsu ...	4 68
1st July, 1901 ...	Kuala Kangsar ...	Padang Rengas ...	6 26
1st February, 1902 ...	Alor Pongsu ...	Pondok Tanjong ...	10 55
1st May, 1902 ...	Taiping ...	Bukit Gantang ...	5 4
1st May, 1902 ...	Tapah Road ...	Bidor ...	7 58
1st May, 1902 ...	Nebong Tebal ...	Krian River ...	31
15th July, 1903 ...	Bukit Gantang ...	Padang Rengas ...	7 36
15th July, 1903 ...	Bidor ...	Sungkai ...	8 8
15th July, 1903 ...	Slim River ...	Tanjong Malim ...	13 51
15th August, 1903 ...	Sungkai ...	Slim River ...	14 39
15th February, 1905 ...	Batu Junction ...	Batu Road ...	36
1st December, 1905 ...	Batu Road ...	Batu Caves ...	4 65
15th October, 1908 ...	Ipoh ...	Tronoh ...	} ... 15 50
11th September, 1909 ...	Tronoh ...	Tronoh Mines ...	
24th March, 1909 ...	Junction-Telok Anson ...	New Wharves ...	53
15th September, 1886 ...	Kuala Lumpur ...	Klang ...	} ... 26 77
1st January, 1899 ...	Klang ...	Port Swettenham ...	
7th November, 1892 ...	Kuala Lumpur ...	Batu Junction ...	2 33
1st June, 1893 ...	Kuala Lumpur ...	Pudoh ...	} ... 16 76
1st March, 1895 ...	Pudoh ...	Sungei Besi ...	
14th August, 1897 ...	Sungei Besi ...	Kajang ...	
14th June, 1902 ...	Kajang ...	Bangi ...	6 40
1st February, 1903 ...	Bangi ...	Batang Benar ...	5 00
2nd April, 1903 ...	Batang Benar ...	Seremban ...	17 23
15th July, 1905 ...	Seremban ...	Tampin ...	30 22
1st December, 1905 ...	Tampin ...	Malacca Town ...	21 13
1st October, 1906 ...	Tampin ...	Gemas ...	32 35
28th July, 1908 ...	Seremban ...	Port Dickson ...	24 66
4th April, 1910 ...	Gemas ...	Bahau ...	22 58
	Bahau ...	Kuala Pilah ...	12 78



XIV.—STATEMENT SHOWING THE DATES ON WHICH THE VARIOUS SECTIONS WERE OPENED FOR TRAFFIC—(cont.)

Date of opening.	From where opened.	To where opened.	Distance.
			M. CH.
1st October, 1910 ... ..	Bahau ... ..	Triang ... ..	32 72
1st August, 1911 ... ..	Triang ... ..	Semantan ... ..	20 05
1st March, 1912 ... ..	Semantan ... ..	Kuala Krau ... ..	16 40
16th November, 1912 ... ..	Kuala Krau ... ..	Kuala Teh ... ..	18 31
15th May, 1913 ... ..	Kuala Teh ... ..	Tembiling ... ..	6 07
1st February, 1913 ... ..	{ Connaught Bridge } Junction	Kapar ... ..	11 62
1st June, 1913 ... ..	Kapar ... ..	Jeram ... ..	7 63
1st September, 1913 ... ..	Jeram ... ..	Asam Jawa ... ..	5 47
1st September, 1913 ... ..	{ Port Swettenham } Junction	Salak South Junction ...	5 46
15th February, 1914 ... ..	Assam Jawa ... ..	Kuala Selangor ... ..	4 36
1st May, 1914 ... ..	Ampang Junction ... ..	Ampang ... ..	3 65
4th May, 1914 ... ..	Tumpat ... ..	Tanah Merah ... ..	31 75
19th October, 1914 ... ..	{ Bukit Mertajam } Junction	Pinang Tunggal ... ..	14 69
1st March, 1915 ... ..	Pinang Tunggal ... ..	Gurun ... ..	19 14
1st July, 1915 ... ..	Tanah Merah ... ..	Riverside ... ..	1 40
1st September, 1915 ... ..	Kuang Junction ... ..	Batu Arang ... ..	6 75
4th October, 1915 ... ..	Gurun ... ..	Alor Star ... ..	22 15
15th October, 1917 ... ..	Alor Star ... ..	Bukit Ketri ... ..	30 06
15th October, 1917 ... ..	Tembiling ... ..	Kuala Lipis ... ..	24 17
1st February, 1918 ... ..	Batu Arang... ..	Batang Berjuntai ... ..	7 01
1st March, 1918 ... ..	Bukit Ketri... ..	Padang Besar ... ..	11 66
1st September, 1920 ... ..	Pasir Mas ... ..	Rantau Panjang ... ..	11 37

XV.—STATEMENT SHOWING STAFF AND LABOUR FORCE EMPLOYED IN THE RAILWAY DEPARTMENT ON 31st DECEMBER, 1920.

	Europeans.	Eurasians.	Indians and Ceylonese.	Chinese.	Malays.	Japanese.	Siamese.	Javanese.	Others.	Total.
1. General Manager's Office...	5	2	24	2	...	...	...	...	...	33
2. Chief Accountant's Department ... ..	8	2	141	19	2	...	...	...	...	172
3. Traffic Department ... ..	35	32	2,735	1,062	119	1	1	...	...	3,985
4. Engineering Department ... ..	35	14	8,170	158	211	...	...	...	...	8,588
5. Locomotive " ... ..	74	122	3,744	487	424	1	...	...	1	4,853
6. Stores " ... ..	5	...	133	5	4	...	...	...	...	147
7. Timber " ... ..	10	10	65	137	1	...	...	...	15	238
8. Signal and Telegraph Department ... ..	12	1	621	92	49	...	...	...	...	775
9. Police Department ... ..	3	...	697	5	3	...	...	...	...	708
10. Construction Department ... ..	71	13	3,165	6,478	891	...	...	31	...	10,649
	258	196	19,495	8,445	1,704	2	1	31	16	30,148