

## Appendix Q.

### REPORT ON THE KOWLOON-CANTON RAILWAY (BRITISH SECTION).

In presenting this report for the work done during 1908 which includes an Estimate for the completion, I would first make a few general remarks with regard to the progress and cost of the work going more into detail under each main head of the Estimate afterwards.

Good progress has been made everywhere with the exception of the Reclamation of a site for Kowloon Station Yard but arrangements are being made whereby it is hoped that the delay in the completion of this work will not interfere with the opening of the line for public traffic. Elsewhere especially in Beacon Hill Tunnel the work has been carried out at a very satisfactory pace. The heading driving in the big tunnel will be finished fully six months ahead of the time specified in my last Annual Report but I do not think it likely that the date specified in that report for the opening for public traffic (May 1910) can be altered.

In the New Territories the appointment of two native Assistant Doctors, one at Shatin and the other at Taipo as well as the better medical and sanitary arrangements made during the year greatly facilitated the good progress made. The Railway Medical Officer's report shows very plainly how much benefit has been reaped by these arrangements which though in some cases rather costly have in every case I consider fully warranted the expense incurred.

At Taipo the staff suffered rather severely during the last six months of the year. Hardly a week went by without one or two of the European foremen being down with fever for two or three days at a time. Notwithstanding this however the progress there has been very good both in Tunnelwork and Bridgework.

Turning now to the cost of the Railway which is given in a summary at the end of this report, Column C gives the figures of Mr. BRUCE's and the Honourable Director of Public Works' Estimate. Column D gives the Estimated cost of works as per last year's report. It is impossible to arrange that the first Estimate should contain everything required for the Railway without unduly delaying the publishing of that Estimate.

The total actual expenditure to date is given in Columns I and J and the total estimated to complete in Columns K and L and the sum of these represents the total cost of the Railway given in Column M.

#### Land.

The figures for land remain as in last year's Annual Report, and cannot be regarded as an exact estimate, since certain matters in regard to resumption, and the proportion of cost to be borne by the Railway are not finally decided. The amount paid during the year was mainly for purchase of land at the South East corner of Kowloon Peninsula commonly called Blackhead's Point.

#### Earthwork.

Under this heading the progress was good with the exception of the Reclamation in Kowloon Station Yard which is in the hands of European Contractors. Up to the end of December 1908 when 60 per cent. of the contract time had lapsed 2,265 feet out of a total of 4,300 feet of sea wall had been completed to full section and only about 40 per cent. of the quantity of earth in reclamation had been filled in. However these percentages do not give a fair basis to calculate the time of completion as the progress now is better than during the first six months.

The high embankments between Hung Hom and the South Face of the Tunnel are giving trouble as the ground cannot bear the weight. In several places where the hard ground is very far below the surface, embankments are sinking in fast causing the ground to spue up all round. The movement of the ground is affecting some of the bridges which have cracked in consequence. However there is a surplus of excavated material from the cuttings to make up the subsidence and I expect that by the time the line is ready for public traffic, equilibrium will have been established and the subsidence reduced to a very small amount.

North of the range of the hills the earthwork has progressed in a satisfactory way. The rock has exceeded the estimate in both quantity and hardness. The interior of some of the big cuttings near Lok Loha turned out to be much harder than was expected. The composition of the rock is quite different from the granite usually met with in Hongkong,

the majority of it is more like a greenstone or whinstone, very hard and brittle and difficult to drill through. In order to make the requisite progress the rates had to be raised for some of the cuttings. The large cutting North of Taipo will probably be the last on the line to be finished. This cutting is carried through an enclosed valley at 17 feet lower than the surface of the valley. A very large amount of sub-soil water will have to be dealt with which will require rather larger drains than usual.

Nearly all the slopes exposed to the action of the sea have been protected by stone pitching and above this turfing has been done to protect them from the wash of heavy rain.

The cost of sea wall between Granville Road Storm Water Outfall and Blackhead's Point and also the cost of certain works required for the safeguarding of the Railway in the big cutting near Hung Hom are now included in this sub-head (Earthwork) and covered by savings on the general work. The Consulting Engineers have continually expressed an opinion that such a deep cutting as that at Hung Hom is not safe in soft material and now that the interior of the hill has been exposed and found to be of a soft friable nature certain works have to be carried out so as to avoid slips during heavy rain which might endanger the traffic.

### Tunnels.

The first tunnel near Yauwati was driven and fully lined during the year and only the masonry faces remain to be put on.

Beacon Hill Tunnel which is the largest work on the line made very good progress during 1908. Up to the end of 1907 the headings from both sides had been driven a total of 2,100 feet from the permanent faces. This represented practically one year's work. During 1908 another 3,544 feet was driven making a total of 5,644 feet altogether, of which 2,528 was driven from the South and 3,116 from the North Side. The difference in distance driven was due to a large extent to the length of 500 feet driven both ways from the shaft at the North Side. In other respects the progress was fairly even on both sides of the hill. The material through which the heading was driven at the South Side however was much more variable, in some places wet running sand being met with which added greatly to the expense and caused considerable delay.

The soft rock extended much further into the hill on the South Side than on the North which will necessitate the heavy section of lining being carried much further than was estimated for.

Work was carried on night and day continuously all through the year with the exception of a stoppage of about ten days early in April at the North Side to fix the cage in the shaft and in the end of July and the beginning of August the typhoon damaged the coolie sheds so much that the coolies all ran away and in consequence the work stopped for nearly a week. Not counting these stoppages but taking into account that work was carried on at four faces (two extra from Shaft at North Side) during thirty-five days, the average daily progress per face was 4.47 feet as against 1.97 per day per face for 1907.

During 1907 a total length of 465 lineal feet of heading was widened out to full section of tunnel and lined and during 1908 a length of 2,940 feet making a total of 3,405 feet. Of this total a length of 2,730 was lined to the full heavy section of Brickwork.

The balance of 675 feet was left unlined to see if it would be safe to leave it without support. It was decided however in view of the constant change in the nature of the rock that this would be rather dangerous so a thin skin will have to be put in to prevent small pieces of rock breaking loose with the vibration of the trains and falling on to the line.

During the rains it was found difficult to keep sufficient men on the work to make the widening out keep pace with the heading. It is hoped that when the headings meet there will remain not more than 2,500 feet of widening to do which should take about six months.

The cost of the tunnel-driving was very much reduced during 1908 due to better organization made possible by coolies getting more trained to the work. The estimate however will be very largely exceeded in this tunnel. The average costs per lineal foot of heading, enlarging and bricking in during the year were \$70.49, \$140.86 and \$113.54 respectively. Up to December 1907 the figures were approximately \$184.00, \$275.00 and \$221.00 respectively per lineal foot.

It is a very difficult thing to give a price for completion of this tunnel. With the constant variation of the rock and liability to sudden in-rushes of water the cost may vary as much as 50 per cent. per lineal foot between various months.

In the Estimate for the completion I have allowed rates less than the average for the whole of last year as the costs during the year showed a fairly steady decrease.

The central part of the tunnel though it cannot be left altogether unlined can have the thickness of the lining very much reduced and a saving made in brickwork quantities compared with the outside lengths.

A rough estimate for the completion is :—

Lining Shaft at North Side, .....	\$ 6,000
Heading driving, .....	105,000
Widening out, .....	500,000
Lining, .....	410,000
Depreciation of plant, .....	100,000
	\$1,121,000

This brings the total cost of the tunnel to \$3,000,000 or \$1,300,000 more than my Estimate of 1907.

This great increase above the Estimate is principally due to the unusual hardness of the rock met with.

The unusual hardness of the rock came as a great surprise. The interior of the hill consists of quite a different class of rock from that usually met with in the Colony. It is not the same kind of granite at all. In places it combines great hardness with the addition of numerous faults and backs which causes the drills to jamb. The quantity of explosives used is very great compared with other tunnels and this above all other causes, made the greatest difference between the estimated and actual cost.

In September 1908 the South Face heading reached such hard rock that the consumption of dynamite reached thirty pounds per foot run which was about three times what was estimated. This increase applies both to the heading and the widening and shows how misleading comparisons with tunnels in other parts of the world were. This hard rock has continued almost continuously at the South Face but not quite so badly at the North Face.

The great hardness of the rock necessitated very large gangs of blacksmiths to keep the drills sharp and also caused much greater wear and tear on the rock drills than was estimated for.

When writing my last yearly report I also had hopes that it would not be necessary to line the central portion of the tunnel except with a light flying arch and probably not even that. However owing to the hard and massive nature of the rock it is necessary to build side walls from which to spring the arch for the roof as a good bench cannot be dressed in the rock. The rock though very hard is full of faults and backs which render it liable to shake loose and come down with the vibration of the passing trains. Any such accident would be very serious and the risk is not worth the saving obtained by leaving the tunnel without lining.

Damages done by Typhoons were originally charged to a separate unestimated sub-head but afterwards this damage was charged against the works concerned which was chiefly Beacon Hill Tunnel.

In Tunnel No. 3 the headings were completed and all fully widened out and lined except a length of forty-five feet in the centre. The two portals were nearly completed. The length of this tunnel is 329 feet.

One fifteen feet length of lining and one face remained to be completed of Tunnel No. 4 on 31st December, 1908. This tunnel is 170 feet long.

Taipo Tunnel (No. 5) gave a great deal of trouble at the South Face. This side of the hill consists of yellow clay full of water which kept slipping into the cutting approaching the Face of the Tunnel. Great difficulty was experienced in making a start at heading driving as time after time the hillside slipped and blocked the entrance.

It was not until a length had been completely lined outside the slips that a safe entrance could be effected. However all danger is now over. During the year a length of 573 feet of heading was driven out of a total of 924 feet and 158 feet 6 inches lined of which 90 feet is of flying arch type as the rock is very hard.

Tunnels 3 and 4 should be completed for the estimated amount but Tunnel No. 5 may exceed by a little owing to the great expense incurred at the South Face.

## Bridges.

In building a Railway especially in a mountainous country the expenditure under this heading is almost invariably under-estimated. It is impossible even on a year's survey to decide what bridges are necessary to carry the water off and it therefore happens that many minor bridges are converted into major bridges and in places new minor bridges added. It very seldom happens that a bridge can be cut out altogether.

In the present case it will be noticed that there will be a large increase under the sub-head of major bridges. This is due to the fact that the number of major bridges has been increased and excess so caused will not be covered by the saving on those originally estimated for.

Under the heading major bridges, only two remain to be started, namely, Gascoigne Road Bridge in Kowloon Station Yard and a large River Bridge near Taipo. The first of these has been very much increased in size above that estimated for and the excess expenditure amounts to \$40,000 on this bridge alone. This bridge carries Des Vœux and Gascoigne Roads over the Railway and will be put in hand soon. The increase in size referred to is necessitated by the fact that to avoid a right angle bend these roads must form junction on the bridge. The River Bridge at Taipo will also be started in the near future. It has been decided to put this bridge in the bed of the present river instead of diverting the river through a new channel. This will add considerably to the cost as the foundations will have to be on wells sunk about 25 feet into the bed of the river.

The cracks in the bridges near Kowloon caused by the under-ground movements started when the heavy banks approached some of the bridges may cause a slight excess in the money required under this sub-head. I do not anticipate any serious expenditure from this cause except in the case of Bridge No. 8, a four span arch bridge on a high bank in the Kowloon Tsai Valley. This bridge was standing practically complete for nearly six months before the bank approached. The matter is now in the hands of the Consulting Engineers but as the movement of the banks on either side is still considerable it may be necessary to dismantle the bridge and carry the foundations down on wells to the rock which is between thirty and forty feet below ground.

The bridge across Sam Chun River has been altered from that originally estimated for. The ironwork is now being made for double line girders in order to carry a double line at the junction between the two sections.

The saving under minor bridges will I hope be about \$66,000. The saving is due to a certain extent to the fact that bridges have been altered from minor to major owing to the spans being increased. Against this must be put the fact that several bridges have been added for future road extensions near Taipo as well as for waterways. There still remains to be started a bridge to carry a new road over cutting No. 1 running between Hung Hom and the Steam Laundry. This cannot be begun until the work on the cutting is further advanced. Very little now remains to be done on other minor bridges.

In almost every case the foundations of both major and minor bridges proved more difficult than usual. The labour was very bad especially the kind of labour required to put the timber in the excavation. A large amount of piling had to be done as well as pumping which was very costly, as owing to the bad climate it was extremely difficult to keep good fitters and such skilled labour on the work.

The bridges on the Fan Ling Sub-division which however were chiefly minor, cost more than I originally estimated owing to want of facilities for transport and the fact that the local labour proved itself entirely unable to do the work. Coolies had to be imported and matsheds built for them. It was also decided to burn bricks locally with coal as the ordinary Canton brick was not good enough for the purpose and stone was not available. Very good bricks were burnt but the cost was great, but not so great as imported stone. Indians had to be brought from India to load and fire the kilns as the Chinese did not know how.

There is a slight excess shown in culverts but again it is impossible to judge the future expenditure. The villager who owns land near the line of Railway has a habit of saying nothing if the Railway bank cuts off the irrigation water from his land. In one or two cases he has waited for two years and then asked that all his land should be bought. The methods of irrigation are very complicated and it is sometimes difficult to determine whether or no the Railway bank really cuts off the water.

## Telegraph.

Under the main head of Telegraphs some work was done during the year. The posts were put in place for about five miles at the Northern end of the line.

### Ballast.

In my estimate I placed the rates for ballast very high compared with Railways in other Eastern countries in anticipation of excessive prices due to combination. My estimate for the top ballast is \$6.00 per hundred cubic feet. I hope to get it broken for less than this amount. Small quantities have been broken at \$3.50 per hundred cubic feet but no large contract can be let at this rate as whenever a large quantity is mentioned the contractors raise the rates.

At the commencement of the work I went into the question of the advisability of using mechanical stone crushers. There were several in use in the Colony at that time in the Naval Yard Extension Works and at Quarry Bay. The conclusion arrived at from information given me was that stone crushers only pay when time is an object, and that they are no cheaper if the collection of large quantities of ballast can be spread over a long period of time.

A contract was let for sleepers (Australian) which was cheaper than the Estimate though the present low Exchange will not make the saving as much as it might have been. About 25 cents per sleeper will be saved making a total of \$15,000. A contract has also been let for the rails but in the absence of any details it is impossible to say if there will be any saving under this heading.

### Stations and Buildings.

Very little has been done during the year under this heading. The expenditure shown was incurred on Taipo Jetty. A sum of \$15,000 for a length of 330 feet was allowed in the Estimate for this, but this sum will be exceeded by about \$7,000 as it has been decided to run the jetty out into much deeper water than was at first thought necessary, being an extension of 290 feet. There will now be ten feet of water at Low Water Spring Tide. The passenger traffic to Sha U Chung is expected to be good and this jetty will accommodate large launches.

It has been decided to make two flag stations which are not allowed for in the original Estimate. One of these is close to Taipo New Market and should prove to be very much frequented. The other is to be at Lofu on the British side of the frontier river.

It is proposed to treat these flag stations as experiments and to put up only a cheap temporary building. If the receipts warrant it, a more permanent building can easily be built afterwards with sidings, etc., for passing trains.

For reasons of economy it has been decided to have only very low platforms at Shatin, Taipo and Fan Ling Stations. High platforms necessitating expensive foundations are costly and as a rule represent the heaviest item in a station estimate. The carriage stock is being designed so as to be easily entered from both the high terminal and the low wayside station platform. The saving thus made will I hope balance the extra cost of the Taipo Jetty and the two new flag stations.

Under the sub-head "Workshops" no expenditure has been incurred up to date. It has however been practically decided to erect a small workshop in Kowloon to keep the Rolling Stock of the British Section in repair. The total cost of this shop with its tools and plant, etc., will be about \$120,000.

### Plant.

There was some expenditure under the sub-head "Construction" during the year, a good deal of two foot gauge tramway and trucks was purchased as well as metre gauge stock for construction of the tunnel.

An indent has gone home for some of the permanent Rolling Stock for the line. One locomotive has been ordered and one more will be ordered shortly but it is not expected that payment will be made for these before 1910.

The underframes for eight carriages are on order. It has been decided to build the wooden superstructure locally and take advantage of the cheap labour and timber.

Eighteen waggons have also been ordered, twelve of which are of the long bogie type and six short ones. It is proposed shortly to order thirty more short trucks and a couple of goods brake vans.

### General Charges.

The Expenditure under General Charges was in excess of that estimated for at the beginning of the year. The excess is under salaries only, there being a decrease under other minor heads. It was not found possible to reduce the Engineering Staff as soon as it

was expected. The fall in exchange also made a great difference. The expenses of salaries of Engineering Staff, Store, Accounts and Indoor Offices, Medical and Consulting Engineers' fees however are only 4.1 per cent. of the total works expenditure for the year and 5.1 of the expenditure to date. This percentage compares very favourably with similar expenditure on other Railways. The total cost of superior supervision to date including quarters and office expenses is only 6.8 per cent. of the total expenditure.

Arrangements were made early in December and one sub-divisional office was closed on the 1st January, 1909, the services of one assistant engineer having been dispensed with.

It may be possible to make further reductions on the staff charged to this Main Head of the Estimate later on in the year. The amount of reduction will depend greatly on the health of the staff as during the rainy season malarial fever places many of the staff on the sick list for several days at a time which throws extra work on those who are well. It would therefore be highly imprudent to reduce the staff prematurely and run the risk of bad work being done especially as any reduction would represent such a very small percentage of the total expenditure.

The cost of general management and supervision is given below in percentages of the total expenditure for the year :—

Salaries of all Engineers (C.R.E., D.E. & A.E.s)	}	.....3.15 per cent.
and Chief Storekeeper with their indoor staff		
of clerks, cashiers, etc., .....		
Salary of Railway Medical Officer, .....		.14 ,,
Consulting Engineers' salary and Home Office expenses, .....		.50 ,,
Accounts and Audit Office, .....		.35 ,,
		4.14 per cent.

In addition to the above there is the out-door staff of Inspectors of Works, Overseers, Timekeepers, etc., whose pay is charged direct to the works on which they are employed. The salaries of these men amounted to 5.21 per cent. of the expenditure during the year. Considering the difficult nature of the work and scarcity of labour and contractors with any knowledge of Railways, I consider the above percentages extremely good, as they compare well with other Railway construction, even in easier country.

It was found difficult to obtain good foremen: those sent out from Home though they knew their work well were often troublesome to deal with. The cost of getting them out from Home made it possible for them to behave very badly before they could be dismissed and they in many cases took full advantage of this. One assistant engineer can be got for the same cost as two foremen and I certainly think in China that it pays to have more assistant engineers with shorter sections and fewer European foremen.

There are very few departmentally paid coolies on the work now. These are mostly at Beacon Hill Tunnel and consist of the skilled labour driving engines, keeping the plant in order and sharpening tools, etc. All the rest of the work is on petty contract or piece work rates.

The cost of labour varies very much with the place. The highest wages have to be paid at Taipo. Ordinary blacksmiths and fitters are paid eighty cents per day at the South Face of Beacon Hill Tunnel, ninety cents at the North Face and a few get one dollar per day at Taipo. Carpenters get from seventy to eighty cents per day and blacksmiths hammermen forty to fifty.

It is very difficult to say what the ordinary coolie earns. In the tunnel nearly all are on piece work. The highest wages are paid to the coolies who work the drills at the heading faces and these earn over one dollar per day. The rates are gradually reduced till those working outside get about forty cents per day.

The average number of coolies employed per day on the Beacon Hill Tunnel throughout the year was 1,533 and about 1,711 on the rest of the line North of the Kowloon Hills.

GRAVES W. EVES,  
*Chief Resident Engineer.*

9th March, 1909.

REPORT OF THE RAILWAY MEDICAL OFFICER.

Mr. Naidu has been stationed at North Face Camp (No. 2 Tunnel) throughout the year.

Mr. Chan Tsan Kun was appointed as an extra Assistant Medical Officer on August 13th and has been stationed at Taipo Kau.

Mr. Kelly, Sanitary Inspector, has been stationed at North Face Camp (No. 2 Tunnel) and has ably carried out the sanitary work at various camps.

The general health of the Railway Staff shows a distinct improvement during the year, more especially in the camps at Beacon Hill Tunnel where there has been a reduction of approximately 50 per cent. of cases of Malarial fever.

A similar reduction has taken place in entries for Dysentery and Beri-beri.

The Railway work has proceeded without hindrance on account of sickness throughout the year.

The camps at No. 5 Tunnel, Taipo Kau, have been very unhealthy since work began there, but are now showing great improvement.

The Europeans especially suffered badly from Malarial Fever in the summer in spite of the administration of prophylactic doses of quinine.

The ground is very wet and soft and with repeated land slides which occurred on opening-up the South end of the tunnel, pool-formation could not be prevented.

The workmen moreover, in consequence of the extremely wet nature of the ground, have had to work under most trying conditions, almost always being knee-deep in water or soft mud and this no doubt has been a responsible factor in the incidence of sickness.

Now that the work is well in hand drainage and scavenging are being carried out as thoroughly as possible, coolie houses are frequently cleansed with disinfecting fluids, and the result has been a remarkable improvement.

Oil is used freely all over the line as a means of destroying mosquito larvæ in pools impossible to drain.

Case books have been kept at the two main camps at Beacon Hill Tunnel and since the appointment of a resident Assistant Medical Officer at Taipo Kau, at that place also.

It is impossible to record every case of sickness occurring amongst the coolies living in outlying matsheds but speaking generally, there has been a great decrease in all cases occurring in places not attached to main camps as well as in the main camps themselves.

Quinine has been dealt out freely, though perhaps not so freely as formerly as I found that a considerable amount was wasted by being thrown away into the nullahs or bartered at the small stores for food, etc., the natives, especially when new to the territory not taking kindly to the drug, and it has often to be given under compulsion. As soon as the practice was discovered steps were taken to stop it.

Serious accidents have, fortunately, been rare during the year.

One of the most troublesome ailments at present is the effect of the dynamite fumes in the big tunnel.

The heading is about 3,000 feet from the entrance at each face. Ventilation will however be much improved when the headings meet in the course of a few months allowing a free current of air through the whole length of the tunnel.

Most of the workers, especially at South Face, suffer constantly from severe irritation of throat and lungs as a result of breathing the air heavily charged with dynamite fumes.

Occasionally coolies have to be carried out from the workings being overcome by the fumes after blasting operations. A few minutes in the fresh air however, always revives them and there have been no serious results.

The total number of cases treated at North and South Face Camps, No. 2 Tunnel, during the year is:—

.....	2,064
1907 .....	3,667

of these the following are the principal diseases:—

	1908.	1907.
Malaria .....	556	1,168
Dysentery .....	53	124
Beri-beri .....	58	81
Injuries .....	354	371

The following table shows the monthly Malaria returns at the two camps and the comparative percentages for 1907 and 1908 :—

		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Number of cases of Malaria, {	1907	60	59	48	59	166	185	203	117	85	62	65	59
	1908	56	25	32	16	37	89	65	42	55	55	51	33
Percentages to total number of coolies on the line, {	1907	1.9	3.7	1.7	2.03	7.4	8.5	11	6.8	3.4	2.3	2.4	2.6
	1908	2.3	1.2	1.04	.6	1.2	2.8	2	1	1.1	1.5	1.3	.9

The total number of patients seen at the No. 5 Tunnel Camps from August (when a Resident Assistant Medical Officer was appointed and records could be kept) to December 31st was 403.

Of these the following were the principal diseases :—

Malaria, .....	147
Ulcers, etc., .....	75
Skin Diseases, .....	42
Dysentery & Diarrhœa, .....	22
Beri-beri, .....	4
Injuries, .....	19

	Sept.	Oct.	Nov.	Dec.
Cases of Malaria.....	48	41	32	18
Percentage.....	2.2	2.2	1.4	1

The following table shows the cases sent to Hospital during the year :—

Malaria, .....	37
Dysentery, .....	11
Beri-beri, .....	16
Injuries, .....	21
Cellulitis, Ulcers, etc.,.....	7
Debility, .....	3
Chest Diseases, .....	4
Eye Diseases, .....	2
Venereal, .....	2
Alcoholism, .....	1
Hepatitis,.....	1
Snake bite, .....	1
Quinsy, .....	1
Leprosy, .....	1
Plague, .....	1
Ademitis,.....	1
Lumbago, .....	1
Pleurisy, .....	1
Rheumatism, .....	1
Total,.....	<u>113</u>



During the year 44 deaths occurred on or near the Railway works. The following were the causes :—

Malaria, .....	14
Beri-beri, .....	13
Injuries, .....	7 (One murder).
Dysentery, .....	3
Heart failure, .....	1
Small-pox, .....	1
Plague, .....	1
Pneumonia, .....	1
Phthisis, .....	3

A great many of these cases are unknown wanderers (not Railway employees) who attach themselves to a camp when sick in the hope of finding shelter.

Unfortunately the number of sick loafers is on the increase.

Five Europeans have been invalided to England for the following diseases :—

Abscess of Liver, Malaria, .....	1
Paralytic Stroke, .....	1
Malaria, peripheral neuritis, .....	1
Chronic Bronchitis, peripheral neuritis, .....	1
Perineal abscesses, boils, etc., .....	1

The preventive measures adopted against disease, viz., scavenging, frequent cleansing of coolie lines, drainage and the free use of quinine have obviously resulted in diminishing considerably the incidence of the three most prominent and dangerous diseases, viz., Malaria, Dysentery and Beri-beri, as well as others of a less serious nature, and the results of these measures have I think quite justified their adoption and consequent expense. The population is however a floating one and fresh cases are constantly being introduced from without, a serious factor to contend with in the attempt to eradicate disease.

A noticeable feature of the dispensaries is the frequency with which the neighbouring villagers bring their sick children, for medical advice and Western treatment.

J. W. HARTLEY, M.B.,  
*Railway Medical Officer.*

A Main Head.	B Sub-head.	C Total of Mr. Bruce's & Mr. Chatham's Estimate.	D C. R. E. Revised & Supplementary Estimates as per last Report.	E Items not included and Supplementary Estimates.	F Total Revised Estimates.
I—Survey, .....	.....	\$ 37,642.00	\$ 42,267.65	\$ 10.00	\$ 42,277.65
II—Land, .....	.....	10,500.00	1,196,538.02	<i>658.82</i>	1,195,879.20
III—Formation, .....	(a) Earthwork, .....	1,530,997.00	2,260,000.00	8,176.05	2,268,176.05
	(b) Tunnels, .....	1,924,860.00	2,503,415.00	996,409.69	3,499,824.69
	(c) Road, .....	.....	82,500.00	2,479.84	84,979.84
IV—Bridges, .....	(a) Major, .....	412,650.00	563,858.47	113,907.89	677,766.36
	(b) Minor, .....		406,251.06	<i>66,646.78</i>	339,604.28
	(c) Culverts, .....		63,468.14	1,775.72	65,243.86
V—Fencing, .....	(a) Boundaries, .....	.....	31,813.00	8,186.45	39,999.45
	(b) Signs, .....	.....	396.00	4.00	400.00
VI—Telegraphs, .....	.....	.....	26,864.00	107.42	26,971.42
VII—Track, .....	(a) Ballast, .....	.....	167,923.94	<i>35,857.40</i>	132,066.54
	(b) Permanent Way, .....	716,625.00	748,032.00	<i>15,839.29</i>	732,192.71
VIII—Stations and Buildings, ... }	(a) Building, .....	315,000.00	450,000.00	<i>1.53</i>	449,998.47
	(b) Station Machinery, ... }		35,970.00	4,030.00	40,000.00
	(c) Furniture, .....		3,410.00	1,590.00	5,000.00
	(d) Workshops, .....		.....	60,000.00	60,000.00
IX—Plant, .....	(a) Construction, .....	.....	234,000.00	.10	234,000.10
	(b) Loco., Tools and Plant, ..	.....	.....	50,000.00	50,000.00
	(c) C. & W. Plant, .....	.....	.....	10,000.00	10,000.00
	(d) Engineering, .....	.....	.....	.....	.....
	(e) Loco. Rolling Stock, ....	.....	140,000.00	<i>52,000.00</i>	88,000.00
	(f) C. & W. Rolling Stock, ..	.....	340,000.00	<i>30,460.00</i>	309,540.00
X—General Changes, (a.) }	(i) Salaries, .....	.....	309,724.84	89,995.59	399,720.43
	(ii) Quarters and Offices, )	105,000.00	72,545.34	<i>4,050.21</i>	68,495.13
	(iii) Furniture, .....		10,164.14	1,475.47	11,639.61
	(iv) Office Expenses, .....		34,974.16	<i>2,263.23</i>	32,710.93
	(v) Medical, .....		22,825.90	<i>506.44</i>	22,319.46
	(vi) Home Charges, .....		70,099.80	4,378.49	74,478.29
	(vii) Typhoon Damages, . )		43,242.37	<i>43,242.37</i>	.....
(b.) Accounts, .....	.....		.....	42,843.53	42,843.53
	Total, .....	\$ 5,053,274.00	9,860,283.83	1,143,844.17	11,004,128.00

N.B.—The Item under Typhoon Damages has been written off to Works.

The figures in *italics* mean a minus quantity.

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REMARKS.

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Explanation given in Report.

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Extra cost of road approaches to Bridge No. 2 (Gascoigne Road Bridge).

Excess due to conversion of Minor into Major Bridges.

Saving ” ” ”

Total saving anticipated in Report of 1908 not probable.

Extra boundary fencing required in Kowloon.

Explanation given in Report.

For explanation see Report.

} Furniture, &c., for Kowloon Station.

Not previously estimated for.

” ”

” ”

} Amount of rolling stock over-estimated. Less required and prices in general at home have been greatly reduced.

For explanation see Report. Salaries have been increased by an allowance for an expert to come at end of 1909 to advise on a joint working agreement. Salaries of construction staff only allowed for during the first six months of 1910, after which date they will be chargeable against revenue when line opens for traffic.

Written off to Works.

{ Accounting staff not originally estimated for, it being anticipated that the accounting would be done in one of the Colonial Departments. Portion of expenses of expert referred to under Salaries is included under this sub-head.

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G Main Head.	H Sub-head.	I Expenditure up to 31st December, 1907, as per last Report.	J Expenditure 1908.	K L Estimated Expenditure.		M Grand Total.
				1909. As per Colonial Estimates.	To complete.	
I—Survey, ...	.....	\$ 42,267.65	\$ 10.00	\$ .....	\$ .....	\$ 42,277.65
II—Land,.....	.....	146,538.02	615,341.18	350,000.00	84,000.00	1,195,879.20
III—Formation,	(a) Earthwork, .....	532,452.15	655,723.90	700,000.00	380,000.00	2,268,176.05
	(b) Tunnels, .....	900,756.09	1,271,068.60	500,000.00	828,000.00	3,499,824.69
	(c) Roads, .....	.....	679.84	30,000.00	54,300.00	84,979.84
IV—Bridges,	(a) Major, .....	243,858.47	223,907.89	100,000.00	110,000.00	677,766.36
	(b) Minor, .....	106,251.06	173,353.22	50,000.00	10,000.00	339,604.28
	(c) Culverts, .....	33,468.14	25,775.72	2,000.00	4,000.00	65,243.86
V—Fencing,	(a) Boundaries, .....	346.45	.....	25,000.00	14,653.00	39,999.45
	(b) Signs, .....	.....	.....	400.00	.....	400.00
VI—Telegraphs,	.....	3,565.74	11,405.68	7,000.00	5,000.00	26,971.42
VII—Track, ...	(a) Ballast, .....	17,923.94	1,142.60	10,000.00	103,000.00	132,066.54
	(b) Permanent Way,...	107,192.71	.....	640,000.00	<i>15,000.00</i>	732,192.71
VIII—Stations & Buildings,}	(a) Buildings, .....	.....	11,698.47	200,000.00	238,300.00	449,998.47
	(b) Station Machinery,	.....	.....	15,000.00	25,000.00	40,000.00
	(c) Furniture, .....	.....	.....	3,400.00	1,600.00	5,000.00
	(d) Workshops,.....	.....	.....	.....	60,000.00	60,000.00
IX—Plant,.....	(a) Construction, .....	376,264.79	156,152.31	.....	<i>298,417.00</i>	234,000.10
	(b) Loco., Tools & Plant,	.....	.....	.....	50,000.00	50,000.00
	(c) C. & W. Plant,.....	.....	.....	.....	10,000.00	10,000.00
	(d) Engineering, .....	.....	.....	.....	.....	.....
	(e) Loco. Rolling Stock,	.....	.....	140,000.00	<i>52,000.00</i>	88,000.00
X—General Charges, (a.) }	(f) C. & W. Rolling Stock,	.....	.....	340,000.00	<i>30,460.00</i>	309,540.00
	(i) Salaries, .....	129,724.84	111,995.59	122,863.00	35,137.00	399,720.43
	(ii) Quarters & Offices,	62,545.34	4,949.79	1,000.00	.....	68,495.13
	(iii) Furniture, .....	10,164.14	775.47	1,000.00	<i>300.00</i>	11,639.61
	(iv) Office Expenses,...	16,974.16	6,736.77	8,000.00	1,000.00	32,710.93
	(v) Medical, .....	10,825.90	4,793.56	6,000.00	700.00	22,319.46
	(vi) Home Charges, ...	30,099.80	21,378.49	9,000.00	14,000.00	74,478.29
	(vii) Typhoon Damages,	43,242.37	<i>43,242.37</i>	.....	.....	.....
(b.) Accounts, .....	.....	12,843.53	20,000.00	10,000.00	42,843.53	
Stores, China, ...	.....	100,000.00	70,687.25	.....	<i>170,687.25</i>	.....
	Total,.....\$	2,914,461.76	3,337,177.49	3,280,663.00	1,471,825.75	11,004,128.00

N.B.—Items under Typhoon Damages and Stores China have been written off to Works.

The figures in *italics* mean a minus quantity.

The item \$298,417 under Plant, Construction, represents the estimated amount by Sale of Plant.