1921.

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C

KASHMIR RESIDENCY OFFICE.

FILE No. 13-C

Subject.

REPORTS OF LIEUTENANT-COLONEL C. H. HASWELL, R. E., ON THE FORTS ROADS ETC., IN THE GILGIT AGENCY.

Indexed

For previous correspondence, see File No. 172 — C *of* 1921.
29-C of 1918.

For later correspondence see File No. 39 C *of* 1927

SGPI—S 15—245 FAR in Kashmir—14-3-21—200

Registry.

REPORT

Subject. Reports on Gilgit Forts.

No.642/5/27-C.

Headquarters, Peshawar Military [illegible]s
PESHAWAR, dated ~~20th~~ 21st S[illegible]

From

The D.D.M.W.,

PESHAWAR DISTRICT.

To

The Resident in Kashmir,

SRINAGAR,

KASHMIR.

Confidential

Sir,

I have the honour to submit herewith for y[our] information a copy of the reports of Lieut-Colonel Haswell, R.E., on Forts, Roads etc in Gilgit.

I have the honour to be ,

Sir,

Your obedient servant,

A.G. Wilbond

for Lieut-Colonel, R.E.

21/9/21

for D.D.M.W., Peshawar District.

Enclosures.

5 Reports.

No action appears called for. May be filed. It is for orders whether these papers may be kept in the Confidential records.

F.A.K. 7.10.21

Resident

Yes. File with confidential records after Resident has seen 7/10

H.C. 15/11

REPORT
ON
GILGIT FORT

(4) (3)

GILGIT FORT.

Gilgit is the headquarters, of the Gilgit Agency. The headquarters of the Regiment allotted to the Gilgit Agency is at Gilgit.

This regiment is distributed as follows

Chilas	1 Company.
Bunji	1 Company.
Gupis	1 Company.
Gilgit	2 Companies.

The fort is an old mud building, date of construction unknown. It consists of very thick walls, built of boulders in mud with brushwood binding and timber framework.

Gilgit requires no fort and this has already been accepted.

Just before the war the work of demolition was started and a portion of it demolished.

Owing to the war the work was stopped.

I now recommend that the remaining portion of the old fort be demolished and the ground entirely cleared.

Barracks for 1½ companies have been constructed outside the fort with M.A.A. magazines, kotes of arms and quarterguard.

There still remains to be constructed barracks for ½ company.

Artillery magazines.

Store rooms.

Store rooms.

And until these are constructed it will not be possible to demolish the remainder of the fort.

The accommodation existing in the old fort is plentiful but badly ventilated and badly lighted.

Funds have been allotted by the State for improving the ventilation, but I do not think it advisable to spend much money on this.

Inside the keep of the fort the gun ammunition is stored in old boulder [redacted] stone in mud buildings with brushwood and mud roofs.

This, I consider, unsafe and gun magazines, with compartments should be constructed near the quarterguard with the least possible delay.

The following ammunition is kept for the armament, which consists of two 2.5 P.M.L. Guns.

Shrapnel	799.
Star	183.
Ring	246.
Case	76.
Fuzes	1064.
Cartridges	1062.

Inside the fort are stored 29 Snyder Carbines for the use of the local levies in time of necessity.

<u>Outside the Fort.</u> I inspected the lines that have recently been constructed outside the fort with the G. O. C. at Gilgit, the C.C. Regiment and the Divisional Engineer, and make the following suggestions as regards improvements to the existing buildings and the construction of new buildings necessary.

8) 15

Accommodation. Barracks have been constructed for 1½ companies, and there remains still a ½ company barrack to be constructed.

The height of the rooms is 11 ft:, the width 16' and the allowance per man 45 sq: ft:, which is sufficient.

The buildings are hammer dressed stone in mud, lime pointed inside and outside.

I would suggest that the interiors be lime plastered as this increases the comfort of the men and means better sanitation.

The main and verandah roofs are continuous and though the lighting is good, the ventilation is poor.

This can be improved by opening out the main walls between the trusses, giving an opening 6" deep.

In the new barrack that has to be constructed, I recommend raising the main roof above the verandah roof so as to give room for the provision of Clerestory windows.

In the existing barracks glazed windows have been given below between the doors. This means a large expenditure in renewals of glass.

By providing clerestory windows above and no windows below, this will be avoided, and the ventilation and light will be very much improved.

The barrack constructed for followers is now used by I. C. Banks, but when the full accommodation has been completed this barrack will be able to be reappropriated for the followers for whom it was built.

Note on page 5

(8)

In respect of barracks the re-organisation scheme has necessitated proposals which are not in accordance with Lt Colonel Stasuell's report.

A list (called list C). has been made out and is being checked and estimated for.

R.S.A.

16/7/1924.

Cit[illegible] of Arms.

These are good and in excellent condition and well ventilated.

Mobilization Store.

These are complete for a full regiment, but not for any followers and are stored in a very good store room.

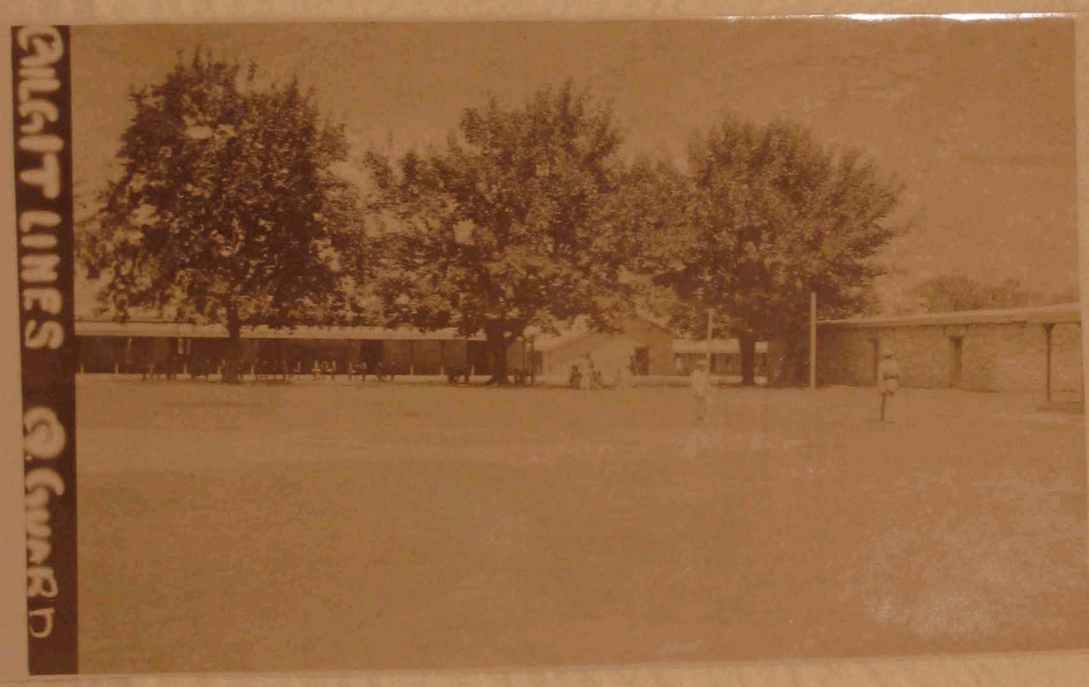
Space could be econimised by provision of racks instead of shelves and by better arrangement.

Engineer & Ordnance Stores.

There ~~—~~ is no barbed wire, no sandbags and no tools. This should be taken up and a store of all likely requirements be kept in reserve in Gilgit.

Quarterguard.

~~There~~ This is a very good building. One room of quarterguard contains the .303 rifles for the use of the scouts.



The S.A.A. Magazines and the cotes of arms are some distance away from the quarterguard.

There is no doubt that a great deal more storage accommodation is necessary, when the remainder of the old fort is demolished.

I therefore make the following suggestions which will reduce number of sentries required and would work in with the existing scheme of the lines.

(10)

Station Hospital

Camp Hospitals for standing camps at Brah & Khundroo.

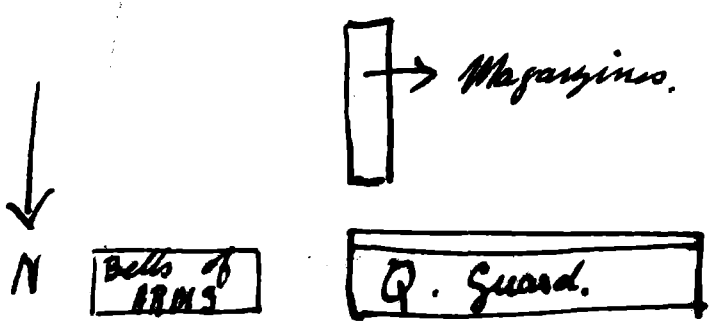
Plans a & b to be superior to the usual plans - and c to be as good if not better than any thing in the Indian Army.

(d) are particularly good and can be very completed in Summer Contonments.

(1) Convert the existing S.A.A. magazines into store rooms, and also the Bells of Arms.

(2) Construct new Bells of Arms in continuation of the quarterguard which would come under the Quarterguard Sentry.

(3) Construct new S.A.A. Magazines and new Gun ammunition magazines in front of and at right angles to the Quarterguard.



Hospitals. There is a large Civil and Military Hospital combined under the Agency Surgeon.

S.&.T. Corps Supplies. There is a reserve kept in Gilgit for 4 months.

for 500 men.
50 followers
15 animals

12 months supply is ~~brought~~ sent up from Bandipur during the summer months.

Wheat, Dal and Ghee are all bought locally.

The godowns are some distance off the main road, and the site is damp, low and too near the river.

The buildings are old and kucha and are infested by rats which do a lot of damage and cause a great deal of loss.

It has been accepted that new godowns are necessary and the question of a new site is under consideration.

I went into this question and am of opinion that the site known as site No.2, alongside the new lines and on the East of them where the S.&.T. have some Bhoosa stacks is undoubtedly the only site.

There is plenty of room for extension and it is on the main road.

(12) (9)

This will mean acquisition of land which the Revenue Authorities are not in favour of. But I am informed by the Divisional Engineer that the construction of the Naupur Kuhl will bring 105 irrigation and land could acres more land under ~~cultivation~~ be given in exchange for land taken up for the new godowns.

The work is in hand, and this 105 acres is Bairun Line and beyond the settlement area.

P.&.T. Bakery.

This is accommodated in an old building at the S. W. corner of the lines.

It is very bad, dirty and insanitary.

It has an old Brushwood roof, no wire gauze and was a mass of flies.

I consider that a new bakery on sanitary and up-to-date lines should be immediately constructed

General.

The defence of Gilgit itself is unnecessary and therefore no fort is required.

In the event of trouble Gilgit would become a base for operations either towards HUNZA & NAGAR or towards CHITRAL via GUPIS.

All that is required are camping grounds and these are plentiful. The valley at Gilgit is wide which can be seen from this photograph.

(13) (10)

At Gilgit is a very fine suspension bridge of 500' span which crosses the Gilgit River and carries the road to HUNZA and NAGAR.

C. H. Haswell
Lt. Col. R.E.

A.D.M.W.
Peshawar Distt.
August 1921.

REPORT
ON
CHILAW PORT

CHILAS FORT. (15) (12)

Inspection on July 9th 10th 1921.

Chilas Fort was built by the 23rd Pioneers in 1894. It was originally constructed without flank defence and Machicoulis.

These have been added later.

The Fort is constructed of Rubble Stone in mud and as far as can be seen has never been pointed with lime.

The main walls are given a batter and as the mud between the ~~rubble~~ stones has been washed out by rain, it can be escaladed.

It would be advisable to point all the exterior walls with lime mortar as funds become available, but this is not urgent as there are much more important works necessary.

The Fort is well sited. On the North and East faces there are steep precipices and on the South and West faces, flat ground on which the Bazaar and Civil buildings are sited close up to the fort wall.

The fort is impregnable unless artillery can be brought against it .

It was built to protect Chilas from attack from Independent territory to the West and South-West and also to flank the communications between Srinagar and Gilgit.

Page 13 —

(16)

The garrison strength is automatically reduced by re-organisation to some 156 IOR.
and increased to 4 mules.

Accommodation.

Normal Garrison.

The fort is intended to hold 206 men and 2 mules.

Actual Garrison.

Owing to men being on detachment the actual garrison in the summer months is 171 men and 2 mules.

Barracks.

The following accommodation exists in the fort for I. O. Rs:-

1. 139' x 16' x 10' high for 75 men.
1. 61' x 16' x 10' high for 25 men.
1. 60' x 16' x 10' high for 25 men.
1. 108' x 16' x 10' high for 50 men.
1. 63' x 16' x 10' high for 25 men.

The allowance per man varies from 30 sq: ft: to 40 sq: ft: per man which considering the heat in Chilas is not sufficient.

The height of the barracks is only 10 ft.

The buildings are constructed with walls of Rubble stone in mud about 3' thick.

The roofs are mud on brushwood on Bullies supported by posts and Bressumers and are very old and in poor condition.

They require reconstruction.

The floors are of mud which owing to there being no good clay in the district are bad.

A general view of the barracks in the Fort is shown by this photograph.

Lights and Ventilation.

The light and ventilation is good.

(18) 14

Officers Quarters.

There is accommodation for 4 British officers in the fort if required.

For Indian officers there is accommodation for the following:-

1 Post Commandant.
2 Subadars.
2 Jemadars.

The Jemadars quarters have evidently been built on made ground and have cracked very badly. The cracks are opening and the quarters may become dangerous. This should be watched very carefully.

New works since last Inspection for accommodation.

Two small company expense ration stores.

Two rooms for pay havildars office and clerks room for Post Commandant.

Suggested works for accommodation.

Floors.

As the earth floors are unsatisfactory it is suggested that Devonshire Barn Pattern floors be put in. This consists of a certain quantity of lime being mixed with the earth, waterred and rammed. They have been tried in other buildings with success. 6" thickness is suggested and the cost will be approximately 6/- per 100 sq: ft:.

Roofs.

All buildings require re-roofing. The roofs have not been touched since they were first constructed. This is a big item but it should be done by degrees as funds can be made available. P.A. rate approx:-/6 per sq: ft:.

Extra Accommodation.

There is no room in the fort for new buildings to relieve congestion in the Depoys barracks. I therefore suggest that the existing low barracks be converted into double storeyed barracks. Earthquakes are of rare occurrence and this type of construction is therefore feasible, P. A. Rate approximately 4/4 per sq: ft:.

Sanitation and Hospital arrangements.

Hospitals.

There is a Dispensary and Out Patients room in very good condition with a concrete floor.

Hospital Field Store with boarded floor and ceiling. All medical panniers are complete and ready for service .

The main hospital store room is sufficien but the roof is bad and requires re-newing.

There are two hospital wards:-

1. 15½' x 27' x 11' high, for 6 beds.

1. 15½'x 18' x 11' high for 4 beds.

The ventilation is very bad and the floor are plain boards. Although they are cold P.C. Concrete floors should be put in. The boarded floors are most insanitary.

There is no Infectious ward all cases are treated in the Civil Hospital and I consider this is the best arrangement,
There is a S. A. S. in charge under the Agency Surgeon at Gilgit.

Washing Places.

There are no arrangements for washing places. There is a tank outside the fort which is used for washing purposes. It is fed from a Water channel. Small stone platforms might be constructed but the matter is not urgent.

Latrines.

There are two new iron Latrines for the hospital which have recently been constructed, and are sufficient.
For the I.O.Rs, there are no night latrines in the fort, only urine tubs.
Two Latrines should be put inside the fort for the use of the men at night.

Ther are no latrines for the men outside the fort. Estimates have been asked for and they are under preparation for 8″ of the strength. It is also proposed to construct incinerators.

The present arrangements are that the men use the fields beyond a certain distance from the fort and with the great heat in Chilas during the summer I consider this is the best that can be done. If incinerators are constructed they will never be used as there is no litter for fuel and wood is difficult to obtain. It might be possible to have some form of trenching system.
If latrines are constructed I doubt if they will ever be used, as it is almost impossible to obtain sweepers in the Gilgit Agency.

Works suggested for Sanitation.

Two night latrines for the use of the garrison inside the fort, cost approx: Rs.200/-

Replacing the wooden floors of the hospital wards with R.C. Concrete, cost approximately Rs.320/-.

Supplies. C. & T.

The following Store accommodation for C.& T. Stores exist in the fort.
1 Godown 25' x 70' x 9' high, mud floor, stone in mud walls, country mud roof. The roof was in danger of collapsing and it has been strutted.

Ghi Godown (a) 1.27' x 7' x 10' high.
(b) 1. 16' x 16' x 10' high.

Rum Godown 1. 16' x 6½' x 10' high.

(a) Is a portion of an out building with stone in mud walls, with no pointing, a kucha country roof and a very old concrete floor which has now broken up.

(b) Is similar to (a) but has a boarded floor over the old concrete.

These godowns are overrun with rats.

The rum godown is similar to (a). It is always kept wet to prevent the rum kegs leaking and the walls suffer in consequence of

There is a wooden oil godown 12' X 12' with fire pretection, but this is not considered sound, owing to the danger of fire. Oil should be kept in a small pit with a roof over it to minimise the danger of fire.

Reserves.

In case of immediate siege, there are sufficient supplies in the fort for the whole garrison for 1 month.
If the fort is besieged during the winter it there would be in reserve sufficient supplies for 500 men for 4 months.

State of Accommodation.

The accommodation is bad and I am informed that the annual loss in grain and bags due to rats is over Rs.1500/-.
There is no protection against rats and to enable stores to be quickly moved in the case of broken bags, a great deal of valuable space is wasted.

Works necessary.

In my opinion it is necessary to entirely reconstruct the ration godowns and to make them rat proof.
If 2 godowns each 60' x 20' x 14' high were constructed and made rat proof, all S.& T. Supplies could be stored inside the fort.

It is suggested that double storey buildings be built, the lower storey being godowns and the upper storey barracks for Sepoys. This will provide sufficient accommodation for S.&.T. Stores and also relieve the congestion in the fort.
The approximate cost would be Rs.15000/- for the two buildings.

A separate store room is required for bags, made rat proof. The approximate cost will be Rs.300/-.

Water Supply.

Water is brought into the fort by a water channel from the Sotogah Nullah which takes off the nullah some miles up.
In case of attack this water would be entirely cut off and the garrison would have to depend on their storage.
The water is good, clean and cool.

Storage.

In the fort are two masonry tanks, each holding 15,000 gallons which are water tight and are roofed over. Each tank is 20' x 20' x 6' deep. The water is brought into the fort from a collecting tank outside in pipes to the storage reservoirs and distributed to standposts.
Allowing 2 gallons per man, there is therefore sufficient water for 15,000 men say in case of siege.

In addition to this just outside the fort and under cover of it, a large tank has been constructed. The mean surface of the new tank is 4,500 sq: ft: and the average depth is 7'.

The storage is therefore approximately 150,000 gallons after allowing for reduction due to evaporation etc:.

This tank is not watertight at present but a sum of Rs.1831/- has been sanctioned and allotted for improving it and the work is in hand.

State of Storage.

The tanks inside the fort are in very good condition and were cleaned about a month ago. Water can be chlorinated if it is necessary.

Fort Armament.

The fort armaments consist of

2 2.5 P.M.L. Screw Guns which have recently been inspected by the R. A. officer in charge.

2 Machine Guns.

In addition to this there are normally 4 Lewis Guns with the detachment. These guns are now in Gilgit being used for training.

42 Snyder Carbines which belong to the A.P.A. Chilas for the arming of his levies.

Magazines.

There are 3 magazines.

(a) For small arm ammunition.
(b) For shells.
(c) For cartridges for guns.

They are new stone masonry buildings with semicircular stone arched roofs.

The magazine for shells (b) has no ventilation and the filling over the door lintel should be removed and replaced with fine expanded metal or strong wire gauze.

There is provision for ventilating the cartridge magazine but the opening has been closed with glass instead of putting in strong wire gauze.

There is in addition an Expense store in which are kept the gun ammunition boxes ready for use.

Also a small battery store with spares for the guns.

All fuzes are kept in the expense store with the filled ammunition boxes. They should be put into the battery store unless separate store accommodation can be found for them, which is doubtful.

No: of Rounds.

The following are kept in the fort.

Rifles.	Reserve	1,40,000	Mk:VII.
	Practice	26,787	Mk:VII.
Machine Guns.	Reserve	7480	Mk:VI
	Practice	24,640	Mk:VI
Pistol.		40.	

(18)
(22)

Gun Ammunition.

Ring Shell	200.
Shrapnel	674.
Star	116.
Cartridges	874.
Fuzes	674.

For Civil Snyder Carbines 4773 rounds.

Bells of Arms.

The bells of arms are of the same type as other buildings in the fort, walls boulders in mud with no plaster or pointing. Country mud roofs with wooden ceilings and wooden floors.

There is no ventilation and they get very hot in the summer. The roofs are poor and will want reconstruction in the near future.

The accommodation is sufficient.

Defences.

Dead ground.

There is now no dead ground round the walls of the fort. Machicolis and extra loopholes have been constructed to cover every point.

Walls.

The average height of the walls is 14' and there is a 6' 6" parapet above this.

They are constructed of rough rubble stone in mud with a batter of about 1 in 4 on the outside. They have never been lime pointed and owing to the mud having been washed out by the rain can be easily escaladed at various points.

All walls should be lime pointed and made smooth as funds become available to make it impossible for a man to climb into the fort.

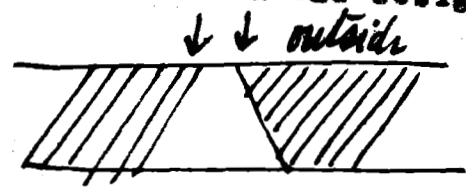
arbed Wire.

our

Loopholes.

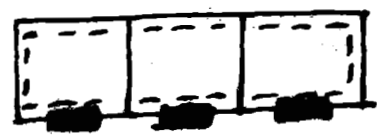
here is a good barbed wire fence which is sufficiently far away from the walls to prevent a bomb being thrown into the fort.

oopholes can all be fired from with the exception of 3 and 4 which are too high.
hey are of a bad design



giving no protection at the edges.
henever it is necessary to rebuild the parapet walls, loopholes of a standard design should be put in and this should be borne in mind.
In one machicoulis it was noticed that the loopholes had been constructed the wrong way round, with the wide portion on the outside. This gives a very much bigger target to an enemy, and if possible this should be rectified.

The floor loopholes of the machicoulis are almost big enough to let a man fall through. These should be covered with a wooden shutter in three pieces and sandbags put over the wood to make them bullet proof.



achicoulis.

he machicoulis are constructed of two thicknesses of 1½" planks filled in between with 6" shingle and are satisfactor
There is a chance of a bullet catching the machicoulis where there is an insufficient thickness of shingle due to the frame work, but the chance is remote.

he machicoulis over the main gate wants renewals of planks and fresh shingle put in
his should be done.

In some cases the floors of the machicoulis have been left entirely open. These openings should be filled up with 6" of shingle between planks and two loopholes left 9" x 3" close to the wall.

Gate.

he gate consists of 3" planking faced with ¼" mild steel sheet and is not bullet proof against modern .303 rifles. The gate can easily be blinded by a wall in front but this is hardly necessary as the entrand turns suddenly at right angles inside the fort, and very little damage would be done by firing at the gate.

Sally Port.

his does not exist and is difficult to locate owing to the nature of the ground.
I dont consider it necessary.

All round communication.

There is communication practically all round the walls. There are a few gaps which cannot be avoided owing to the slope on which the fort is built.

Ranges to landmarks.

The post commandant has a survey of the fort and surrounding country on which are marked the ranges of all landmarks. These have been well marked on the ground and are easily identified.

Commanding points.

The fort is commanded from 3 positions.

On the N.W. from the high ground at a range of about 700X.

On the N.E. from the fields below the fort at a range of about 800X.

On the S. from the high ground above the bomber at a range of about 800X.

The defenders are protected by traverses and are safe except in certain cases. The works necessary to ensure comparative safety from rifle fire are enumerated later.

Works to improve defences recently done.

The following works have been executed since the last inspection in connection with improving the defences of Chilas fort.

(a) In the year 1918-19 approx: Rs.11500/-

(1) Bullet proof stone screen wall to protect defenders on the S. wall of the fort from reverse fire from fields below near the river.

(2) Rebuilding outer wall from post commandants quarters to rest house.

(3) Barbed wire to buttresses of S. W. Gun tower.

(4) Rebuilding wall from rest house to ammunition tower with two corner machicoulis.

(5) S. E. corner machicoulis loophole improved and wire apron extended.

(6) Raising wall of E. Commandants quarters and latrine and N. E. wall of newly built to protect hospitals.

(7) Rebuilding parapet near S. W. rifle tower.

(8) Barbed wire to Kuhl Channel.

(9) Duplication inner tank giving another 15000 gallons in reserve.

(10) Wire entanglements.

(b) In the year 1919-20, approx: 1000/-.

(11) Making outer tank watertight.

(12) Constructing observation shed.

(13) Providing cover to sepoys firing from wall from East Commandants quarters to rest house.

(14) Store rooms for company rations.

Works still necessary for protection.

(a). The parapet wall over the main gate should be raised 1' 6" higher to cover defenders from high ground on South.

(b). Gaps in the defilade wall on the South face should have scantlings put across them on which blankets can be hung to protect men from view of the enemy on high ground on N. E.

(c). The detachment working the gun on the South West corner gun tower are exposed to fire from about 400 X. A defilade wall should be constructed right round the gun platform. An unnecessary gun port has been put into the South wall of the fort.
This should be taken out, the gap built up and the old gun port be constructed in the defilade wall, to allow the gun to cover Chilas village, firing due North.

(d). Parapet wall on ammunition tower should be raised 1' 6". Men using loopholes on this tower are commanded from ground 100 X away.

(e). The main fort wall below the B.O's quarters should be rebuilt. It has bulged very badly and escalade at this point is easy.

(f). The verandahs of the B.O's and Post Commandants quarters on the North face should be filled up with sandbags in emergencies.

(g). The North wall for a length of 40 feet to the East of the B.O's quarters should be raised 1' 6".

(h). The N. E. corner Machicoulis is far too close to the ground. This should be raised to bring the floor loopholes 10' from the ground, and the wall connecting this tower with the gun tower at the S. E. corner should be rebuilt and raised to give sufficient cover.

(i). The gun detachment on the S. E. gun tower require protection from reverse fire
A small wall 5' high should be constructed on the end wall of the followers quarters.

(j) The parapet wall of the S. E. rifle tower should be raised 1' to protect men from high ground on the south.

(k). The steps at the foot of the S. E. gun tower should be cut away. At present they have a few strands of barbed wire over them which is insufficient protection.
When cut away, the wall should be made smooth by lime pointing or lime plaster.

(l). All parapet walls should have lime coping to prevent damage to walls from percolation.

Works proposed and Sanctioned.

(a) Outside tank to be improved and made watertight.
Allotted Rs.1831/- & work in hand.

(b) Constructing two machine gun loopholes.
Allotted Rs.35/-.
The machine gun loophole in the North wall is necessary. That in the South wall to cover the gateway is unnecessary and can be left out. There are 5 rifle loopholes already.

(c) Pointing to defilade wall in S. face.
Allotted Rs.570/-. Work not started.
Necessary as wall is 1' thick, stone in mud and may be damaged by rain.

(d) Peroofing the observation tower to give more cover to men working there.
Rs.75/-. This is very necessary.

Time for Siege.

The fort can stand a siege at the present moment for 1 month at the least.

If besieged during the winter months it can hold out for at least 5 months.

Relief.

The fort would be relieved from BUNJI, 3 days march. Troops would come via the PERTAB PUL over the Indus from Bunji and the PAKHIOT BRIDGE.

Picquet Posts.

There are none fixed.

Civil Buildings.

There are two Newalats and a Treasury.
The treasury is under the main guard of the fort and is safe.

Zone.

At present there is no zone demarcated It has been decided to mark a 1000 X zone on the South and West faces and a 500 X zone completely round the fort.
The Divisional Engineer has now received orders to demarcate this and he is preparing a schedule of the buildings.
A copy of the plan and schedule will be submitted as soon as it has been compiled.

Engineer & Advanced Stores.

At present there are 6000 sandbags on charge. This number is not sufficient and the reserve should be brought up to 20,000.
Sand is already kept for filling.

The Kashmir State P.W.D. have 9 cwt: of barbed wire which is kept in the fort.
This should be increased to 20 cwt:.
There are no tools for barbed wire fencing and the equipment of picks and shovels is insufficient.

Bombs.

There are none kept in the fort.

Verey Pistols.

There are some kept in Gilgit, but non in Chilas. I consider that 4 pistols should be on charge with suffifient ammunition.

General.

The weak point of the whole fort is on the S. W. corner. From this point almost directly from the fort wall trees stretch straight away down to the Civil hospital and the mule lines, and S.& T. quarters. An enemy might advance under cover of these trees and unless the garrison was particularly vigilant might escalade the wall at this point and take the Fort. Trees are scarce in Chilas and it seems a pity to cut down trees particularly fine chenar trees unless the matter is particularly urgen

An attack would come from the South West, but as matters stand there would be timely warning and there would be sufficient time to cut down any trees that were likely to interfere with the defence.

For this reason I recommend that two cross cut saws be kept solely for this purpose in the fort.

In the event of an attack, the S.&.T. mules, and patients in the Civil hospital would have to be brought up under cover of the fort.

There is no room for them inside.

On studying the ground I strongly recommend that a Hornwork be constructed on the South face to include the bazaar and to give cover to animals and refugees who cannot be evacuated. This wall should be 8' to 9' high, starting from the South East tower going due south to the barbed wire fence, along the inside of the fence till opposite the south west tower and across to it. This wall need not be loopholed but should be flanked by two corner towers each to hold ten men.

This hornwork will include the reserve water tank outside the fort and will not interfere in any way with the line of fire from the main fort.

C. J. Haswell

Lieut-Colonel,

A.D.M.W.
Peshawar Distt

August 1921

SKETCH PLAN OF CHILAS FORT

SCALE 200 FT. = 1 INCH

N

W

E

S

CHILAS WALLAH

ROAD

KUHL

PATH

KUHL

KUHL

WIRE ENTANGLEMENT

GATE

GATE

WIRE ENTANGLEMENT

SMALL CULVERT

ROAD

REFERENCES

ROADS

KUHL

BUILDINGS

MOUNTAIN

Proposed Horn work

MAIDAN

MAIDAN

PATH

REPORT
ON
GUPIS PORT
OUST

1

(30) 126

GUPIS FORT.

Inspection on July 19th 1921.

Gupis Fort was built at the time of the Chitral Expedition and was originally a loopholed walled enclosure with barracks and store rooms inside. There was no flank defence and this has been added later.

The Fort is constructed of roughly dressed boulder stone in mud. The walls have been built vertical and a certain amount of woodwork has been used as binding material.

The Fort is square with towers at each corner which were added later.

The attached plan shows the siting of the Fort with reference to the surrounding country, and photographs A & B are views of the fort taken from the blockhouses on the ridge above the fort and about 400 yards above it on the South East.

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Siting.

The siting is bad, but this is not the fault of the original designer, any other site would have been equally bad. The hills all through the valley are so precipitous that wherever the fort was sited it would still be commanded at short range.

The best that could have been done has in my opinion been done.

As a Fort it is not much good, but with a stout garrison it is impregnable against anything but artillery. From the point of view of moral effect it serves its purpose excellently and it should therefore be made as secure as possible. This has been done to a very great extent but it is not very satisfactory.

Object for which Built.

The Fort is built on the bank of the Gupis Nullah which is one of the main tracks from Yarel. It also covers the YASIN and the SHANDUR PassNullahs and is half way between Gilgit and the Shandur Pass on the road to Chitral and protects the communications with Chitral.

Accommodation.
Normal Garrison.

The Fort is intended to hold 200 men.

The stables for the three water mules for the Piccuet Posts have been constructed outside

Actual Garrison.

On July 19th when inspected the garrison consisted of 81 men.

Barracks.

The following accommodation exists in the Fort for I. O. Rs.

Along the East wall,

1.	51' 3"	x	16'
1.	71' 6"	x	16'
1.	59' 6"	x	16'

Along the South wall,

1.	122'	x	16'

With the full number of men the allowance per man is approximately 30 sq: ft:.

The height of the barracks is only 10'.

The buildings are constructed of boulder stone in mud roughly hammer dressed.

The roofs are mud over planks on rafters supported on a row of posts down the centre of the building.

The rear traverses for the main wall defenders have been constructed on the roofs and no extra supports have been given.

This has caused the beams to sag very badly and the supporting posts to sink into the ground.

Some of these posts have had new foundations given them, but it is necessary for the beams carrying the roofs to be supported with extra posts between the existing posts.

28

Light & Ventilation.

In the barracks on the East wall the lighting is bad.

In the barracks on the South wall it is much better.

Ventilation is bad and should be improved.

Officers Quarters.

The is accommodation for

1 Subedar.
2 Jemadars

The Post Commandant uses the Rest House in the Fort which consists of 1 room and a bath room.

New works for Accommodation constructed since last inspection.

The following works have been carried out in 1916-17 and paid for by the State.

(1) Alterations and additions to the I.O's quarters 430/-

(2) One Langa Khana 507/-

(3) Out houses for Dak Bungalow 440/-

(4) New shelves in barracks 119/-

(5) New cells for guardroom 173/-

Suggested works for Accommodation.

The accommodation is totally insufficient for 200 men. If it is intended to leave the barrack as they are then it is necessary in my opinion to construct windows in the outside walls of the Fort high up under the roofs. They should be fitted with bars and shutters.

This would give extra light and ventilation which is very necessary.

The present arrangement of carrying a heavy traverse on the roof of the barracks is bad and very dangerous in a heavy storm.

The only way out of the difficulty is to construct double storey barracks along the faces. The upper storey could then be loop-holed for defence and would give overhead protection against an enemy on the commanding heights.

The whole Fort wants remodelling and requires reconstruction and this depends on the policy which will be adopted with regard to Frontier Defences.

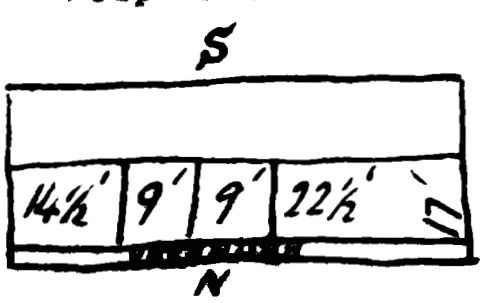
The so called keep is extremely kacha and might be removed without much inconvenience.

The buildings in it are used as magazines and are a disgrace.

There are no proper followers lines. This has been suggested and an estimate prepared amounting to Rs.1700/-. This work is very necessary.

Sanitation and Hospital arrangement.

Hospital.



There is a building in the centre of the Fort divided across the middle. Half of this building is used as a hospital.

It consists of 1 Ward for 6 beds 22½' x 17'
1 Store Room 17' x 9'
1 Compounder's Room 17' x 9'
1 Dispensary 17' x 14½'

The hospital ward has a wooden floor which is most insanitary. This should be concrete.

The Compounder lives in the hospital building next to the dispensary, and cooks in the room in which he lives.

The dispensary is good and clean and seems well equipped.

The ventilation is very bad and is difficult to improve owing to the hospital being against another building.
The only way to improve it is by making holes in the roof.

Washing places.

There are no arrangements for washing. The men use the Nullah which runs alongside the Fort.

Latrines.

There are no latrines and the men use the fields beyond a certain distance from the Fort.

In 1916-17 a wooden 6 seated portable latrine was constructed inside the Fort for the use of the hospital and for the men at night. These are altogether in one place which is not sound. They are very seldom used.

Works carried out since last inspection.

The following works have been carried out since the last inspection for improving the sanitation.

(1) Catch Water Drain on S.face 75/-

(2) Alterations in hospital to improve Dispensary.....58/-

(3) Roof over Reservoir's.....913/-

(4) One 6 seated wooden latrine 221/-

Works now considered necessary for the Sanitation of the Fort.

1. The floors of the hospital ward should be P. C. Concrete.

2. Accommodation should be constructed for the Compounder and he should be removed from the hospital building.
The room now used by him could then be used as a ward for Indian Officers, and a P.C. floor put in with proper ventilation.

3. Improved ventilation to the hospital building.

4. A portable 2 seated Iron Latrine should be constructed for the hospital.

5. Night latrines at the rate of a seat per platoon should be constructed inside the Fort away from the hospital latrines

6. One latrine seat should be constructed for the I.O's.

7. The flies are very bad and chicks should be provided for all hospital doors and windows.

Supplies R.A.I. Corps.

The following store accommodation exists for S.A.T. Stores in the Fort.

A Room 60' x 19', which is part of the hospital building in the centre of the Fort.

The building is in very good condition but there is much damage done by rats and a great deal of money lost in grain and bags.

Reserves.

Sufficient rations exist in the Fort for 100 men for 6 months, with the exception of rum which is kept outside owing to lack of accommodation.

State of Accommodation.

The accommodation is good and as far as could be ascertained is sufficient, for all requirements except rum.

Works necessary.

If possible the godown should be made rat proof. This could be done by paving the floor with R.D. Stone on lime concrete and putting lime plaster on the walls for a height of 6 ft:.

Small inside doors well fitting, should be put in 3' high, and be made to swing shut.

This will prevent rats getting in when the godown doors are open. The cost of this would be saved in a very short time.

A new rum godown 10' x 8' is required as the rum should be inside the Fort.

Water Supply.

Water is brought into the Fort by a water channel from the Cupis Nullah.

It takes off about a mile up the nullah.

In case of attack this water would be entirely cut off and the garrison would have to depend on their storage. Being so close to the nullah, at night the store of water could be replenished.

The water is good, clean and cool.

Storage.

Water is stored in the Fort in two circular masonry reservoirs, one holding 10,000 gallons in the keep and one holding 20,000 gallons in the main Fort.

The tanks are roofed over.

Allowing two gallons per man per day there is therefore sufficient water for 15,000 men say in case of siege.

The water is brought into the tanks straight from the water channel in a wooden sluice which is buried. There is no distribution and water is drawn from two taps in each tank in a very dirty hole in the ground.

The tanks are partly underground.

State of Storage.

The water was dirty and there was a hole in the sluice through which mud and dirt were getting into the tanks.

There in a pit at each tank into which the overflow runs. This is also to enable the wash out cock to be opened.

From these pits an underground drain runs through the Fort to low ground outside.

It is insanitary and unsound.

The small tank in the keep was leaking in the top portion of the masonry.

(6) (31)

Water was percolating into the room in which the scouts rifles are kept, from the leaks in the sluice.

Works carried out since last Inspection.

The following works have been carried out since the last inspection.

(1) Construction of No.1 Reservoir 20,000 gallons 1520/-

(2) Construction of No.2 Reservoir 10,000 gallons 894/-

Works necessary to improve Water Supply.

1. The wooden sluice should be immediately removed and a 2½" or 3" pipe substituted.
2. A washout pipe should be taken from the tanks straight outside the Fort and the overflow pipe joined on to it.
3. The taps should be removed from the tanks and a proper distribution put in to Stand Posts in the Fort.

Fort Armament.

The Fort armament consists of two 2.5 R.M.L Screw Guns, which have recently been inspecte by the R.A. Officer in charge.
2 Machine Guns.

The Lewis Gun which should be with the capany is at present in the Headquarters in Gilgit.
This seems a very unsound arrangement and I understand that it is being sent to GUPIS.

Magazines S.A.A.

S.A. Ammunition is kept in two places.

(a) Base of S.E. Tower.
(b) Base of N.W. Tower.

There is plenty of accommodation.

The magazine in the S.E. Tower has a ventilating shaft, but is absolutely dark.

The magazine in the N.W. Tower has no ventilation and no light and was very damp.
The floor was quite wet.

Tins for fire protection are kept outside the Quarterguard.

Gun Ammunition.

Around the S.W. Gun tower are some very kacha buildings which are supposed to form a sort of keep. South of the Reserve reservoir in this keep and built on to the South wall is a building containing 2 rooms.
One of these rooms is used as a Shell store, and the other as a cartridge store.
The base of the S.W. Gun tower is hollow and the floor has been propped up to stand the strain of a gun being fired from it.
This hollow space is also used as a shell store.
Fuzes are kept in the end room of the building on the West wall nearest the gun tower.

(3) (32

The buildings are constructed of boulders in mud with kacha mud and brushwood roofs on bullies and are not magazines in any sense of the word. They are very old.

Number of Rounds.

The following ammunition is stored in the Fort.

S.A.A.	Mark VII.	Reserve	70,000.
		Practice	43,110.
	Mark VI.	Reserve	60,480.
		Practice	17,475.
2.5 B.M.L.	Shrapnel		868.
	Common		50.
	Ring		190.
	Star		98.
	Case		45.
	Fuzes		1490.
	Cartridges		1265.

Works Suggested.

There being no magazines for gun ammunition it is essential that a proper magazine be constructed at once.

Three separate compartments will be required each 6' x 8' and I recommend the building on the South wall at present being used, being demolished and new magazines built of stone in lime with semicircular stone arch roofs being constructed on the same site, provided with trestles and racks for storage.

Proper ventilation should be providedat the time of construction.

Bells of Arms.

None exist as all rifles are stored in racks in the barrack rooms which is by far the best arrangement.

On the East wall of the keep and adjoining the small reserve reservoir is a kacha building, boulder in mud walls, mud and brushwood country roofs, with the floor about 2 feet below the level of the ground.

This has three compartments and they are used as follows.

(a) P.W.D. Store for Powder.

(b) 25 Snyder ~~rifles~~ carbines for levies.
25325 Pounds Snyder ammunition.

(c) 80 .303 Rifles for Gilgit scouts.
84,000 Mark VI.S.A.A. for scouts rifles.

There has been a slight leak from the sluice and the floor is damp.

Being below the level of the ground drainage water gets into the building.

Works Suggested.

I recommend that this building be demolished and proper accommodation be constructed either alongside the proposed Gun magazine or on the existing site to take the Scout and Levy Rifles with their ammunition.

Defences.

Dead Ground. There is a small amount of dead ground at the base of the round gun towers at the N.E. and S.W. corners of the Fort.

A small machicoulis should be constructed in each of the gun towers.

Walls. The average height of the walls is 16' including the parapet.

The mainwalls are 3' 6" thick and the parapet 2' thick.

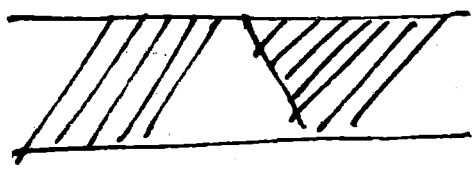
They are constructed of rough hammer dressed boulder stone in mud and are vertical.

The East and West walls have bulged very badly and will require reconstruction in the near future.

Barbed Wire. The barbed wire entahglement is weak and on an average 30 ft: away from the walls. It does not prevent a bomb being thrown into the Fort.

If it is intended to construct a fence to provide against bombs a new double apron fence should be constructed at least 30 yards away.

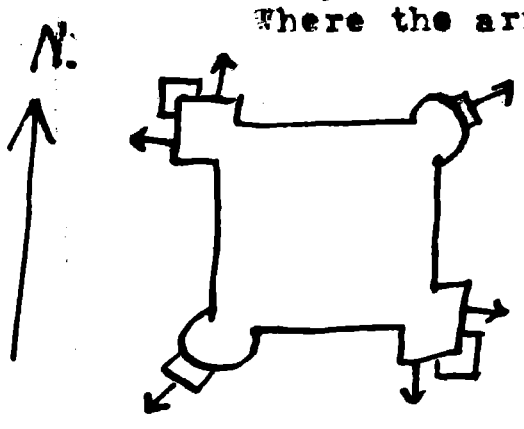
Loopholes. The loopholes are of the same design as in Fort Chilas. The stones slope off to a very thin edge, which is apt to splinter if hit by a bullet.



It will soon become necessary to rebuild portions of the parapets and when this is done the loopholes should be made of the standard design which can be obtained from the office of the D.D.M.W.,Peshawar District.

There are no loopholes from which machine guns can be fired and I consider that 6 are necessary to completely ~~cover~~ cover the ground round the Fort.

They should be constructed as follows. Where the arrows are shown.and should be of the same design as those being constructed in Chilas Fort.



Machicoulis. The machicoulis are constructed of 2 thicknesses of 1½" planks, filled in between with 6" of shingle and are very satisfactory and well constructed.

They are bullet proof and were tested by me with Mark VII bullets. The Gunport doors are of the same construction and work very smoothly and easily.

(35) (34)

Gate.

The gate is bullet proof and is constructed of 6" shingle between planks. It works most satisfactory. It is blinded on the inside by a loopholed wall.

Sally Port.

There is a small Sally Port with a bullet proof door in the west wall.
This should have been built flush with the outside wall. At present the shadow gives it away.

All round Communication.

This exists completely round the fort walls.
A window has now been made in the N.W. tower in which ammunition is stored to facilitate the issue of ammunition to the defenders without their having to go down to the exposed portion of the Fort to bring it up.

Ranges to Landmarks.

A range card is kept and all ranges are marked. The landmarks are easily identified.

Commanding Points.

The Fort is commanded allround from faitly close ranges. This is impossible to avoid owing to the narrowness of the valley and the height of the hills on each side.

The ridge at a distance of 500yards which commands the Fort is denied to an enemy by two blockhouses which have recently been constructed

However the ridge is composed of very large rocks and a determined enemy could make it very unpleasant for the defenders of the Fort in spite of the blockhouses.

Protection has been given to men defending the loopholes by means of shingle screens. These screens are bullet proof but are constructed on the roofs of the barracks.
The roof timbers therefore want further support underneath as they are sagging badly.

The screens for the N. and S. walls are good enough but those for the E. and W. walls, as they are not roofed cannot give protection from the hills on N. and South.

It will only be possible to screen them from sight with blankets as the roofs will take no more weight.

I am satisfied that the best has been done.

Some portions of the traverses will have to be rebuilt as they are leaning very badly and in a heavy wind, in spite of extra supports against wind pressure may blow over.

(39) 85

The only solution is to have double storied barracks on the East and West walls. This will both give protection and improve the accommodation.

40) (36

Gun Towers.

On the N.E. and S.W. corners of the Fort two round guntowers have been constructed with Gunports protected by bullet proof doors. The inside dimensions of the firing platform is a 27' diameter circle.

These towers are roofed to give protection from commanding points and a 7' circular opening is left in the ~~centre~~ centre.

The roof is supported on posts. The floor i rammed earth and level. Owing to the position of the posts carrying the roof it is impossibl to fire the guns from all angles.

The run back of a gun on the level floor is 11' and as the posts are only 10' from the outside wall, the guns can only be fired so that they run back between the posts.

This is a bad point in the construction as it hampers the proper handling of the guns.

The floor of the S.W. Gun tower is hollow and the space used as a shell store.

It is necessary for the Gun towers to be roofed to give protection to the Gun detachment from the commanding hills.

It is suggested that the floors of the Gun towers be soled with a 6" layer of soling and then given a coat of 3" stone metal broken to 2½" ring, and well rammed. A slope of 1 in 12 should be given from the centre outwards to take up a certain amount of the recoil of the Gun.

The present mud floors cause a great deal of dust to rise when a gun is fired and hinders action.

The space underneath the floor of the S.W. Gun Tower should be filled up solid.

A dry stone wall should be built up first inside to take the strain of the filling off the main walls of the towers.

The roofs of the towers should be dismantled and roof constructed as follows.

A central pillar 3' square should first be constructed and single trussed beams should radiate from the central pillar to the outside walls. 2' round the pillar should be left open for ventilation.

The roof can be 6" earth on brushwood on bullies and a great deal of the existing material could be used again.

Works carried out since last inspection for defence.

The following works have been carried out since last inspection in connection with the Defences of the Fort.

(1)	No.1 Blockhouse for 15 men	4258/-
(2)	No.2 Blockhouse for 10 men	3078/-
(3)	North West Rifle Tower	1906/-
(4)	South East Rifle Tower	1906/-
(5)	New Gun Ports with doors to North East Gun Tower	871/-
(6)	New Gun Ports with doors to South West Gun Tower	1017/-
(7)	Barbed Wire entanglement	1228/-
(8)	Bullet proof screens on all faces.....	4229/-
(9)	Traverse Walls	173/-
(10)	Remodelling loopholes	401/-
(11)	Inside Communications alround.....	119/-
(12)	Steps and Ladders	148/-
(13)	New Main Gate	173/-
(14)	New Sally Port Gate	90/-
(15)	New Artillery expense Magazine.....	50/-
(16)	New Road to Blockhouses	300/-

Works now Considered necessary.

The following works are now considered necessary to improve the Defences.

(1) Construction of a machicoulis in each of the Gun Towers.

(2) Construction of 6 machine gun loopholes in the positions stated.

(3) A double apron barbed wire fence 30 yards from the walls.

(4) Reconstruction of all loopholes on a standard design.

(5) Reroofing the two Gun Towers.

(6) Filling up the hollow under the floor of the South West Gun Tower.

(7) Reconstruction of the bulged portions of the East and West walls.

Time for Siege.

The Fort with its supplies and water can stand a siege for 5 months.

Relief.

GUPIS Fort would be relieved from Gilgit, 4 days march.

(42) (38)

Picquet Posts.

The Fort is commanded by a ridge on the South East at a distance of 300 yards. To deny this ridge to an enemy, two blockhouses have been constructed at distances of 300 yards and 500 yards from the Fort. Their positions are shown on the attached plan, and this photograph is a view of them taken from the Fort.

No.1 Blockhouse. Distance about 500 yards.

This is the usual frontier type, built of stone, square, with machicoulis.

There is a solid base 10' high with two stories, the top one being roofed.

The normal garrison of No.1 Blockhouse is 15 men.

No garrison is kept in the post, but men would be sent up from the main Fort in cases of emergency.

Water is stored in two masonry tanks built in the solid base of the tower, the top of the tanks being level with the floor.

They have hinged wooden covers.

One tank leaks slightly.

Each tank is 5' x 5' x 4' and when inspected there were approximately 950 gallons stored.

Water is taken to the tanks by Pakhals carried on mules.

Rations for any period necessary would be sent up from the main Fort with the garrison.

There is visual signalling communication between the post and main Fort by means of a bullet proof window 3½' x 4½'.

There is a single apron barbed wire fence 15' away

Approach to the Post is by a ladder which is taken into the Post by the garrison.

Doors are bullet proof.

(43) (39)

Defects.

There is dead ground under the machicoulis as the loopholes have not been properly sited in the floor of the machicoulis.
This should be remedied.

The roof of the top storey is not strong enough. The hip rafters could not have been calculated. The jack rafters are only held up by two nails. This work was done during the tenure of the late Divisional Engineer.
The present Divisional Engineer noticed these defects and has propped the roof.
The roof requires reconstruction.

The masonry tanks in the floor are unsound.
There are no means of emptying them except by hand.
I strongly recommend Galvanised Sheet tanks being made up and kept above ground, fitted with taps.

No.2 Blockhouse. Distance about 350 yards.

This is of the same type as No.1 Blockhouse.
The normal garrison is 10 men who only occupy the Post in case of emergencies.

This photograph shows the Blockhouse and its relation to the Fort and also the way the Fort is commanded from the surrounding hills.

Water is stored in two masonry tanks built in the solid base below floor level.

Each tank is 4' x 4' x 4' and at the time of inspection approximately 600 gallons were stored.

No rations are stored but these would be sent up with the garrison from the main Fort.

Visual signalling is arranged for with No.1 blockhouse and the main Fort.

There is a single Apron Barbed Wire Fence close up round the walls.

Approach to the Post is by means of a ladder which is taken inside the Fort.

The doors are bullet proof.

Barracks.

There is dead ground underneath the machicoulis, as the loopholes in the floor have not been properly sited.
This should be remedied.

The jack rafters are only fixed by nails and will require iron straps.

In the South wall of the top storey there are two openings for ventilation and to enable a sentry to get an easy view of the upper blockhouse.
These openings can be fired into from very close range and should be closed up as they are unnecessary.

The masonry tanks should be replaced by Galvanised Iron tank above ground with taps.

The blockhouses serve the purpose for which they are intended and are in my opinion well sited.

Civil Buildings.

There is a treasury in the Fort.
Treasure is kept in a large wooden box with two padlocks under the Quarterguard.

Zone.

There is no zone demarcated and I consider that this is necessary.

I suggest that a 500 yard zone be notified and a schedule prepared of all buildings at present in existence.

No further buildings should be constructed within 500 yards of the Fort without special sanction.

On the N. E. of the Fort and within 100 yards is the Fort garden. A very large number of trees are growing up and in time this may become a danger to the Post.

I consider that all undergrowth should be removed and no new trees be planted.

Engineer & Ordnance Stores.

The stores kept in the Fort are considered totally inadequate.
The following stores are actually available

Sandbags	80
Barbed wire	2 cwt:
Barbed wire in P.W.D. charge	4 cwt:
Picks	22
Shovels	22

The picks and shovels are in very poor condition and are hardly fit for work.

There are no tools for barbed wire fencing.
I consider that the following tools and materials should be kept in Cupia Fort for mobilization.

Sandbags	20,000.
Barbed wire	20 cwt:
Picks	50.
Shovels	50.
Axes	6.

Note on page 4. . .

(45)

It is I think generally admitted that Gupis is a trap fort which encloses its own garison. I was informed by Major Macartney that H.E. the Governor considered its occupation dangerous. Lord Kitchener apparently held much the same view.

I do not see why a mobile enemy should fear to place themselves between Gilgit and Gupis. The garison of Gupis having become immobile they have surely nothing to fear from Gupis as they can scatter and pass beyond

effective rifle range, or if has passed they can retire by the nullahs they came down by.

The Commander in Chief of the Turk State Forces has accepted the ruling contained in the last paragraph; and one platoon has been ordered to relieve the two platoons he has at Gupis.

Complaints have already reached me that one platoon cannot do the duties in the fort.

If the Military Adviser in Chief considers that the garrison must be increased to 2 platoons this can be done at any time.

About a year ago I recommended that the C in C should address the F of P with a view to obtaining a definite pronouncement on the desirability of maintaining this post: pending which pronouncement I recommended that no expenditure should be made on the fort.

18/7/24 KCS

(41)
(47)

For barbed wire fencing.

Bilhooks	20.
Cutting Pliers	20.
Hedging Gloves	20.

In case of attack it would be necessary to form temporary picquet posts and the above tools and materials are considered necessary.

Bombs.

The are no bombs kept in the Fort.

Verey Pistols.

There are no verey pistols and in my opinion these should be part of the equipment of every Fort.

They are particularly necessary in Gupis for the Blockhouses.
I consider therefore that 4 Verey Pistols with sufficient ammunition shuld be kept on charge.

General.

It is not easy to explain the siting of the Fort in its present position at Gupis. It is commanded on every side and if the garrison shut themselves up in it , it would be very difficult for them to get out.

Gupis is at the junction of three valleys, the one coming from the Shundur Pass from Mastig, the one coming down from Yasin and the one coming from Darel.

Trouble might come from any one or all of the three Nullahs and presumably the Fort has been sited in its present position for Political reasons.

There are other nullahs coming down into the Gupis Valley from Darel and Tangir between GUPIS and GILGIT but it is unlikely that any enemy would come down them and find themselves between Gupis and a relieving force.

There is no doubt in my mind that the correct site ~~site~~ for a Fort is GAKUCH which is 24 miles nearer Gilgit.

At GAKUCH the river widens out considerably and the valley is about 2 miles wide, sloping steadily from the hills down to the river.

A Fort constructed at GAKUCH would not be commanded from under 1500 to 2000 yards.

Water is good, ground is available and in winter, the valley being wider, it is not so cold. It is also much cooler and healthier in the summer.

The whole case depends on the policy to be followed, but it is suggested that no further work be done on Gupis Fort, leaving it as an outpost, with a garrison of 40 men.

(48) (42)

D

A new Fort properly designed be constructed on a site to be chosen at GAKUCH with accommodation for 200 men, with all the reserve rations.

Gilgit could ~~be~~ just as easily be defended from Gakuch as from Gupis and it has the additional advantage of covering the Ishkuman Nullah as well.

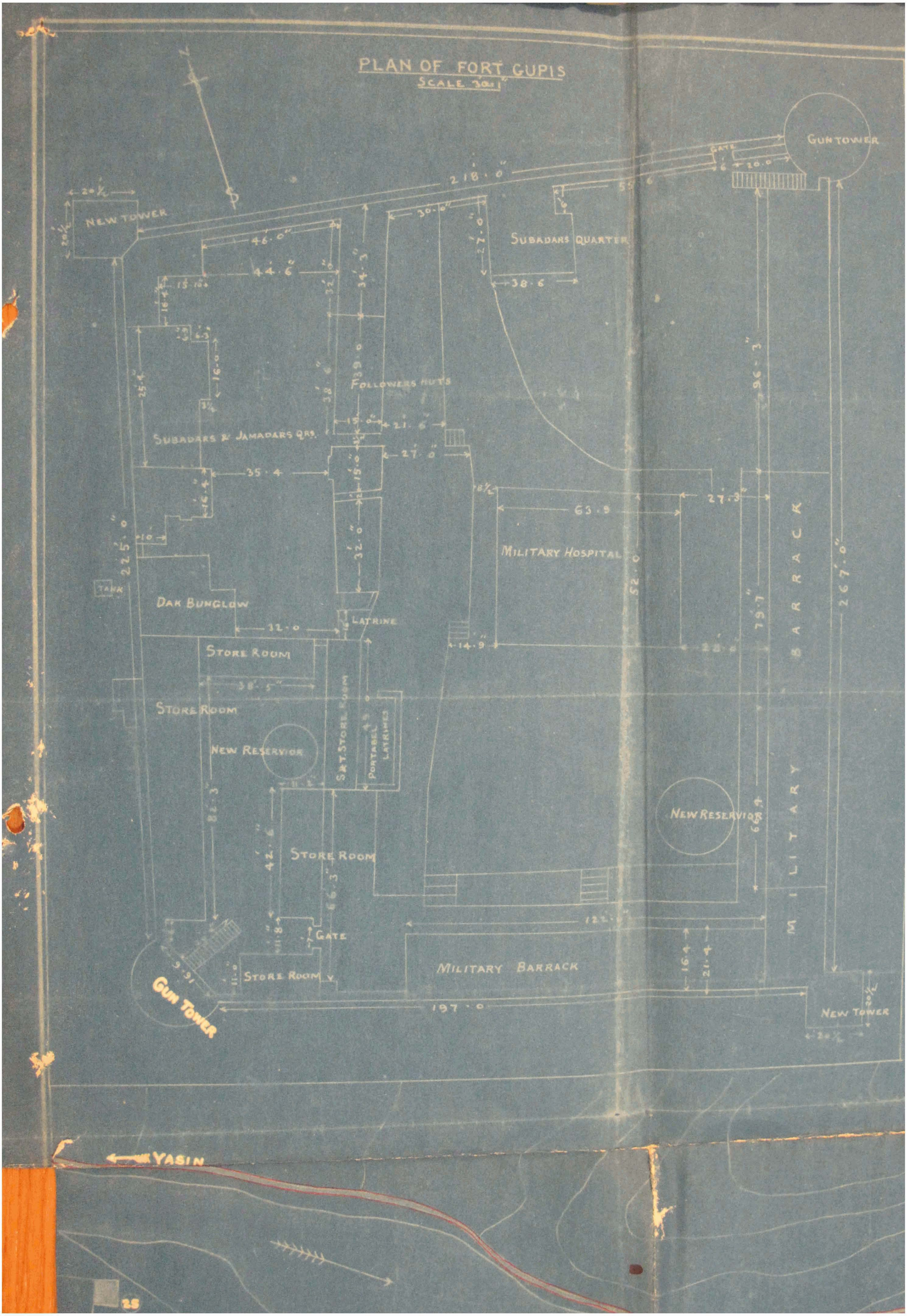
On making enquiries about Gakuch from the local Rajah I was informed by him that when the late Lord Kitchener toured in Gilgit he asked why the Fort had been built at Gupis instead of Gakuch.

This photograph gives a rough idea of the Gakuch site.

The site for a Fort is marked roughly by a cross.

It has, I believe, once been suggested that a better site than Gupis would be the site of the old Fort at Roshan, but this photograph shows that a Fort constructed at Roshan would be very badly commanded from the hills on the left bank of the river.

J. Haswell
Lt Col R.E.
NW Peshawar Distt
August 1921.


PLAN OF FORT GUPIS
SCALE 30=1"
N
S
NEW TOWER
GUN TOWER
GATE
SUBADARS QUARTER
FOLLOWERS HUTS
SUBADARS & JAMADARS QRS.
MILITARY HOSPITAL
TANK
DAK BUNGLOW
LATRINE
STORE ROOM
STORE ROOM
NEW RESERVIOR
S&T. STORE ROOM
PORTABEL LATRINES
STORE ROOM
NEW RESERVIOR
MILITARY BARRACK
GATE
STORE ROOM
MILITARY BARRACK
GUN TOWER
NEW TOWER
YASIN
218·0"
225·0"
267·0"
197·0
96·3"
79·7"
63·9
52·0
122·0
35·4
46·0"
44·6
38·6
30·0"
27·0"
27·0
21·6
27·3"
32·0
38·5"
82·3
42·6
66·3"
20·0
14·9
16·4
21·4

[redacted]

(51)

Note on page 48

The word "Agency"
is used in "British"
correspondence and refers to
the Political Agency.
It is not formally
accepted by the Durbar
who refer to Gilgit as a
"Province" of the Sikh
State.

ROADS

in the

GILGIT AGENCY.

145

Imperial.

(a) Babusar Pass to Chilas.

(b) Barai Pass to Jal where it joins (a)

(c) Chilas to Thor.

(d) Chilas to Rakhiot Bridge on Left Bank of Indus.

(e) Rakhiot Bridge to Ramghat Bridge on Left Bank of River Indus.

(f) Rakhiot Bridge to Sai Nullah between Thalichi to Pari on Right Bank of Indus.

(g) Gilgit to Gupis and on to the Shaundar Pass.

(h) Gupis to Yasin.

(i) Gakuch to Chitorkhund in the Ishkuman Nullah.

Kashmir State.

(i) Bandipur to Gorais.

(ii) Gorais to Gurikot via Burzil Pass.

(iii) Gorais to Gurikot via Kamri Pass.

(iv) Gurikot to Gilgit via Pertab Pul.

(v) Harchu to Hatopir (Lower road along Astor River)

(vi) Bandipur to Barai Pass.

(vii) Sai Nullah to Pertab Pul R Bank of River Indus.

(viii) Shamigarh near Pari to Haramosh along R Bank of River Indus.

See Index Map attached.

IMPERIAL ROADS.

Constructed and Maintained by the Imperial Govt.

While touring in the Gilgit Agency I have travelled over the following roads and after consideration and consultation with the Political Authorities report as follows:-

(a) Babusar to Chilas.

This Road descends from 15,000 ft. to 3500' at Chilas. Between the top of the pass and Babusar village 9200 are a great number of zigzags which are necessary owing to the narrowness of the valley and the great drop. From Babusar Village the road steadily descends on an easy gradient to Chilas.

The whole road is in very good condition. The bridges are good.

At Thak a ~~con~~cantilever bridge has been washed away, but a new bridge is in hand.

This portion of the road is fit for camels. In some places along steep khuds a certain amount of parapet walling is very necessary.

The photograph shows an ingenious type of single lock bridge with the roadway suspended by slings.

147

(d) Chilas to Rakhiot Bridge

This road follows the Left Bank of the Indus. The Bridge over the Babusar Nullah is old and unsafe and requires renewing There is a much better site for a bridge a few yards lower down the Nullah which will reduce the span from 100' to 75' and enable an ordinary wooden girder to be put in. The left Bank abutment will be on Rock and the R Bank abutment will be protected by large rocks. Over the Hultasi Nullah, just short of Bunar Bungalow there is a 56' span bridge. The rock under the R abutment has split off and the abutment is falling. Repairs to this bridge should be taken in hand at once. The simplest and safest method of repair would be to sling the girders on a cable, and rebuild both abutments 10' to 12' further back, cantilevering out to take the same girders.

Between Goonar Farm and Jillipur, the hill side is very bad, all clay and boulders. During rain this part is dangerous. Two years ago a catch water drain was cut on the cliff above which acted successfully. This has now become filled up. The road cannot ~~reexcavated~~ be diverted. A narrow and deep drain would serve better than a wide and shallow one.

By Jillipur Bungalow is a suspension Bridge 154' span. This was built in 1895. The archorages are rusty and rotten and the bridge in collapsing. This bridge should be renewed at once.

Between Jillipur and Rakhiot Bridge there are some very bad and narrow ascents and descents which on the L Bank of the River cannot be avoided.

From Chilas to the Rakhiot Bridge the road climbs over some very bad Paris or Khuds. During rain this section is very dangerous from falling rocks and portions of it are continually being washed away. On the L Bank of the Indus the hill sides are nearly all soft and crumbling.

On the Right Bank of the Indus the hill sides are all bare rock which has been denuded of its soft material

A road.....

A road made along the right bank would require very much less maintenance and would be far more permanent.

I therefore make the suggestion that a bridge be constructed across the Indus at Chilas. There is a good site withx a span of about 350'. The approximate cost would be Rs.60,000. This bridge will serve other purposes which will be xxxx mentioned later.

The road should then be constructed along the R Bank of the Indus, joining the existing road at the Rakhiot Bridge.

If this bridge cannot be constructed xk now, I strongly recommend the Bridge over the Indus at Darang 12 miles west of Rakhiot Bridge being brought into use and a road constructed on the R Bank from Darang Bridge to Rakhiot Bridge. This will cut out 12 miles of bad road on the L Bank. The bridge at Darang is a very light one and will require strengthening to carry a load of 40 lbs. per Sq.ft.

(e) Rakhiot Bridge to Ramghat Bridge on L Bank of the Indus

This road crosses the famous Leychar Slip and the Rakhiot slip.

The Leychar slip is improving as rock is beginning to show and there is not much more to come down. However the Ramghat slip is getting almost impossible to keep the road open across it.

I recommend therefore that this road be entirely abandonned. It is only waste of money trying to maintain it and keep it open. It serves no useful purpose and in my openion is not required.

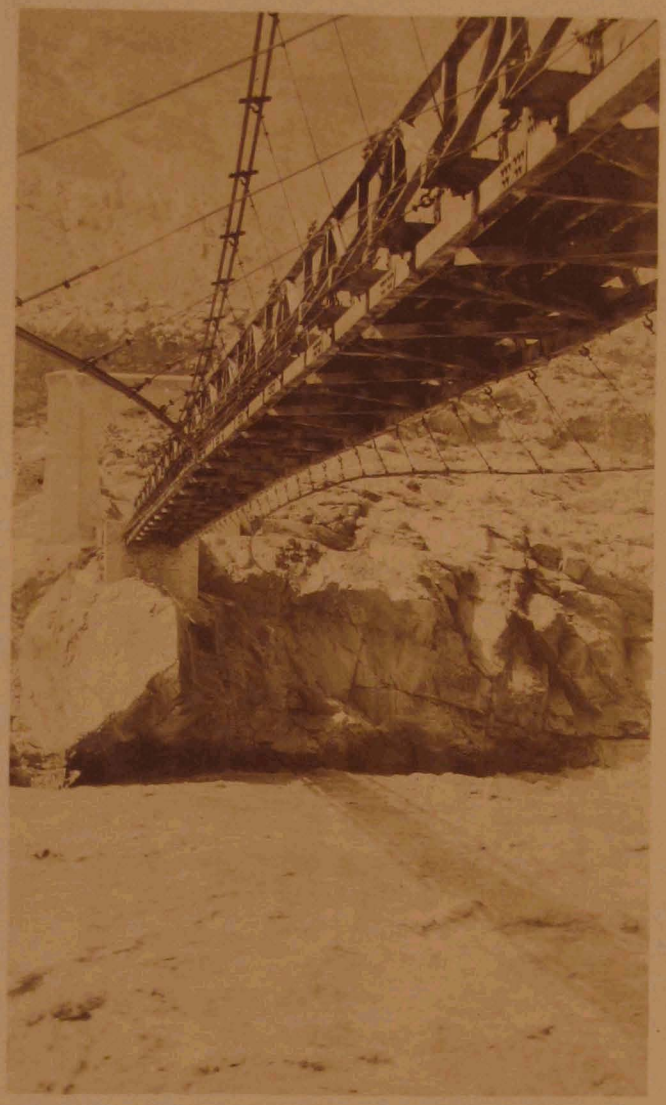
(f) Rakhiot Bridge to Sai Nullah.

The road crosses from the L Bank to the R Bank of the Indus by the Rakhiot Bridge; a very fine suspension bridge of 278' span.

RAKHIOT BRIDGE

(44)
(56)

There are 14 2½" cables on each side with a breaking strain of 30 tons. The stiffening girder has been bolted down to the masonry on each side and the masonry has pulled out in consequence. All masonry should be at least 9" clear of all wood and steel work.



The above photo shows the wind girder which is a Warren Type, triangulated, and the wind cables. The wind cables have not pulled out from the anchorages due to contraction, as there is sufficient slack to allow for this.

The bridge is calculated for a live load of 60 lbs per sq.ft.

This is a very fine bridge and very stiff.

From the bridge to the Sai Nullah the road is very good except where it ascends on a steep grade over a bad part or khud. It is narrow and dangerous and the road should be protected by a small parapet wall. This portion has been very badly damaged by the recent rains and will require widening.

The photographs...

(58) (57)

The Photograph shows the bridge over the Sai Nullah which is the boundary between the Imperial ~~Sai~~ and ~~Nullah~~ the state Roads.

(g) Gilgit to Gupis 68 Miles.

This is a Mule Road and goes right through to Chitral over the Shandur Pass.

It was decided to make it into a road fit for camels and this has been done for 34 miles from Gilgit. The remainder of the work was stopped for want of funds.

From Gilgit to Cullipur the road is very good indeed and has been sufficiently widened for camels with full loads to travel on it.

In Mile 27 the Dalnoti Nullah is crossed by a good suspension Bridge of 315' span, 5 2½" cables each side. Some planks require renewing and a central gangway should be put down to prevent the roadway planks wearing out.

In Mile 28 the Gaishayli Pari is crossed.

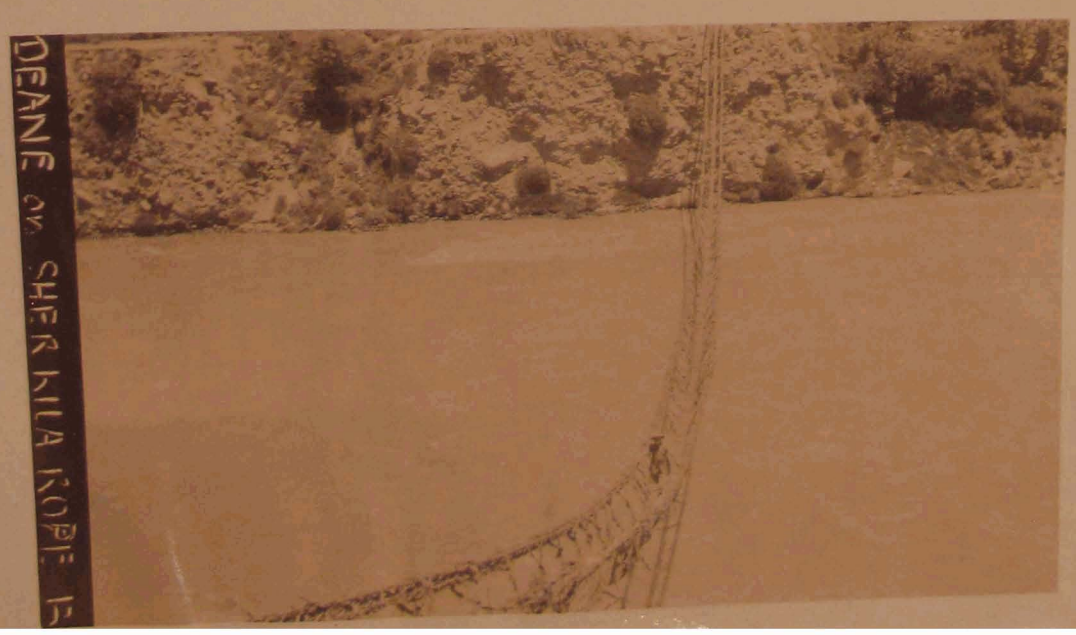
GAISHAYLI PARI

(59) (52)

This pari is very bad and dangerous. The grades are very steep and the hill side is very difficult. The road in places is completely washed away whenever there is any r rain. If is difficult for camels and will require more rock cutting and regrading in places, and to make it safe is impracticable.

In my openion it would be a far better plan to take the road across the river to the left bank, by a bridge at Gullipur. There is a very excellent site for a bridge immediately below the Gullipur Rest House about 300' span. The road will then go along the left bank as far as Hamochal Village in Mile 29, where the river is very narrow and there are rock foundations for a bridge. The Road will then recross to the R Bank and rejoin the old road. By taking the road on the Left Bank three bad paris will be avoided where the road is washed away every time it rains. The country on the ~~Ri ver~~ Left Bank is very easy for road construction. The Dalnati Bridge will not be required on the old road and could be moved to one of the new sites.

By building a bridge over the river at Gullipur the big village of Sher Kila would be given communication with the main road. Sher Kila is the headquarters of the Rajah of Punial and is a very important village. The only communication there is at present is the Rope Bridge as shown in the Photo



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DEANE ON SHER KILA ROPE BRIDGE

ROPE BRIDGE N/ GULPUR

As this bridge would serve Civil purposes as well, it might be possible to obtain a contribution from the State.

At Singal, the Singal Nullah is crossed by a suspension bridge of 308' span, with 6 2½" cables each side.

It is in good condition but requires central gangway planks to save wear on roadway planks. This bridge is light and if required for camels transport should be considerably stiffened.

At Gulmati village the nullah is crossed by an 80' suspension bridge which is far too weak. It is proposed to construct a new bridge below the existing bridge and the site selected by the Divisional Engineer is a good one, and will be only approximately 50' span. The site is about 50' below a mill where there is a big boulder in mid stream. This boulder should be removed before the bridge is built. Small guide bunds will be necessary on both banks.

In Mile 41 the road takes off for Iskuman and is Imperial for 18 miles. It crosses the river by the Gakuch suspension Bridge. The span is 300' and is at the mouth of of a very narrow gorge. It has once been completely blown over. There is no proper wind girder and the wind cable is too close to the bridge and too weak. The bridge also requires stiffening. In view of the fact that the road is very unlikely to be used by troops or transport the work necessary on this bridge might wait till more urgent works are done.

From Singal to Gakuch there is very little work necessary to make the road passable for camels.

In Mile 51 is the Haim Suspension Bridge a very good bridge and properly stiffened. The L abutment was damaged by a fall of stone and this is being repaired.

In Mile 52 Hopar Pari is crossed. The road is narrow and the grades steep and if to be made passable for camels a good deal of rock cutting is necessary and certain portions of the road will have to be realigned.

In Mile 54.....

(6) (54)

In Mile 54 the road crosses another Nal with very steep gradients which would be difficult for camels. It might be possible to take the road at the foot alongside the river. This should be investigated.

The road is generally in very good condition from Gilgit to Gupis. The Gupis Nullah is crossed by a very good type of combined wood and flat bar iron girder which is shown in the Photograph. From Gupis the river takes off to Yasin and crosses the river by the Suspension bridge shown in the Photograph.

General. I am informed that the road is just as good from Gurpis to the Shandur Pass into Chitral. About 30 miles above Gupis the abutments of a bridge have been damaged by a flood and steps are being taken to repair the damage done.

General. I have been very pleased with the General State of the roads in the Gilgit Agency. In the early part of the year there was very heavy rain and a great deal of damage was done which had to be immediately put right. A great deal of the allotment for the year was spent in special repairs and there is not now sufficient to keep the roads open for the rest of the year. There has just recently been more heavy rain and further extensive repairs will be necessary. This year the allotment given was Rs.28,000/- In former years it has been

from.....

from Rs.30,000/- to Rs.32,000/-. With the rise in the cost of food and the consequent rise in labour rates this amount is quite insufficient, and a further Rs.7,000/- is necessary for this year, which I hope can be allotted.

In many places the roads are narrow and over steep khuds are totally unprotected. If transport moved over the road in very many quantities it is certain that there would be many losses. I therefore suggest that an extra allotment of Rs.5,000/- be given this year for widening of the narrow parts and for the provision of parapet walls where necessary.

Defences.

There are 3 main bridges on which the communications in Gilgit and Chilas defend.

The Rakhiot Bridge between Chilas and Gilgit.

The Ramghat Bridge between Bunji and Astor.

The Pertab Pul between Bunji and Gilgit.

These bridges have no defences and in my openion small blockhouses each to take 10 rifles, should be constructed on the abutments of each bridge which could be occupied in times of emergency.

New Roads.

Until quite recently all stores required for Chilas were carried by Pony convey from Bandipur to Chilas via the Burzil or Kamri Passes, Astor and Bunji, a distance of over 200 miles. The rate per mad was Rs.5/- It was found that the track over the Barai and Fasak passes from Bandipur to Chilas was only 160 miles. The state therefore decided to make a road suitable for pack animals direct to Chilas over the Barai and Fasak passes. The road was made up to the passes and a road forming the Barai Pass to the Babusar Chilas road was made from Imperial Funds. The Carriage was immediately reduced from Rs.5/- to Rs.2.12 per mad, owing to the good grazing obtained on the way. Due N of Chilas, the Nullahs on the R Bank of the Indus run up to an extensive tableland on the borders of Darel. The Nullahs near Gilgit also run up to the same tableland N of Chilas there is a track which runs up the Kinegah Nullah. This track crosses the Kinejut Pass and goes down the Shingai.....

the Shingai Nullah straight into Gilgit. From Chilas and Gilgit the inhabitants take their cattle up to the ground round the Kinejut Pass for grazing during the summer months.

I now very strongly advocate the construction of a Road from Chilas direct to Gilgit via the Kinejut Pass. The road may have to cross a corner of Darel Territory but as the Darel people acknowledge the Sovereignty of the Maharajah of Kashmir there ought not to be any Political difficulties.

The advantages gained by this new road are many and a few are enumerated.

(i) The distance between Chilas and Gilgit will be halved.

(ii) The extreme heat of the Indus valley between Chilas and Gilgit for convoys will be avoided.

(iii) There will be plentiful grazing for animals all along the road. In the Indus Valley there is absolutely none.

(iv) The Carriage rate for S & T Stores from Bandipur to Gilgit will be still further reduced and mean a great saving to Government.

(v) In the event of trouble with Darel and Tangir operations would be considerably facilitated.

I am informed that the Engineering difficulties are not great and that the road would not be a very expensive one. It would mean a bridge across the Indus at Chilas, but this bridge would also enable the road to be taken along the Right bank of the Indus and so avoid the difficult and dangerous ground on the L Bank as mentioned previously in the report.

STATE ROADS.

Maintained by the Kashmir State.

(1) Bandipur to Gorais.

In dry weather this road is excellent, and well graded with easy ascents and descents. In wet weather owing to the hill sides along which it is cut being mostly heavy clay, the road is almost impassable, and extremely difficult even to walk on.

The local ponies which are used to it can get over it slowly, but for troops and mule transport in my openion it is very nearly impossible. At one point of the road I met a large number of camels carrying S. & T. Stores, which had been camped for some days, being unable to move, owing to the slippery surface of the road.

I would suggest that the bad places be marked during rain and when dry be covered with about 3 inches of gravel or bujri. It is available in many places along the road. To begin with a width of 4 ft. should be so treated leaving one ft. from the outside edge. Experiments should be made in one or two places to see if this treatment will be successful

Where no gravel or bujri is available if troops and transport are to be able to move over the road in any weather it will be necessary to very roughly metal/ a portion of the width of the road as has been done in Gulmarg.

At Malik Kadl between Gorai and Corais is the remains of an old canlilever bridge which has been in the same state for some years. An estimate has been sanctioned for rebuilding this bridge, but funds have not yet been provided. This damaged bridge puts out of action 7 miles of road on the L Bank of the river. The road on the R Bank has some steep ascents and descents in it and is subject to avalanches, which will be avoided when the birige is rebuilt. I recommend this bridge being taken in hand.

The bungalow at Gorai has been ~~x~~ destroyed by an avalanche. I saw the site suggested for the new bungalow but strongly advise the site being moved a short a short distance up the slope to avoid soft and marshy ground

(iii) Gorais to Gurikot via Kamri Pass.

This road during dry weather is most excellent and well graded. During the summer months the pass is easy and the grazing all along is plentiful. I am informed that the local pony contractors prefer this pass owing to the abundant grazing.

4 Miles from Gorais at Chorwan is an old cantilever bridge which has perished. A temporary bridge has been constructed on a good site 1/4 mile further up to the river and a temporary approach made to it along the R Bank of the river. This approach is narrow and subject to very heavy avalanches. I therefore consider it very necessary that the damaged bridge be rebuilt as soon as possible.

At Rattu are the Headquarters of the Imperial Service Mountain Battery stationed in the Gilgit Agency. It moves here owing to the excellent grazing for the mules. There is a flattish plain with about 300 to 400 acres of cultivatible land but there is no water actually on the plain. Banacks for one section have been built and estimates for the remainder have been sanctioned, but funds not yet provided. Schemes have been got out for constructing a water channel but the constructions would be difficult and expensive and the channel would require rebuilding in many places every year. There are strong rivers with big velocities on each side of the plain, from 150' to 200' below. In my openion it is one of the places where a ram could be installed at no great expense and with considerable advantage, and I recommend figures being obtained for this.

It would provide a water supply for the troops and also water for irrigation. It would mean saving both to Government and to the State as regards rations and in the event of grazing being scarce in a dry year, a rishka farm could be started.

Just below Rattu over the Mir Malik stream is a cantilever bridge which is in a dangerous condition. This

should be rebuilt.

The Rupal Nullah 7 Miles beyond Rattu is crossed by a bridge of 2 spans, one cantilever 125' span and one single lock 65' span. The central pier is built on a very large rock, and is 16' wide. The bridge is of excellent design and the construction is good. Formerly there was a suspension bridge which was entirely washed away by a flood. The present bridge doesnt seem in any danger of being washed away.

In some places where the road is cut across bad khuds, it is narrow and has no protection. Small parapet walls or stones along the edge of the road should be provided

(iv) Gurikot to Gilgit via Pertab Pul.

From Gurikot to Astor the road is very good. From Astor to Dushkin, in the first five miles are some bad places which require improvement. The road crosses 2 avalanches where realignment is necessary. No slopes should be greater than 1 in 10. There is also a very bad pari. A new road at the foot was made but portions have been washed away and the remainder is unsafe owing to falling rocks. The old road over the top of the Pari has been reopened, but has not been sufficiently cleared. This should be done. The rest of the road is very good.

From Dushkin to Doien the road is through forest and along a hill side with a gentle slope and is very good indeed.

From Doien the road goes down to Ramghat Bridge and crosses the celebrated Hato Pir. This is a natural defence position where a few men could hold up an army. The road zig zags down and is well graded and is in very good condition except where it crosses the Hato Pir Slip. The whole hill side is very unstable and shows large cracks. During rain the road is badly damaged and when fine the road is also broken away by rocks falling from above. In my openion though there will be trouble for some time from

falling.....

falling rocks, it is doubtful whether the trouble will be serious as the hill side has very nearly taken its natural slope.

There is an old track over the top and I consider that this should be kept open and repaired.

The Astor River is crossed at Ramghat by a very good suspension bridge. It is proposed to move this bridge to another site owing to the danger of damage from falling rocks. I do not consider this necessary.

Between Ramghat and Bunji the Shaitan Nullah is crossed by a wire trussed girder Bridge 112 span. This Nullah well deserves its name as it is very liable to heavy mud floods. This Nullah was originally crossed by a 40' bridge and there was a bungalow near the bridge. Two years ago a mud flood entirely destroyed this bridge and the bungalow and the span of the bridge is now 112' and cannot be reduced.

From Ramghat to the Pertab Pul through Bunji the road is excellent and crosses a sandy plain. Opposite Bunji it is proposed to sling a cable to carry a travelling carriage capable of transporting 2 loaded mules The span will be approximately 400 ft. I am not surethat the expense of this would be justified by the advantages gained. It would only be useful for small parties and during the winter months two ferries run at this point. However if the cable is put up, the ferries could be discontinued and their maintenance would be a saving to the state.

The Pertab Pul is a very fine suspension bridge across the Indus. It has a width of 8 ft. which I recommend for all new bridges if they are to be used by camels. The bridge is in very good condition. From an inspection of this bridge I strongly recommend that all timber work on bridges should in future if possible, be treated with some preservative.

From the.....

From the Pertab Pul to Gilgit the road is very good with the exception of the Pari in Mile 11 from Gilgit. Either the old road should be repaired and opened in or the Zig Zags should be realigned as they are for two steep and the road at this point is too narrow for camels.

(vii) Sai Nullah to Pertab Pul.

This portion of the road is very well aligned and is in very good condition.

C H Haswell

Lieut-Colonel.R.E.

A. D. M. W., Peshawar District.

August 1921

(S.D.MALL)

Existing Road
Proposed Road
CHITRAL
GILGIT AGENCY
KOHISTAN
TANGIR
DAREL
CHITRAL
GAIRAT
DROSH
MASTUJ
LASPUR
YASIN
GUPIS
CHITORKAND
GAKUCH
GULIPUR
SHER KILA
GILGIT
HUNZA
NAGAR
GULMIT
PARI
BUNJI
ASTOR
RATTU
BURZIL P.
KAMRI P.
TRAGBAL P.
BANDIPUR
FASAT P.
BABUSAR P.
BARAI P.
CHILAS
THOR
JALKOT
INDUS R.
KAGHAN
NARAN
KAWAI
BALAKOT
MANANDRI
BLACK MTN
OGHI
CHAKDARA
MALAKAND
DARGAI
SWAT R.
PANJKORA R.
DIR
LOWARI P.
MIRGA
NANGA PARBAT
GURIKOT
KINEJUT P.
BIRZIL
INDUS R.
C. H. Haswell
Lieut. Colonel R.E.

PUBLIC WORKS DEPARTMENT

Gilgit Agency.

The work of the P.W.D. in the Gilgit Agency is carried on by the following staff:-

1 Divisional Engineer

Lala Tulsi Dass, M.A.

1 Supervisor.

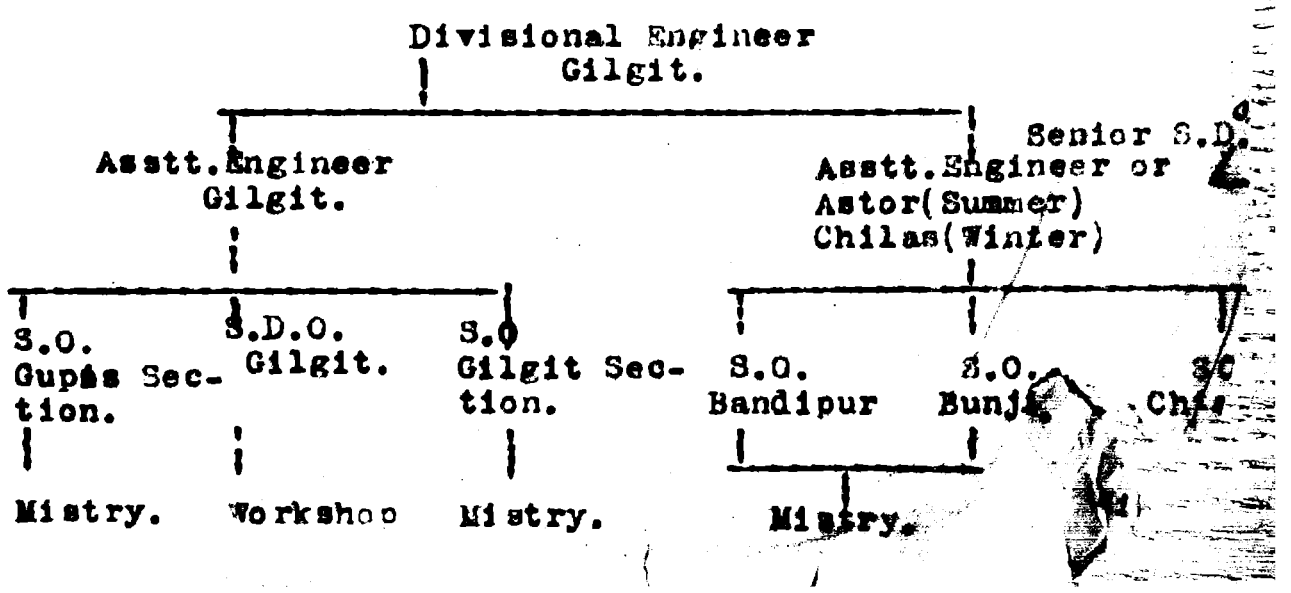
with headquarters at Gilgit, ✱ under whom are Sub-Overseers one incharge of each Section.

The District is a very large one and stretches from Bandipur on the South to the Killick Pass on the North Shandin Pass on the North West Chilas on the West and Haramish in the East

The work in the District is very scattered and with the present staff, it is a physical impossibility for the Divisional Engineer to properly supervise the work that is in his charge.

The country is the worst I have seen for the making of permanent roads owing to the nature of the hill sides and the frequency of mud and snow avalanches. After every rain, portions of roads will be washed away and bridges damaged in the Agency and the Divisional Engineer has to rely to a great extent on his Suboverseers to repair and keep roads open as he is not able to visit all places to give orders.

If the P.W.D. in Gilgit is to be in a good state of efficiency, I strongly recommend the Establishment being increased to the following:-



The Divisional Engineer should have his Headquarters at Gilgit and as it is very necessary for him to have a good knowledge of Military Engineering and works necessary for reference, I consider he should be a Royal Engineer Officer of the rank of Captain.

Two assistant Engineers are necessary. The one with Headquarters at Gilgit would act as Personal Assistant and take charge when the Divisional Engineer in on tour. The Secand Assistant Engineer, during the summer months when all the passes are open should have his Head Quarters at Astor. During the Winter his headquarters should be moved to Chilas where the bulk of the work is.

The Suboverseers should remain the same and in addition I suggest that one good Mistry be attached to each S.O's section particularly for Bridge work.

The S.O's incharge of the Bandipur and Bunji Sections should each have a Mistry for 6 months, S.O. Bandipur in the summer, and S.O. Bunji in the winter.

I suggest an S.D.O. for the Headquarters at Gilgit and under him would come the workshop.

The question of Baltistan has to be considered at present it comes under the Divisional Engineer Kashmir, but for 6 months in the year it is entirely cut off. During the winter, it can be reached from Gilgit with perfect ease via Haramosh along the Indus, and the road should be continued from Haramosh to Skardu.

Under these circumstances I strongly recommend Baltistan being brought under the Divisional Engineer, Gilgit, together with the establishment employed there. Baltistan can be worked from Gilgit provided the establishment of Gilgit is brought up to the suggested scale.

I have noticed that one or two Suboverseers in the Gilgit Agency are not sufficiently qualified to take charge of sections and have had little or no experience.

This is a very.....

This is a very great mistake in a district where supervision is at times very difficult and if possible only experienced men should be sent into the Agency.

Skilled Labour.

This is becoming a very difficult problem and it is almost impossible to obtain skilled masons and Carpenters for works in the Agency.

A Technical School has been started in Gilgit but it is very difficult to obtain boys to train, and no local talent seems available.

A Half Company of Sappers and Miners permanently stationed in the Agency would solve all difficulties of skilled labour, but the Imperial Service Sappers and Miners have now been disbanded.

The other solution is to raise a Permanent works Company, for service in the Agency, consisting of 100 men, provided with Rations and Clothing.

The Works Company should contain

Masons. 15
Carpenters. 15
Blacksmiths. 4
Surveyors. 6
Painters. 2
Ordinary labourers. 58.

with a good Indian Officer incharge. If this was done I am sure that it would mean greater efficiency and greater economy.

The pay of all should be the same with grade pay for skill as artificers.

One of the reasons why labour will not go to Gilgit seems to be the difficulty of obtaining food and to provide food for imported labour is a very expensive proposition.

I have come to above conclusions as regards the P.W.D. in Gilgit after a general Tour in the District and after seeing the conditions prevailing.

C. H. Haswell
Lieut-Col. R.E.
A. D. M. W., Peshawar District

(S.D. Mall)

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