

Confidential.

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THE
TURKISTÁN REGION;
BEING A
MILITARY STATISTICAL REVIEW
OF THE
TURKISTAN MILITARY DISTRICT OF RUSSIA:
OR,
RUSSIAN-TURKISTAN GAZETTEER.

COMPILED BY
COLONEL L. F. KOSTENKO,
OF THE ETAT-MAJOR.



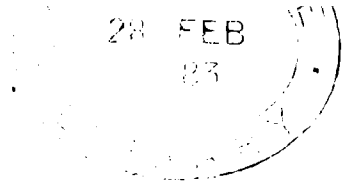
*Translated in the Intelligence Branch of the Quarter Master General's
Department in India.*

Three Volumes, with three Maps and two Plates.

ST. PETERSBURG,
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VOL. II.

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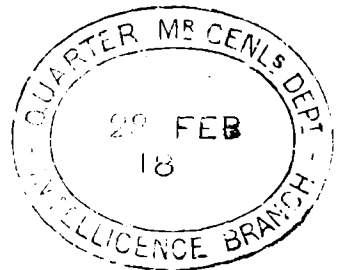
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NOTE.

There appears to be great uncertainty as to the proper accentuation of the following words:—

Kára, or *Kará*, signifying black.

Araba and *Arába*, a tilted two-wheeled cart.

In the Persian Dictionary (Richardson's edition) and Shaw's Turki Vocabulary, both renderings are given of the latter word, and in the last-quoted authority both of the above renderings for "black." In the Persian Dictionary the word does not appear in any form.

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THE TURKISTÁN REGION.

SECTION IV.

I.—ROUTES OF COMMUNICATION.

Information for movements of Troops.

Routes of communication in the Turkistán District—General system of routes of communication—Routes by land and water—Their mutual connection with respect to movements of troops—Their baggage and stores for their supply.

THE routes of communication in the Turkistán district are divided into those by land and those by water. To those by land belong the postal and caravan routes, *i.e.*, those on which goods are transported either on camels or baggage horses. The nomad paths in the mountains and the sheep tracks by which the Kirghiz drive their sheep to pasture in the inaccessible mountain valleys also belong to this category. The post roads again are still further divided into those for wheeled traffic and those fit for baggage animals. The town of Táškend serves as the central point for the roads of the district; from here routes radiate in all directions. Táškend is united to European Russia by two postal high roads—the shorter through Orenburg, and the more circuitous through Semipaláta and Omsk. The chief inconvenience of the former is that throughout the whole of its extent as far as Orsk it passes through a wild, desert and unsettled locality; but this inconvenience year by year is being removed by the establishment of order in the Kirghiz steppes and by taking measures to place the postal service on a more rational footing. The two postal routes above mentioned, leading from Táškend into European Russia, diverge at Chimkend, 112 *vershs* (74 $\frac{2}{3}$ rds miles) north of Táškend. From Táškend two other post roads lead to the extreme frontiers of the district—one to Khojend, and one to Kokand, whence it continues on to the other chief towns of the province of Fargána; the other to Samarkand and Katti-Kurgán, whence a wheeled road continues on to Bukhára.

From the above there are the following lateral branches:—

- (1) From the station of Altin-Imel, through Borohudzir, to Kulja.
- (2) From the station of Pishpek, through Tokmak, to the town of Kárákol.
- (3) From the town of Sergiopol to the station Urjár, on the route to Chuguchák.
- (4) From the Abakúmoff picket to the Lepsa station.
- (5) From Khojend to Jizák on the Táškend-Samarkand road.
- (6) From Tokmak to the fortified post on the Narin.

The following are postal roads for baggage animals —

- (1) From the town of Vernei to the Chuuji picket, and
- (2) From the Muzárt picket to the town of Kárákol.

The chief caravan routes are—

- (1) From Khiva by the Petro-Alexandroff fortified post and Fort No. 1 (Kazála) into European Russia.
- (2) From Bukhára by Kazála, Perovsk, and Uch-kaiuk to Orenburg, to Omsk, to Troitsk, and to Petropavloff.
- (3) From Táshkend to Khiva, to Bukhára, to Kokand, to Samarkand, to Troitsk, to Petropavloff, and to Orenburg.
- (4) From Aulie-Ata to Kokand.
- (5) From Tokmak by the Narin fortified post to the town of Káshgar.
- (6) From the Narin fortified post to the town of Kárákol.
- (7) From Kulja by the Talki pass to Manás and Urúmchi.
- (8) From Kulja by the Muzárt pass to the town of Aksu.

Some of these caravan roads are on the steppes, others in the hills.

Troops move chiefly by the postal high roads, but sometimes they have to follow caravan and mountain paths. The length of all the postal roads in Turkistán amounts to 4,480 *versts* (2,970 miles); out of this there are only three small portions paved—

- (1) From Táshkend to the station of Khish-Kupriuk, 18½ *versts* (12¼ miles).
- (2) From Táshkend to Toi-Tube, 32 *versts* (21¼ miles).
- (3) From Samarkand by the Zarafshán valley for a distance of about 30 *versts* (20 miles) in the direction of the Kamenomost (stone bridge) fortified post.

Many of the articles for the supply of the troops are sent by the caravan routes from Russia into the Turkistán district.

The chief route for communication from the centre of the Turkistán district to Orenburg throughout nearly half its extent lies along the water route on the Sir Daria. Táshkend is 64 *versts* (42 miles) from the Sir, and the postal high road from Táshkend to Orenburg strikes the Sir River at the station of Tásh-Swát, whence it closely follows the right bank of the river to Kazála. The Aral flotilla established on the Sir Daria furnishes its aid for transporting military stores and articles of supply to Táshkend.

Government loads, intended for Turkistán, are taken from Orenburg to Fort No. 1, whence they are transported by water to the fortified post of Chináz, which serves, so to speak, as a post for the town of Táshkend.

With the establishment of the Russians on the Amu Daria attempts have been made to introduce navigation on this river; these attempts have been confined up to the present to placing two steamers on it experimentally with a view to ascertaining the fitness of the Amu for steam navigation.

The importance of Russian steam navigation on the Sir and Amu will be referred to in detail further on in the chapter on the Aral flotilla. We may now add that, in addition to the two large rivers just mentioned, the Rivers Chu (for an extent of 300 *versts*, 200 miles), Zarafshán, Ili and Lepsa may be considered navigable rivers. But on the Chu, owing to the complete sterility of its banks, no attempts at navi-

gation of any kind whatever have been made up to the present time. With regard to the Ili, the explorations made in the year 1871 by Mr. Fisher showed that, although difficult, navigation could be carried out on this river for an extent of about 300 *versts* (200 miles) from the ruins of Chinese Kulja to the Ili settlement.

Raft navigation on the Lepsa can be carried on only when the river is full, but is not practised owing to the sterility of the adjacent districts.

With regard to the Zarafshán, mountain timber from its sources is floated down to Samarkand and even lower to Bukhára. The river becomes navigable from Sujina. Details of floating down timber on the Zarafshán may be found in the chapter on the timber produce of the Turkistán district (Vol. III).

II.

Information on the movement of troops and their baggage by land—Characteristics of the routes of communication by land in the Turkistán district.

From a general view of the territories forming the Turkistán district, we shall be able to see in what localities it would be necessary to move with, act with and locate the Turkistán troops.

The character of the roads lying in a locality depends upon the character of the locality itself. The steppe roads, lying in sandy wastes, are chiefly remarkable for the little water along them; for scores of *versts*, and even sometimes for a hundred *versts* along these roads, not a single well¹ is met with. If by chance there is a well or even several, the water in them is insufficient in quantity and of bad quality, having either a musty, bitter, or saltish taste.

The chief peculiarity of the wells on the Central Asian steppes is that if cleared out they will easily and quickly fill with water again. But this rapidity is purely conditional,—some wells fill in the course of a few hours, others not sooner than in 24 hours. Tainted, bitter, or salt water is also met with in the roadside lakes, in the steppe streams, and even in the affluents of the great rivers, such as the Sir Daria and others. To counteract the injurious effect of tainted or bad water, the men are instructed to mix it with vinegar, and, if this is not forthcoming, to dissolve biscuit in it.

In the year 1869, on the steppe between Orenburg and Fort No. 1, experiments in applying portable wells on Norton's and Berman's system were made by Captain of Engineers Collert in order to provide water in desert places, which had little or none. It was then proposed to attach several of these wells to troops moving on the steppes. But the experiments carried out by Collert showed that, independently of the expense of these wells and the additional carriage for the parts, the men, not knowing how to use them, broke and destroyed them. Besides this the process of piercing itself wearies men already weakened by a long, laborious march on the steppe. Notwithstanding the unfavourable experiments with the portable wells in the year 1869, an attempt was made at the time of the Khivan expedition in 1873, to use these wells for campaigns on the steppes. Norton's wells were given to the Kazála detachment, which, in order to unite with that from Jizák, had first to

¹ (*Kuduk, Копан.*)

cross an expanse of steppe, on which there was not a single well for a distance of 100 *vershs* (66 miles). In the Kazála detachment there were in all fourteen Norton wells, of which twelve were sent from St. Petersburg before the expedition, and two were supplied from Táshkend, where they had been sent in 1869. These wells were tried for the first time in the above-mentioned expedition on the 12th of March at the wells of Utebás. Three of Norton's tube wells were driven into the ground a few paces from the well dug by the nomads. After every 25 strokes of the driver weighing 3 *puds* (108 lbs.) they measured the depth reached by the tube. The depth each time was not the same; sometimes the tube after 25 blows sank 2, sometimes 3, sometimes 5 *vershoks* ($3\frac{1}{2}$, $5\frac{1}{4}$, or $8\frac{3}{4}$ inches). Finally, no greater depth was attained,—that is, the tube ceased to sink. Tubes were sunk in the earth to a depth of 13 feet, but no water appeared, notwithstanding that the level of the water in the adjacent excavated wells was at 10 feet 4 inches below the surface.

As the plummet let down into the tube showed no signs of water, it was resolved to change the end of one tube, but when it was taken out, it was found to be broken. The portable wells were afterwards tried at Irbai at Jaman-Chaganak, and finally at Irkibai, and at each place unsuccessfully. Either no water appeared, in consequence of the tubes breaking, or it was obtained in a most insignificant quantity, besides being turbid and mixed with a quantity of sand.

In consequence of the unsuccessful experiments with portable wells at Irkibai, upon the construction on this boundary of the fortified post of Blagoveshchensk, seven of them were cast aside; the remaining seven were taken on further and tested at Tamdi, but there also the experiments were crowned with no successful results; and as these wells entailed a useless expenditure of time without any advantage, and only took up extra camels, these last were also, by order of the Commander of the Kazála column, left in charge of one of the settlements of local Kirghiz. Thus the experience of the Khivan expedition with Norton's tube wells showed (1) that under favourable circumstances the quantity of water attained was very insufficient, not only for the supply of animals, but even of men; and (2) that portable wells are not advantageous, because at a small depth ordinary wells can be dug out much quicker, and at great depths the portable wells do not act.

On the basis of these experiments the question of providing parties of troops, in moving over the Orenburg and Turkistán steppes with portable wells, has been completely given up. But in order that water may be obtained in sufficient quantities at the steppe wells, the Commanders of Divisions, both in the Orenburg and Turkistán districts, are instructed, in the spring of every year when the movement of troops commences in these districts, to look carefully after the cleaning out of old, stopped-up wells, and the digging of new ones.

The division of detachments of troops crossing the steppes into more or less small *échelons*¹ may be recommended as a means of supplying them with water. Unfortunately the measure cannot always be adopted in the Central Asian steppes, firstly, on account of political and military circumstances, which require more concentrated movements, and, secondly, on account of the want of fuel at the camping grounds.

¹ In the French sense of the word, parties one behind the other at intervals.

Fuel is furnished on the Central Asian steppes, partly by the "*saksaul*," where it grows, partly by the steppe grass and shrubs, and partly by dung, the quantity of which is very limited. The foremost *échelons*, by using up the dung at the camping grounds, deprive those in rear of the possibility of obtaining fuel to cook their food. Another means of supplying detachments, moving on the steppes, with water is by carrying water with the troops. With this object they issue to troops going on duty from Orenburg to Táshkend wooden vessels, which, although increasing the transport of the marching detachments, nevertheless keep up a supply of water, which serves to husband the strength of the men.

In moving parties of troops on the waterless deserts of the Turkistán district, they sometimes give them leather bags made of whole goat-skins, called by the native "*mesh*" (*musuks*). These bags are used by the natives in travelling with caravans on the steppes and for keeping "*kumis*" in, the favourite drink of the nomads. These leather bags, issued to detachments moving on the steppes, have the following disadvantages:—

(1) The bags laden on camels get torn either from the loading of the animal, or simply from moving through prickly bushes.

(2) The water in them evaporates from the extreme heat.

(3) The water after some time gets spoilt by the unpleasant smell of the bag itself and of all the rags against which the bag has to rub when suspended on the camel's back. During the Khivan expedition in 1873, the Turkistán detachment had both wooden vessels and leather ones; but, notwithstanding the disadvantages of leather vessels described above, it was impossible to give the wooden ones the preference.

The fact is that it is more difficult to supply wooden vessels on the steppes; they also dry up from the sun, as well as the leather ones; and once broken or warped, the wooden vessel cannot be put to rights again as the leather ones can, for the natives only know how to do it. If we add to this that the empty bags are more easily carried and kept with the detachment than wooden kegs, the superiority of the former becomes still more evident.

Independent of the large water-vessels issued to parties of troops moving on the steppes, it would be advisable to introduce, as an article of equipment of every soldier in Turkistán, a tin flask covered with felt and adjusted to carry on a strap between the shoulders. By pouring water on the felt, the liquid contained in the vessel is cooled. These tin bottles are necessary to the Turkistán soldiers on the following grounds. Men after a long, tiring march on the burning steppe, on arriving at the camping ground rush to the water without allowing themselves to get cool, in consequence of which they catch cold; whereas if they have a supply of water in their bottles they can quench their thirst on the march without affecting their health in any way as they continue in motion.

The necessity of a water-vessel for the Turkistán soldier led to the adoption, some years ago, of bottles covered with felt. The men have to get these bottles themselves; but as every man has not the means to get one on his own account, it would be necessary for Government to bear the cost of equipping the Turkistán troops with water-vessels. The

bottles, from their liability to break, are of no use for campaigns, so it would be better to change them for tin vessels. The second important want felt on the Central Asian steppe roads is the scarcity, and, even sometimes, the absence of fuel. Dung is unfit for use in cold weather or after rain. But, as has been already observed, there is sometimes not even dung at the camping grounds; in case of this, it is necessary to carry a small supply of fuel with the detachment, which, in point of fact, is done. On the Central Asian steppe roads, camping should never be undertaken in winter. Perovski's expedition in the winter of 1839-40 proved this in the most lamentable manner.

During the winter months no movements of troops are carried out in the Turkistán district, and the detachments of drafts are only despatched into the district in the beginning of spring.

In the commencement of spring squadrons (*sotnias*) which have served their time, men discharged, and detachments of reserve men, are also despatched from the district. In the event of a party sent out of the district, on calculation of time, not being able to reach their destination, it is kept for the winter on the frontiers of the district. For cooking food on sandy steppes dung is generally used; the limited amount of this kind of fuel necessitates its being expended as economically as possible. Practice proves that for 100 men it is better to have one large kettle than several small ones, as with the former less fuel is expended than with the latter. The advantage of reducing the number of kettles is also that the food is better prepared, and dust blown by the wind gets into one kettle less than into several. In former days a dram of spirits used to be issued to the Turkistán troops, both when marching and halting. Experience in the Khivan expedition, however, has sufficiently proved the advantage of supplying troops with tea instead of spirits. Now, instead of purchasing spirits for the troops, money is issued to them with which they (at least some) purchase tea and sugar.

Tea and sugar are calculated at one pound of the former and three of the latter for 100 men per diem. Nothing freshens a man's energies on a hot, depressing day like tea. Amongst the characteristic peculiarities of movements on the Turkistán roads we may adduce the fact, that men have to march 100 *verssts* (66 miles) without seeing a single inhabited point. As a natural consequence, the Turkistán soldier has nearly always to lie on the ground at the camping grounds; it is therefore necessary to have some means of protecting him from the damp below and cold above, especially at night; this method is borrowed from the Kirghiz, and consists in supplying the troops with felts (cow-hair felt), which, in fact, fulfil their object most excellently. Practice, however, has shown that felt alone is not sufficient for the equipment of the Turkistán soldiers; it is necessary to have a more substantial covering above to protect the men both from the scorching rays of the sun and from rain. Small linen portable tents (*Tentes d'abri*) serve to give this covering, and also form part of the equipment of the Turkistán troops during campaigns. In the absence of these tents the men make huts of their felts when it rains.

We may rest assured that in no district, except Orenburg, are the conditions relating to the movements of troop so unfavourable as in that of Turkistán. The steppe march comes particularly hard on the

young soldiers who yearly proceed to fill up the troops of the district to their proper complement.

The fact of not being accustomed to the hardship of steppe marches in conjunction with unfavourable hygienic conditions breeds fearful diseases amongst the lower ranks of the drafts, amongst others typhus, which is often taken into Turkistán by the detachments arriving there.

With a view to taking the greatest possible care of the powers of men travelling in the Turkistán district, "Provisional Instructions" have been compiled by the district staff for distribution to the commanders of detachments of drafts¹.

In order to lessen somewhat the hardships of a steppe march, the Aral flotilla is intended to take, on its steamers and barges, young soldiers and soldiers' wives following their husbands into the district.

As the Aral flotilla is chiefly occupied in transporting cargo, and, in consequence of the numerous difficulties of the navigation, does not make regular passages, it only takes men in its boats when a steamer, going with cargo, finds them at the quay of some post.

Besides the Orsk-Kazála-Táshkend route into the Turkistán district, another route of communication with European Russia is also used. This road passes through Omsk, Semipaláta, and Vernei, and is preferable to the other only because it does not lie through vast waterless, sandy steppes. Water is almost everywhere found on this road, and moreover in sufficient quantities as it passes through country watered by rivers. But here other disadvantages are met with, *viz.*, the low-lying and marshy tracts, situated in the Sergiopol division of the Semirechia province and in the southern portion of the Semipaláta province.

Besides the difficulties of the steppe roads enumerated above, caused by scarcity of water, want of fuel, absence of habitations, and atmospheric influences, the nature of the surface of the roads must also be mentioned. The sandy steppes, often for scores of versts, present uninterrupted masses of sand, which do not permit of marches of more than 10 to 15 *verst*s ($6\frac{2}{3}$ to 10 miles nearly) in the twenty-four hours.

Often the sandy tracts are changed to dry or wet salt marshes, the former of which in wet weather are just as difficult as the latter. Salt marshes are even more wearying than sand. The best portions of the Turkistán steppe roads are those which lie on hard clay, or clay-sand soil.

In cold or wet seasons of the year the Turkistán roads, in consequence of the prevalence of the clayey salt-soil, which covers the greater part of the country in the district, become softened and nearly impassable.

From the steppe roads let us pass to the mountain ones. The roads of the mountainous zones of the Turkistán district are distinguished again by another characteristic. These roads may be chiefly divided into four categories.

To the first category belong roads lying in broad mountain valleys, *i.e.*, in the valleys of rivers of the first, second, and partly of the third class. Here there is no difficulty in running routes, even for wheeled traffic. To this category belong the roads in the valleys of the Rivers Ili,

¹ In addition to the "Provisional Instructions," some remarks, introduced by Mr. Tverdo-Khleboff in an article in the "Voenni Shornik" (May 1871), under the title "Advice to a comrade when moving on the steppes," may prove of aid to commanders of detachments travelling in the Turkistán district.

Tekes, Chu, Upper Sir, and others. These roads for the greater part run through level country and only in crossing from one river system to another do they lie over high ground or crests which, however, do not render movement difficult. To the second class belong mountain roads passing through defiles, formed by rivers of the third and fourth classes; there the roads already present themselves as horse-paths lying along the banks of ravines, at the bottom of which, rolling over stones in its course, the torrent runs furiously. In places the path is separated from the course of the stream or edge of the ravine by some yards passing through the widened defile or the face of the ridge; in others it runs along a cornice over the very edge, and seems to hang over the bottom of a precipice of several hundred feet; sometimes the path descends to the course of the stream and crosses it several times. These paths are dangerous when they pass over precipices and at the same time climb up and down; sometimes winding up a precipice in such a manner that the path goes up the rock, in consequence of which steps are cut out in it. On these steps the animal's feet slip, and heavily-laden animals are thrown into the abyss.

In such places, therefore, animals are unloaded and their burdens carried by hand. Similarly it is necessary to unload animals when the path crosses little bridges of poles let into the rock like balconies. The width of these bridges is usually 2 feet; consequently a heavily-laden animal may strike his load against the rock and roll down, which constantly happens.

Paths lying along steep slopes of hills are called by the Kirgiz "*kiya*."

But with reference to the paths described it should be said that they are only difficult and dangerous in some places. For the greater part of the route they are suitable enough, so that they might even be made passable for wheeled traffic, although by great labour. Thus, in the course of several years (from 1868 to 1872), the Buam and Juván-Arik defiles on the road from Tokmak to the Narin fortified posts have been worked up. In the year 1876 the working of the road across the Alai range from Osh, through Gulcha and Sufi-Kurgán to the Alai, was commenced, and in the following years from Sufi-Kurgán, through Terek Daván to the fortified post of Irkeshtám on the road to Káshgár.

The third category of mountain roads, or, more properly speaking, paths, are those which do not run along the defiles but on the hills. Generally they unite one defile with another; consequently they cross the ridge forming the watershed or several crests separating the different defiles. Here the path climbs up and down over slopes and precipices, running along clefts formed by streams, torrents, or sometimes small rivers of the fifth and sixth class. The path here in part passes over sharp stones, by which animals' feet are much injured, shoes are instantaneously broken off, and sometimes the hoof also. Sometimes the path ceases altogether and the route follows the slopes of a *moraine*, where one has not to walk but crawl on all-fours.

Roads of this kind are not always passable for horses, although, it should be observed, that usually a hill-horse can pass almost anywhere that a man can; in consequence of the steep and lofty ascents and descents, they are difficult to move over, so that sometimes it is not possible to make a march of more than 7 to 10 *versts* (5 to 7 miles) in

twenty-four hours. It is needless to say that in winter time these roads are impracticable, as the ravines become blocked up with snow.

Mountain paths are generally open for communication for a period of three months, *viz.*, June, July, and August, but the best time for movements in the mountains is during July and August. In September the mountains of Turkistán are already covered with snow, and communication between the high-lying valleys ceases. Finally, in the fourth category of mountain roads we must place passes over the main water-parting ranges. Here there are often no paths, and troops have to move either over the snow-drifts on glaciers, or the so-called "*mer de glace*."

The passage over a snowy pass almost always carries with it a loss of baggage animals, as a precaution against which it is necessary to unload the loads and carry them by hand, which causes great exhaustion to the men. Sometimes from the steepness of the descents and ascents not only the loads but even the animal and men have to be led down or hauled up by ropes. Movement on glaciers and over the "*mer de glace*" is particularly difficult. There the animals slip about and breaking down fall and smash themselves against the sharp projections of the huge stones, which are usually heaped up on the top of ice fields. Horses often fall into the deep holes and *crevasses* found here and there on glaciers.

In passes over snowy and icy ridges some precautions are necessary, *viz.*—

(1) An unknown pass should be first reconnoitred to ascertain whether there are *crevasses* under the snow, and, if such are found, sentries should be posted at these places to point them out to the men crossing.

(2) To avoid crowding it is necessary to cross men in parties, so that those in front may not keep back those behind.

(3) Baggage should cross separately and by portions, a special detachment of troops being told off to assist and in case of necessity to carry over the loads. It is better to distribute this detachment furnished with ropes in small parties along the slope, in order that men during this hard work may not have to ascend and descend often.

(4) The passage should be made in the morning, whilst the snow is hard and the men have their energies fresh; it stands to reason that snowy passes, or all lofty passes, in general, should be avoided at night altogether. Amongst the number of the obstacles presented to troops moving in a country of a mountainous nature must be mentioned the rapid change of the temperature of the air in passing from the hot valleys protected on all sides from cold on to the snowy heights. In the Tián-Shán mountains there are many localities so elevated that even in the middle of summer snow-storms visit them. Besides the frequent changes of temperature in the mountains the absence of fuel and camping on damp, sometimes marshy, soil has its influence on the men. All this produces severe colds and fevers, accompanied by cramps, gripes, nausea, and complete prostration of strength.

Both the mountains and steppe roads of the Turkistán district have the same characteristic, that they cross rivers, water-courses, and canals, which, for the greater part, owing to the absence of bridges, have to be forded. All the rivers of Turkistán flowing from the hills have a very swift course even in the plains, in addition to which they often divide into numerous branches. Over the chief branches it is necessary to cross

up to the waist in water and sometimes higher, and when the river is in flood, it necessitates seeking a ford higher up or lower down than the usual crossing place. At the present time there are three main bridges over the steppe rivers of Turkistán, *viz.*, over the Sir Daria at Khojend, over the Chirchik, 8 *verst*s (5¼ miles) from Táshkend, at the village Kniluk on the Khojend road, and across the Chu at the Constantine station on the road from Chimkend to Vernei.

In the mountains, too, the swift hill-streams have more often to be crossed by fords. The temperature of these rivers and streams averages up to 5 Réaumur (43¼ Fahrenheit), and at night these rivers occasionally freeze over even in the middle of summer.

In the hills, however, small bridges are often thrown across streams, the system of construction of which is almost universal in the Tián-Shán range. The bridges have already been described in Part I¹. In the neighbourhood of settlements or cultivated ground, the roads cross in succession irrigation canals and ditches (*ariks*), across which bridges are not always thrown. The water of these cuts, whose banks are broken down by the wheels of *arabas* and Russian carriages, often overflows the road for several scores of yards; consequently men on foot have to go through pretty deep water. When the surface of the road is soft, it gets cut up with deep holes and ruts.

Of cross-roads in the Turkistán districts there are comparatively few. These roads unite together the "*kishláks*," or villages of the inhabited *oases*. The cross-roads here are still more primitive and unmade than Russian ones in the interior of Russia. In addition to the characteristics belonging to the latter, these cross-roads are intersected by canals, across which, moreover, the natives drive in a happy-go-lucky manner in their 2-wheeled *arabas*: driving in a Russian carriage on these cross-roads is not to be thought of. Even the natives prefer to traverse them riding. Thus the natives ride on horseback to the bazars, which are held once or twice a week at all the most important points, although they have to go 50 *verst*s (33 miles) or more; and instead of riding alone, the native seats his wife on the saddle behind him, and she in her turn holds a child in her arms.

In winter, roads are not open in the Turkistán district and a sledge road is not generally established, as in the southern parts of the district the snow soon thaws after falling; in the central portions it frequently blows away with the wind (from Kazála to Perovsk); and in Kára-Kum it either blows away with the wind or becomes covered with sand. It is only in the northern part of the province of Semirechia in Sergiopol and the northern half of the Kapral divisions that snow lies for any prolonged interval (three months). So that here only is proper sledge communication possible. But the movement of travellers in winter in this part of the Turkistán circle is slack, and troops hardly even move.

III.—MEANS OF TRANSPORT.

Different kinds of transport within the local limits of the district.

The diversity of territorial conditions and the general way of life of the inhabitants of Turkistán has introduced a variety of means of loco-

¹ Volume I, page 105, in English Edition.

motion. Thus, as means of transport are found here chiefly *arábas*, drawn by one horse, baggage camels, pack horses, and, finally, donkeys. In addition, in the southern hills of the province of Fargána, "*yaks*," *i.e.*, Káshgár or Mongolian bullocks, are used, and amongst the settlers from Little Russia in the province of Semirechia, oxen.

Arábas are used by the settled population for moving to comparatively small distances in level inhabited localities. For moving long distances over desert places, with little water, the camel is used. For moving over long distances, but in mountainous localities, where the rocky soil prevents the movements of camels, horses are used. Finally, for moving over very short distances, within the confines of towns or villages, donkeys. Donkeys are also used in hilly countries, but only for moving over short distances. Transport by baggage *yaks* and bullocks harnessed to a cart is comparatively little practised. The Turkistán troops, according to the theatre of military operations, have to make use of nearly all the above-mentioned means of transport. Thus, for the transport of loads in the theatre of military operations on the Bukhára side *arábas* drawn by horses are required; for the Turkmán country and Khiva, baggage camels; and finally, for Káshgár and Urumchi, baggage horses. For the transport of provisions and military stores between the forts and villages of the province of Semirechia, bullocks are employed.

Let us examine each of these kinds of transport separately.

*The arába*¹.—The *arába* is a single-wheeled vehicle used by the natives of Turkistán. It is met with everywhere where there is a settled population, *i.e.*, commencing with Turkistán and ending with Bukhára on one side, and from Khiva to Kulja on the other. Everywhere over this extent of country *arábas* have almost one universal construction, only varying in trifles. The prevailing type is the Kokand *arába*, in use almost throughout the whole extent of the district. The Khiva *arába* and after it the Kulja *arába*, are the chief varieties. The Kokand *arába* is of the following construction: To a thick wooden axle about $10\frac{1}{2}$ feet long they attach two wheels, 7 feet in diameter. On the axle a platform is fixed, made of two long beams, the hinder parts of which are interlaced with willow, and the front parts serve as shafts. The axle is made somewhat curved below, owing to which the position of the wheels is slanting, so that the distance between the lower felloes is greater than between the upper, and the breadth of the track of the *arába* is about $9\frac{1}{2}$ feet. With this they have wheels of great solidity, so that the spokes are less apt to become loosened in the naves on the slopes of hills. The felloe portion is made either of two parts, curved, or of four or five broad sawn-out felloes. The nave is turned very thick and short from Káragatch wood (elm), as are also all parts of the wheel and the axletree; from both ends of the nave iron plugs are sometimes driven in. For strengthening the tires at those places where the

¹ There are no regular measurements for making an *arába*; the Sarts lay down only the chief measurements, counting by a man's palm. They make the shafts 14 feet $5\frac{1}{2}$ inches long; the front ties of the shafts should be $6\frac{1}{2}$ feet from the front ends; the shafts have six to nine cross pieces and from forty to fifty-five willow twigs interlaced. The length of the axletree is about 10 feet; the height of the wheels is about 7 feet, with 16 spokes; the rear tie beam of the shafts about 4 feet $9\frac{1}{2}$ inches; the length of the front tie is fixed by eye, so that a horse can just enter freely between the shafts.

felloes join, special catches of poplar wood are made, consisting of two sticks tied together with string (in the felloes made of two bent pieces of wood the ends are united by simply joining the bevelled ends). The ends of the clips which strengthen the felloe embrace it on both sides, and the other ends rest on the nave, where they are set in a small piece of scantling fixed rigidly between the two naves.

The shafts are made of poplar, and the platform is fastened to the axletree by means of two strong supports. The horse is harnessed to the *arába* in the following manner: the ends of the shafts are pushed through short straps (tugs) on the straight homes which lie on a thick collar with broad sides placed on the horse's neck; on the horse's back is fastened a saddle instead of a pad, and a thick back band of plaited leather passes over it. In harnessing, attention is chiefly given to the disposition of the load on the platform; the natives place it rather to the rear, so that when the driver (*arábakash*) is seated on the saddle and places his feet on the shafts, the load is properly balanced.

The *arába* described is remarkable for its mobility, owing to the large wheels, and for its steadiness of movement on bad, cut-up roads or across the swift hill-streams. But with all this it has many important disadvantages; the chief of these appears to be that the descent of a hill with such a cart, on which 20 *puds* (722 lbs.) is usually loaded, is excessively difficult for a horse owing to the power of the wheels, and all the more so that the whole weight of the *arába* is held up by the back-band alone, for the natives do not understand the use of breechings. In steep ascents the disadvantage is still greater: the platform bears down behind and raises the shafts, and in consequence the driver does not dismount, but only raises himself up on the shafts in order to counterbalance the load behind. A halt for taking breath in an ascent is very difficult, as the *arába* has a strong tendency to roll back. Ascents are generally very difficult; the transport struggles out; many men are required with each cart, and the horses suffer. The short straps of the collar have scarcely any elasticity, and the blows of the shafts on the shoulder of the horse on an uneven road very soon wounds the shoulders and also strike the horse on his legs. The wheels of the *arába* in severe cold dry up very much; the long spokes on an uneven road on the slopes of hills shrink and often break. Thus in many cases an *arába* train offers little advantage, although it must also be said that, in moving on indifferent roads, where poles and ditches are often met with, an *arába* gets along with fewer adventures than a "*telega*" (Russian cart), as its huge wheels often surmount these obstacles, and the chief point is that there has never been an instance of an *arába* turning over on its side, which happens pretty often with a "*telega*." Besides this, in crossing the swift streams which are so numerous in Central Asia, the *arába* easily stands the pressure of the water and carries things across without getting them wet where the depth of the river is about 4½ feet, that is to say, when a "*telega*" will take in water and be overturned by the swiftness of the current.

The Khivan *arába* is distinguished from that just described, 1st, by being of considerably smaller proportions; and 2nd, the platform is made of planks, and sides are attached to it, so that it forms a kind of wagon; the wheels are distinguished for their great solidity; the felloes are generally

made thick, and a metal plug is always inserted in the naves, which enables the vehicle to run lightly. A load of from 15 to 20 *puds* (540 to 722 lbs.) is placed on a Khivan *arába*. The driver does not ride on the horse as in the Kokand *arába*, but is placed on a separate ledge attached to the front part of the *arába* and covering the hind quarters of the horse. This is done with the object, 1st, of gaining room on the *arába*, which is not large; 2nd, that by sitting on this ledge the driver places his feet on the central part of the shafts just the same, which prevents their rising in going up hill. *i.e.*, he attains the same object as the *arába* driver seated on the horse. In the Khivan *arába* the horse is not only relieved from having the driver seated on him, but is also eased still further by the proper application of the pads. The latter is made of two long trees placed over felt pads; to these trees are fastened a high arch or bridge with a groove on the top for the backhand to run over, so that there is a space between the hands and the back. By this construction of the pads, the spine of the horse is quite open and the pressure on the back is lessened. The shafts are attached to a separate yoke put on in front of the collar and in shape like a lyre.

Lessening the load on the *arába* and a better method of harnessing caused the Khivan horses to be better cared for; in addition they do not injure their backs and shoulders which cannot be said of native harnessing in Táshkend, Kokand, and Samarkand, where it is difficult to meet with a horse unbruised and ungalled, in consequence of bad harnessing.

The Kulja *arábas*, used in the Kulja territory, are distinguished for the large proportions of their wheels; these wheels attain unusual proportion and have a wide tire. Instead of spokes they insert solid pieces of wood, four in number, strengthened crossways by two. The wheels are fixed immovably on a revolving axletree. To these *arábas* bullocks are harnessed in preference.

In view of some of the advantages of the native *arába*, experiments were made to adapt it to regimental transport. Thirty *arábas* were constructed in the 3rd Turkistán Line Battalion, but notwithstanding that this experiment cost not a little money, after the 1st March this transport had to be given up and sold for nothing.

The chief disadvantage of an *arába* for military transport is its want of durability. It scarcely carries more than 20 *puds* (722 lbs.), in consequence of which four *arábas* are required in place of each battalion cart of the new pattern, which lengthens out the train considerably, and increases the number of transport drivers. Besides this, putting on the load requires practice and considerable skill. If the load is decreased, all the remainder has to be shifted, as an uneven distribution of the load acts prejudicially on the horse. In consequence of all these circumstances, the idea of introducing *arába* battalion transport in the Turkistán district has been given up. But, notwithstanding this, in the event of warlike operations, it is impossible to do without hiring *arábas* for the requirements of the troops, as the nature of the campaigns there necessitate a large train. Provisions, and often forage also, felts, artillery pack, tools, have all to be carried for the detachment. A sufficient quantity of *arábas* can only be found in the large native towns—in Táshkend, Khojend, Kokand, Margilán, Namangán, Andiján, Samarkand, and partially in Kulja. In small villages not a single *arába* is often to be

found. So also *arábas* are not to be found in those districts, of which the population is almost exclusively nomad, as, for instance, in those of Kazála, Perovsk, and Aulie-Ata¹, and in all the districts of the province of Semirechia, where, as has been said above, the Great Russian and Little Russian carts are to be found.

The camel.—The camel is the prevailing means of transport for long distances in Turkistán territory as well as generally over all Central Asia. Owing to the unmade state of the local roads on the one hand, and the want of durability of wheeled vehicles on the other, the *arába* drawn by a horse has not been able to attain to the same right of citizenship as the baggage camel. The camel carries on its back more or less the same (16 to 18 *puds*, or 586 to 650 lbs.²) as the horse draws on the *arába*, and moreover the care of a camel is less complicated. A horse on arrival at a halting place or camping ground must be unharnessed, or, if carrying a load, unloaded, which is a still more tiring operation, as taking the load off his back demands some exertion; after that he has to be taken to water, and picketed, fed the whole night, and watched, in order that he may not stray; in the morning watered again, loaded with some trouble, and his load watched on the road. This is not the case with the camel: at the word "*chok*" the camel lies down, and the loading as well as unloading is done quickly and conveniently. It is not necessary either to tie him down or feed him, as he finds his food for himself, and does not go far from the halting place. In winter alone the camel requires more care, owing to his inability to procure food for himself from under the snow, and the impossibility of his lying on the ground when frozen or covered with snow.

The camel bears want of food and water much better than the horse, which is one of the most pre-eminent conditions for moving over waterless deserts or where water is scarce. The daily ration of a camel in addition to the scanty grazing (thorns) consists of 6 pounds of oilcake made of the seeds after the oil has been pressed out of them; and in the complete absence of grazing, he requires a comparatively small quantity of straw, about 10 lbs. in the twenty-four hours³.

The Turkistán, Orenburg, and Caucasus troops used camels with great advantage for the transport of loads during the Khivan expedition in the year 1873. In the Turkistán detachment there were about 10,000 of these animals. But baggage camel transport has still its disadvantages. The loading and unloading of the camels⁴ from the ignorance of the men causes great trouble and takes up a great deal of time, in consequence of which during a march the camels neither rest, as they should do, nor succeed in eating sufficiently.

A load that is not even on both sides of the animal wearies it in walking, in consequence of which loads have to be constantly re-loaded, which delays the transport considerably, and tires the men during the

¹ In the town of Aulie-Ata there are only 30 men occupied in carrying with *arábas*.

² The Khivan one-humped camel carries up to 20 *puds* (722 lbs.)

³ 10 lbs. Russian = 9 English nearly.

⁴ Trading loads are always permanently made up; they are like bales (*tai*) from 8 to 9 *puds* in weight each (289 to 325 lbs). The loads of troops, not always consisting of articles of the same kind, are constantly increasing or decreasing, in consequence of which it is difficult to obtain an equal load on both sides of the animal.

march. The load itself with frequent loading and unloading becomes damaged.

All these disadvantages might be avoided by harnessing camels to *arábas*. Experiments carried out by a special commission in the year 1870 at Tashkend showed that a camel could conveniently draw a load in a wheeled vehicle up to 25 *versts* (16½ miles) in the twenty-four hours; and on a level road can do even 50 *versts* (33 miles) in twenty-four hours with a load averaging 35 *puds* (1,264 lbs). Descents and slight ascents are not difficult for the animal; harnessing and unharnessing take no more than five minutes, and much less trouble and care than loading and unloading, in consequence of which the camels on reaching the camping ground can be at once unharnessed and driven to graze; on commencing the march they are harnessed at the same time as horses, so that on camping they have sufficient time to feed and rest; at short halts they can also be taken out of harness for rest. But on the other hand camel *arába* transport has also its disadvantages. In the first place, it cannot be hired as the method of harnessing camels to *arábas* is unknown to the natives; in the second place, the load placed on the native *arába* (20 to 25 *puds*, or 722 to 902 lbs.) is little more than a camel can carry on his back; thirdly, camel *arába* transport lengthens out the train very much, and requires a greater number of men, as it is necessary to have a driver for every cart, or at all events one to two.

Owing to these reasons it would be much more advantageous to harness camels to European vehicles, which from their durability could bear a much greater load than the native *arábas*. The application of camels to this use has already been established by the Russians in the Turkistán territory on the postal road from Orsk to Kazála in the Kazála district. Here several stations lie in the Kára-Kum sands which do not abound in either food or water; consequently it is very difficult to keep up horses there. The camels kept at these stations for the transport of loads and passengers have proved of such enormous advantage that these sands formerly so frightful, and upon which travellers suffered so much, are now crossed with comparative ease.

Now the camel harnessed to a "*telega*" (Russian cart) is gradually becoming used even for the transport of goods from Turkistán into European Russia and Siberia and back. But nevertheless looking to the second and third points of disadvantage, given above, of camel "*arába*" and "*telega*" transport, on the whole it is less advantageous than baggage camel carriage.

In the second period of the Khivan expedition (the Yomud expedition) they had both baggage camel and horse *arába* transport in the Turkistán detachment, when experience showed that the former was incomparably more advantageous than the latter. With the latter with one *arába* breaking down, which happened constantly, the movement of all portions of the column in rear was arrested, whereas it was easy to go round a fallen camel. The same thing might happen with camel "*telega*" transport, to say nothing of the expense of introducing and keeping up "*telegas*" in Turkistán.

The horse.—Experience has sufficiently proved that the horse is the most handy animal for transporting loads in the mountains. The natives in the mountainous countries carry their goods on horses alone. In this manner caravan communication in the district and the neighbouring

countries exists between the province of Fargána and Káshgár, between the province of Kulja and the Manás and Urumchi districts and in the Issik-kul, Vernei and Tokmak divisions of the province of Semirechia. The pace is much quicker than that of a camel, so that in hilly places a horse caravan gets to its destination almost twice as quickly as a camel one.

Baggage horse transport was used for the first time in Turkistán in the year 1870. In the Iskandar-Kul expedition it was necessary to take twenty-four marching copper kettles for 230 men, and arrange the loads so that all the cooking pots should go on two company horses. For this purpose the wooden frames used for carrying loads on camels were adopted, which, being connected at the ends alone, were placed on the saddle so that one hung on each side of the horse. Such a frame was made of two pieces of wood (about 3 feet 2½ inches long), joined together by three transverse pieces (12 inches long); opposite the two lower pieces, which were about 9 inches apart, were made two frames projecting forward, so that one kettle wrapped in felt could be placed in it. On this kettle which was held on the frame by the iron handles, five others were placed one on the other, in which were contained the six lids. All the kettles and lids were covered over with rags to prevent rubbing. In this manner twelve kettles with their lids were placed on two frames, that is, on one horse. This frame was suspended to the saddle. The selection of a pattern of saddle in this expedition was very difficult; the following were tried: The Sart saddle with a high arch in front; Kokand baggage saddle like a long horse collar or rolled soldier's cloak¹ running along the whole of the horse's back with a curve in front; but neither the one nor the other attained the object in view; the former was too high and swayed very much especially in ascents and descents and galled the horse's back; the second galled the withers with the fold across it.

The simple Kirghiz saddletree appeared more suitable for lying close to the horse's back, and strongly fastened on with girths it saved the animal's back more. Such a saddletree, with thick pads and a saddle cloth of four-fold felt, was used for two months on the march, and the horses' backs were in no way injured. To make the saddle more immovable on the horse's back it is fastened on with two wadded girths made of thongs. In order to prevent the saddle moving along the back in steep ascents and descents a breast piece and breeching were made similar to the girths with two cross straps above and a belly-band. The frames were fastened to the saddle and horse by means of a rope, which was also lashed round the upper kettles. This saddle with its load was over 6 *puds* (396 lbs.), and cost 8 *roubles* when made by the company workmen.

In the Alai expedition, the train was carried on baggage horses, furnished by impress by the inhabitants for the good payment of 80 *kopecks* (2s.) a day.

With the horses they had native drivers,—each horse having a baggage saddle of the Kokand pattern (like a soldier's rolled cloak). Thanks to the good payment and service of natives accustomed to load their own horses, the transport for the whole period of the expedition caused no impediment to the movement of the detachment.

The ass.—This small animal is everywhere spread amongst the native population of Central Asia. For short distances the ass carries a

¹ *Note by translator.*—The Panjáb pad.

load of 6 *puds* (216 lbs.); on long journeys there are always several with caravans. The driver rides on a donkey in front, and leads a string of camels, several being tied one behind the other. In inhabited parts the ass is irreplaceable for the native as a means of communication between his fields, his garden, his bazar, and his house.

But with all its good qualities the ass as a baggage animal is not advantageous as was experienced in the Iskandar Kul expedition, when on the authority of the natives that donkeys were very useful on the hills, a number of loads were placed on them. On a prolonged march the ass cannot carry more than $3\frac{1}{2}$ *puds* (126 lbs.), and consequently the train has to be increased double in comparison with horse transport. The saddle, of a peculiar kind, does not sit at all well and easily slips; a large load completely covers him up and renders him untrustworthy. The management of donkeys in great numbers is very difficult; the fancy often seizes them not to go on the road but anywhere else; consequently donkey transport often stretches out for an enormous distance. Constant accidents are happening with him; now the load comes loose,—now a tired donkey lies down on the road,—now one tumbles down a steep place. Let us add here that the loading and unloading of a large quantity of asses occupies much time, and that in dangerous places it is impossible to lead an ass like a horse by the bridle¹; it thus becomes quite clear why donkey transport is disadvantageous in the mountains and why horses should always be substituted.

In conclusion we may add that in the town of Táshkend itself there are few donkeys, and those for sale are of the most indifferent kinds. The Táshkend donkey when fit for work costs generally 6 to 8 *roubles* (19s. to 25s. 4d.); prices do run up to 12 and 16 *roubles* (38s. to 50s. 8d.), but do not rise beyond the latter price. The best breed of donkeys are the white, bred in Bukhára. The Bukháriots are very partial to them and willingly give from 80 to 100 *roubles* (£12-13-4 to £15-16-8) and even more for them. On these asses the Bukháriots go on pilgrimage to Bogu-idin, to do homage to the Saint of that name, who is the protector of the Kháuate of Bukhára and the founder of the sect of the "Nakhshbandi."

IV.

Prices for transport in the different places of the district and at different seasons of the year.

The fluctuation in the price of hire for *arábas* and baggage animals depends chiefly on the following circumstances:—

1st, The size of the load, *i. e.*, weight and balance, or in other words, the strength of the camel or horse and its ability to carry a greater or lesser load; 2nd, the greater or less value of the load², the period for which furnished; 3rd, the demand of merchants for transport and the amount available at the moment; when a number of *karakshis* (drivers) come in, prices are considerably lowered. Then the time of year upon which the good or bad season for roads depends, and consequently the

¹ The natives use no bridles for donkeys but drive them with a stick, with which they thrust them in the neck.

² A camel laden with iron or boxes for instance costs $\frac{3}{4}$ or $\frac{1}{2}$ less to hire in *roubles* than a camel with manufactured goods does, as the latter in transport requires more attention to preserve it from being injured.

unfavourable or favourable time for moving goods, also has a considerable influence on the change in prices. In the year 1873, as compared with 1872, prices for transport, notwithstanding the great demand for camels for the Khivan expedition, were cheaper, the reasons being the abundant harvest throughout Turkistán and the absence of epidemics.

The pace of travelling of caravans as well as the rates of hire entirely depend on the above-mentioned circumstances affecting the fluctuation of hiring prices.

Fuller information relating to payments for transport from Táshkend and the times of marching were collected by Mr. Pantusoff and refer to the second half of 1872, 1873, and partly to 1874. In the tables of payment for transport and of days of marching of caravans the figures given are the maximum (full load) and minimum (various consignments by weight). These tables were printed in the Turkistán Annual, 4th Vol., for 1876.

PRICES FOR TRANSPORT OF LOADS IN SAMARKAND IN 1872.

For an arába, harnessed with one horse (the Samarkand arába carries 25 puds or 904 lbs.).

	In Summer.			In Winter.		
	Roubles.	Kopecks.	£ s. d.	Roubles.	Kopecks.	£ s. d.
From Samarkand						
To Táshkend	14	0	2 4 4	18	0	1 17 0
Katti-Kurgán	5	0	0 15 10	5	40	0 17 1
Panjakend	5	0	0 15 10	6	0	0 19 0
Urgut	3	0	0 9 6	3	50	0 11 1
Kárshi	12	0	1 18 0	12	0	1 18 0
Bukhára	14	0	2 4 4	16	0	2 10 8
From Katti-Kurgán to Bukhára ...	11	0	1 14 10	11	0	1 14 10

For a camel laden with 16 puds (578 lbs.).

	In Summer.			In Winter.		
	Roubles.	Kopecks.	£ s. d.	Roubles.	Kopecks.	£ s. d.
From Samarkand						
To Táshkend	7	0	1 2 2	8	60	1 7 3
Katti-Kurgán	2	50	0 7 11	3	0	0 9 6
Panjakend	3	0	0 9 6	3	50	0 11 1
Urgut	2	0	0 6 4	2	0	0 6 4
Kárshi	9	0	0 19 0	6	0	0 19 0
Bukhára	8	0	1 5 4	9	60	1 8 6
From Katti-Kurgán to Bukhára ...	7	0	1 2 2	7	60	1 4 1

In the town of Vernei transport is carried on bullocks (from Little Russia) on horse carts (Cossack), on camels (native) and also partly on *arábas*. The following were the average prices for transport in the year 1872 :—

Names of places.	Per sack of flour.			Per <i>chetvert</i> of flour. 1 <i>chetvert</i> =5·775 bushels.			Per <i>chetvert</i> of groats (5·775 bushels).			Per <i>chetvert</i> of oats (5·775 bushels).			PER <i>Pud</i> OF LOAD (36·113 LBS.)					
													On Camels and <i>arábas</i> .			On baggage bullocks or horses.		
	<i>Roubles.</i>	<i>Kopecks.</i>	£ s. d.	<i>Roubles.</i>	<i>Kopecks.</i>	£ s. d.	<i>Roubles.</i>	<i>Kopecks.</i>	£ s. d.	<i>Roubles.</i>	<i>Kopecks.</i>	£ s. d.	<i>Roubles.</i>	<i>Kopecks.</i>	£ s. d.	<i>Roubles.</i>	<i>Kopecks.</i>	£ s. d.
From Vernei																		
To The town of Kopal	3	75	0 18 10½	3	51½	0 11 2	3	75	0 10 10½	2	72½	0 8 7½	0	45	0 1 5	0	45	0 1 5
Tokmak ...	4	20	0 13 3½	4	20	0 13 3½	4	20	0 13 3½	4	20	0 13 3½	0	50	0 1 7	0	55	0 1 9
Sergiopol ...	7	67½	1 4 3½	7	67½	1 4 3½	7	67½	1 4 3½	5	77½	0 18 3½	1	05	0 3 3½	0	90	0 2 10
Karakol ...	6	87½	1 1 9½	6	87½	1 1 9	7	75	1 4 6½	5	25	0 16 7½	0	90	0 2 10	0	90	0 2 10
Táshkend ...	8	60	1 7 3	7	60	1 4 1	8	60	1 7 3	6	05	0 19 1½	1	05	0 3 3½	1	10	0 3 5½
Borohudzir ...	5	70	0 18 0½	5	70	0 18 0½	5	70	0 18 0	4	10	0 12 11½	0	70	0 2 2½	0	70	0 2 2½
Narin Fort ...	...	...	...	9	82½	1 11 0	11	10	1 15 1½	7	45	1 3 6½	1	30	0 4 1½	1	30	0 4 1½
Muzárt Position	8	60	1 7 3	7	60	1 4 1	8	60	1 7 3	6	05	0 19 1½	1	05	0 3 3½	1	05	0 3 3½
Kulja ... ..	...	...	...	...	...	...	...	...	...	...	...	...	0	80	...	0	80	...
Semipaláta ...	8	45	1 6 9	8	45	1 6 9	9	40	1 9 9	6	35	1 0 1½	1	10	0 3 5½	0	92½	2 10½

SECTION V.

ROUTES.

ROUTE 1.

From Tashkend to the town of Orenburg, Postal Road.

Province of Sir Daria, Kurama Division.	From point to point.	Total between chief places.	From point to point.		Total between chief places.	
	<i>Versts.</i> *	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.
Tashkend Provincial town of ... ..	...		...	...
Khish-Kupir (Kaplan-Bek)	18 $\frac{1}{2}$		12	2		
Ak-Jár	14 $\frac{3}{4}$		9	6 $\frac{1}{4}$		
Jeri	17		11	2 $\frac{1}{4}$		
Sharan-Khani	12 $\frac{1}{2}$		8	2 $\frac{1}{4}$		
CHIMKEND DIVISION.						
Beglar-Beg	21 $\frac{1}{2}$		14	2		
Ak-Tásh	14		9	2 $\frac{1}{4}$		
Chimkend, town of	14		9	2 $\frac{1}{4}$	74	3 $\frac{1}{4}$
		112 $\frac{1}{4}$				
Bur-Jár	17 $\frac{3}{4}$		11	6		
Aris	21 $\frac{1}{2}$		14	2		
Bugun	24 $\frac{1}{2}$		16	2		
Ak-Moli	24 $\frac{1}{4}$		16	0 $\frac{3}{4}$		
Nagái-Kura	21 $\frac{1}{2}$		14	2		
TURKISTÁN DIVISION.						
Ikán	20 $\frac{3}{4}$		13	6		
Turkistán, town of	23 $\frac{1}{2}$		15	4 $\frac{1}{2}$	101	7 $\frac{1}{4}$
		163 $\frac{3}{4}$				
Kosh-Mizgil	20 $\frac{1}{4}$		13	3 $\frac{1}{2}$		
Saurán	25 $\frac{1}{2}$		16	7 $\frac{1}{4}$		
Tásh-Swát	27 $\frac{1}{2}$		18	1 $\frac{3}{4}$		
Ak-Kum	17 $\frac{3}{4}$		11	6		
Yáni-Kurgán	27 $\frac{1}{2}$		19	2		
Tumen-Arik	21		13	7 $\frac{1}{4}$		
PEROVSKI DIVISION.						
Sor-Kuduk	14 $\frac{1}{2}$		9	5		
Kok-Irim	20 $\frac{1}{4}$		13	3 $\frac{1}{2}$		
Julek (fortified post)	19 $\frac{3}{4}$		13	0 $\frac{3}{4}$	128	4 $\frac{1}{2}$
		194				
Tar-Tugai	21 $\frac{3}{4}$		14	3 $\frac{1}{4}$		
Sari-Chaganák	17 $\frac{1}{2}$		11	4 $\frac{3}{4}$		
Jarti-Kum	19 $\frac{3}{4}$		13	0 $\frac{3}{4}$		
Ber-Kazán	17 $\frac{3}{4}$		11	6 $\frac{1}{4}$		
Birubai	12 $\frac{3}{4}$		8	3 $\frac{1}{2}$		
Fort Perovski	18 $\frac{3}{4}$		12	2 $\frac{1}{4}$	71	4 $\frac{3}{4}$
		108				

* The figures given in these tables, as in most Russian numerical returns, are not in all cases correct.

From Táshkend to the town of Orenburg, Postal Road—continued.

Province of Sir Daria, Kuráma Division.	From point to point.	Total between chief places.	From point to point.		Total between chief places.	
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.
Demitroff	22 $\frac{1}{2}$		11	7 $\frac{1}{4}$		
Aman-Tásh	11		7	2 $\frac{1}{4}$		
Petrovsk	16		10	5		
Seminoff	22 $\frac{1}{4}$		14	6		
Alexandroff	18 $\frac{1}{4}$		12	0 $\frac{1}{2}$		
Vladímír	25		16	4 $\frac{1}{2}$		
Fedoroff	24 $\frac{1}{2}$		16	2		
Victoroff	18		11	7 $\frac{1}{2}$		
Fort No. 2 (Karmakchi)	20 $\frac{1}{2}$		13	4 $\frac{3}{4}$		
		178			118	
Khor-Tut	18 $\frac{3}{4}$		12	3 $\frac{1}{4}$		
Kára-Tugai	17 $\frac{1}{2}$		11	5		
Ilchibai	25		16	6 $\frac{1}{2}$		
KAZÁLA DIVISION.						
Ak-Jár	27 $\frac{3}{4}$		18	3 $\frac{1}{4}$		
Ak-Swát	21 $\frac{1}{2}$		14	2		
Maili-Básh	23 $\frac{3}{4}$		15	6		
Baskari	22		14	4 $\frac{1}{2}$		
Fort No. 1, Kazála	18 $\frac{1}{2}$		12	2 $\frac{1}{4}$		
		174 $\frac{3}{4}$			115	6 $\frac{3}{4}$
Unisk	16		10	4 $\frac{3}{4}$		
Bik-Bauli	13 $\frac{1}{2}$		8	7 $\frac{1}{2}$		
Goloff	17 $\frac{1}{2}$		11	5		
Kamishli-Básh	13 $\frac{1}{4}$		8	6 $\frac{1}{4}$		
Andreyeff	17 $\frac{1}{2}$		11	4 $\frac{3}{4}$		
Sappak	18 $\frac{1}{2}$		12	2		
Ak-Julpas	18		11	7 $\frac{1}{2}$		
Alti-Kuduk	17		11	2 $\frac{1}{4}$		
Nicolaeff	16 $\frac{1}{4}$		10	6		
Kul-Kuduk	10 $\frac{1}{2}$		6	7 $\frac{3}{4}$		
Jungurluk-Sor	21 $\frac{1}{2}$		14	2		
Constantinoff	19 $\frac{1}{2}$		12	7 $\frac{1}{2}$		
Kára-Kuduk	19 $\frac{1}{2}$		12	7 $\frac{1}{2}$		
Julus	20 $\frac{1}{4}$		13	3 $\frac{1}{4}$		
Terekli	17		11	2 $\frac{1}{4}$		
		255 $\frac{3}{4}$			169	4 $\frac{1}{4}$
PROVINCE OF TURGAI.						
Jalovli	32 $\frac{1}{2}$		21	4 $\frac{1}{4}$		
Ak-Sai	23 $\frac{3}{4}$		15	6		
Jalangách	25 $\frac{1}{2}$		16	7 $\frac{1}{4}$		
Irgiz, town of	17 $\frac{1}{2}$		11	4 $\frac{3}{4}$		
		99 $\frac{1}{4}$			65	6 $\frac{1}{4}$

From Táshkend to the town of Orenburg, Postal Road—concluded.

Province of Sir Darin, Kuráma Division.	From point to point.	Total between chief places.	From point to point.		Total between chief places.				
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.			
Buz-Gumer	19	177½	12	4¾	117	5¼			
Kizil-Yár	14		9	21					
Terenuziak	17½		11	4¾					
Serali	13½		8	7¾					
Kapani (Kára-Kuduk)	17		11	2					
Kára-Sai	15½		10	2¼					
Kum-Sai	23½		15	4½					
Chulak Kairakti	25		16	4½					
Ashchi-Sai	15¾		10	3¾					
Kára-Butak (fortified post)	16¾		11	0¾					
Básh-Kára-Butak	19½		12	7½					
Damdi	28½		18	7					
Bugati-Sai	19		12	4¾					
Sari-Kámish	22½		14	7½					
Tasta-Butak	17¾		11	6					
Aral-Tube	21¼	14	0¾						
Istemes	25¾	17	0½						
Ashchi-Butak	14½	9	5						
Tokán	18	11	7¼						
Orsk, town of	27½	18	2						
		214¼			142	0¼			
GOVERNMENT OF ORENBURG.									
Khabarna	26½	265	17	4½	175	5¼			
Gubernlinska	29		19	1¾					
Podgornaya	26		17	1¾					
Ilinsk	19		12	4¾					
Nikolsk	19		12	4¾					
Verkhne-Ozero	27½		18	2					
Giriyalsk	21½		13	7¼					
Krasnogorsk	22¼		14	6					
Viazovsk	27		17	7½					
Kammeno-Ozero	16		10	4¾					
Nejinsk	14¾		9	6¼					
Orenburg, Government town	17		11	2¼					
			265					175	5¼
TOTAL			1,932½					1,280	7½

ROUTE 2.

From Táshkend to Semipaláta, Postal Road.

KURÁMA DIVISION.						
Táshkend, town of ... ..	...		...	...
Koplan-Beg (Khish-Kupit)	18½		12	2		
Ak-Jár	14¾		9	6¼		
Jeri	17		11	2½		
Sharáb-Khána	17½		8	2¼		

From Táshkend to Semipaláta, Postal Road—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.	
			Versts.	Fur.	Miles.	Fur.
KURÁMA DIVISION—contd.						
Beglar-Beg	21 $\frac{1}{2}$	112 $\frac{1}{4}$	14	2	74	3 $\frac{1}{4}$
Ak-Tásh... ..	14		9	2 $\frac{1}{4}$		
Chimkend, town of	14		9	2 $\frac{1}{4}$		
CHIMKEND DIVISION.						
Máukend (Ak-Su)	20 $\frac{1}{2}$	196 $\frac{1}{2}$	13	4 $\frac{3}{4}$	117	0
Mashat	15 $\frac{1}{2}$		10	2 $\frac{1}{4}$		
Yas-Kichu	19 $\frac{1}{4}$		12	6		
Tulkubásh	23 $\frac{1}{2}$		15	4 $\frac{1}{2}$		
Chak-Pak	23 $\frac{1}{2}$		15	4 $\frac{3}{4}$		
AULIE-ATA DIVISION.						
Tersk	24	196 $\frac{1}{2}$	15	7 $\frac{1}{4}$	117	0
Kuyuk	18 $\frac{1}{4}$		12	0 $\frac{3}{4}$		
Golovachevsk	17 $\frac{1}{2}$		11	5		
Aulie-Áta, town of	14 $\frac{1}{2}$		9	4 $\frac{3}{4}$		
Uch-Bulák	22		14	4 $\frac{3}{4}$		
Ak-Chulak	17		11	2		
Akhir-Tube	21		13	7 $\frac{1}{4}$		
Maldabaeff	15		9	7 $\frac{1}{2}$		
Kum-Arik	21 $\frac{1}{4}$		14	0 $\frac{3}{4}$		
Tarti	23 $\frac{3}{4}$		15	5 $\frac{1}{4}$		
Munkinsk	19	12	4 $\frac{3}{8}$			
Merke	16 $\frac{1}{2}$	10	7 $\frac{1}{2}$			
Chaldavar	29	155 $\frac{1}{2}$	19	1 $\frac{3}{4}$	103	0 $\frac{1}{2}$
PROVINCE OF SEMIRECHIA, TOKMAK DIVISION.						
Kara-Balti	29	116	19	1 $\frac{3}{4}$	76	7 $\frac{1}{4}$
Ak-Su (settlement)	19		12	4 $\frac{3}{4}$		
Suku-Luk	14 $\frac{3}{4}$		9	6 $\frac{1}{4}$		
Ala-Archa (Pishpek)	24 $\frac{1}{4}$		16	0 $\frac{3}{4}$		
VERNEI DIVISION.						
Constantinoff (Chuiska)	22 $\frac{3}{4}$	252 $\frac{1}{2}$	15	0 $\frac{1}{2}$	167	3
Sagatinsk	23		15	2		
Kurdai	30		19	7 $\frac{1}{4}$		
Otar	32 $\frac{1}{2}$		21	4 $\frac{1}{4}$		
Targap	30 $\frac{1}{2}$		20	1 $\frac{3}{4}$		
Kastek	33 $\frac{1}{4}$		22	0 $\frac{1}{4}$		
Uzun-Agach	26 $\frac{1}{2}$		17	4 $\frac{1}{2}$		
Kiskilensk station (Lubovninsk)	27		17	7 $\frac{1}{4}$		
Vernei, chief town of province	27		17	7 $\frac{1}{4}$		

From Tashkend to Semipaláta, Postal Road—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.	
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.
VERNEI DIVISION—contd.						
Kurasui picket	24 $\frac{1}{2}$		16	1 $\frac{3}{4}$		
Kutentai „	22 $\frac{1}{2}$		14	7 $\frac{1}{4}$		
Ili settlement	23 $\frac{1}{2}$		15	4 $\frac{3}{4}$		
Chingildin picket	23 $\frac{1}{2}$		15	4 $\frac{1}{2}$		
KOPAL DIVISION.						
Kara-Chekin picket	33 $\frac{1}{2}$		22	1 $\frac{3}{4}$		
Kuyan-Kuz „	27 $\frac{3}{4}$		18	3 $\frac{1}{4}$		
Altin-Emel „	27 $\frac{1}{2}$		18	1 $\frac{3}{4}$		
		182 $\frac{3}{4}$			121	1
Kugalin picket	22 $\frac{1}{4}$		14	6		
Tsaritsin „	25		16	4 $\frac{3}{4}$		
Jangar-Agách picket	20 $\frac{1}{2}$		13	4 $\frac{1}{2}$		
Kara-Bulák (settlement)	22		14	4 $\frac{3}{4}$		
Sara-Bulák picket	30		19	7		
Ak-Ichki „	26		17	2		
Kopal, town of	27		17	7 $\frac{1}{4}$		
		172 $\frac{3}{4}$			114	4 $\frac{1}{4}$
Arasan	29		19	1 $\frac{3}{4}$		
Abakumoff picket	21		13	7 $\frac{1}{4}$		
		50			33	1
Aksu „	25 $\frac{1}{2}$		16	7 $\frac{1}{4}$		
Baskan „	28 $\frac{1}{2}$		18	7 $\frac{1}{4}$		
SERGIOPOL DIVISION.						
Lepsa picket	28 $\frac{1}{2}$		18	7 $\frac{1}{4}$		
Ashchi-Bulák picket	34		22	4 $\frac{1}{4}$		
Arganatin „	29 $\frac{1}{2}$		19	4 $\frac{1}{4}$		
Jus-Agach „	31		20	4 $\frac{1}{2}$		
Lesser Aiaguz „	26		17	2		
Kizil-Kis „	26		17	1 $\frac{3}{4}$		
Taldi-Kuduk „	23 $\frac{3}{4}$		15	6		
Central Aiaguz „	29		19	1 $\frac{3}{4}$		
Sergiopol, town of	31 $\frac{1}{2}$		20	7		
		313 $\frac{1}{4}$			207	5 $\frac{1}{4}$
PROVINCE OF SEMIPALÁTA.						
Altin-Kalat picket	26 $\frac{1}{4}$		17	3 $\frac{1}{4}$		
Enreki „	22 $\frac{3}{4}$		15	0 $\frac{5}{8}$		
Uzun-Bulák „	26 $\frac{1}{4}$		17	3 $\frac{1}{4}$		
Archan-Adir „	24 $\frac{1}{2}$		16	2		
Arkat „	24		15	7 $\frac{1}{2}$		
Kizil-Mulin „	26 $\frac{1}{2}$		17	4 $\frac{1}{2}$		
Jertav „	26		17	2		
Ashchi-Kul „	21 $\frac{1}{2}$		14	2		

From Táshkend to Semipaláta, Postal Road—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.	
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.
PROVINCE OF SEMIPALATA—contd.						
Arkalik picket	27		17	7		
Uluguz	22		14	4 $\frac{3}{4}$		
Semipaláta, chief town of province ...	25		16	4 $\frac{1}{4}$		
		271 $\frac{3}{4}$			180	1
TOTAL ...		1,803			1,195	2 $\frac{1}{2}$

ROUTE 3.*From Táshkend to Ura-Tube, Postal Road.*

KURÁMA DIVISION.						
Táshkend, chief town of province ...	...		...	...
Chirchik	13		8	5		
Kara-Su	14		9	2 $\frac{1}{4}$		
Biskent	20 $\frac{1}{2}$		13	4 $\frac{1}{2}$		
Ural	18		11	7 $\frac{1}{2}$		
Jan-Bulák	26 $\frac{1}{2}$		17	4 $\frac{1}{2}$		
Mirza-Ribát	25 $\frac{1}{2}$		16	7 $\frac{1}{4}$		
KHOJEND DIVISION.						
Khojend, town of	25		16	4 $\frac{1}{2}$	94	3 $\frac{1}{2}$
Gor-Nau	25	142 $\frac{1}{2}$	16	4 $\frac{3}{4}$		
Naugandi	25		16	4 $\frac{1}{2}$		
Ura-Tube (fortified post)	15		9	7 $\frac{1}{2}$		
		65			43	0 $\frac{3}{4}$
TOTAL ...		207 $\frac{1}{2}$			137	4 $\frac{1}{2}$

ROUTE 4.*From Táshkend to Katti-Kurgán, Postal Road.*

KURÁMA DIVISION.						
Táshkend, town of ... ..	...		...	...
Kára-Kulduk (Niz-bash)	20 $\frac{3}{4}$		13	6		
Old Tashkent	21		13	7 $\frac{1}{4}$		
Chináz, town of	22		14	4 $\frac{3}{4}$		
		63 $\frac{3}{4}$			42	2

From Tashkend to Katti-Kurgán, Postal Road—(continued.)

	From point to point.	Total between chief places.	From point to point.		Total between chief places.	
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.
KHOJEND DIVISION.						
Chilek (first wells)	23	124 $\frac{3}{4}$	15	2	82	5 $\frac{1}{2}$
Mirza-Ribát	33 $\frac{3}{4}$		22	3		
Agáchtí-Sardaba-Ribát	31		20	4 $\frac{1}{2}$		
Uch-Tube	22		14	4 $\frac{1}{2}$		
Jizák, town of	15		9	7 $\frac{1}{2}$		
ZARAFSHÁN DIVISION.						
Yani-Kurgán	25	96 $\frac{1}{2}$	16	4 $\frac{1}{2}$	63	7 $\frac{3}{4}$
Sarailik	17		11	2		
Khish-Kupru (stone bridge)	15		9	7 $\frac{3}{4}$		
Jambai	19 $\frac{3}{4}$		13	0 $\frac{3}{4}$		
Samarkand, town of	19 $\frac{1}{4}$		13	0 $\frac{3}{4}$		
Daul	21 $\frac{1}{2}$	64 $\frac{1}{2}$	14	2	42	6
Chimbai	23		15	1 $\frac{3}{4}$		
Katti-Kurgán (fortified post)	20		13	2 $\frac{1}{4}$		
TOTAL			349 $\frac{1}{2}$					231	5$\frac{1}{2}$

ROUTE 5.*From Tashkend to Teliau, Wheel Road.*

KURÁMA DIVISION.						
Tashkend	75 $\frac{1}{4}$	49	7
Chirchik station	13		8	5		
Kára-Su	14		9	2 $\frac{1}{4}$		
Zimovka-Konchegali	25 $\frac{3}{4}$		17	0 $\frac{1}{2}$		
Teliâu (fortified post)	22 $\frac{1}{2}$		14	7 $\frac{1}{4}$		

ROUTE 6.*From Ura-Tube to Jizák (fortified post), Wheel Road.*

KHOJEND DIVISION.						
Ura-Tube (fortified post)	112	74	1 $\frac{1}{4}$
Savat village	32		21	1 $\frac{3}{4}$		
Zaamin (fortified post)	25		16	4 $\frac{1}{4}$		
Nan Sangin (village)	34		22	4 $\frac{1}{4}$		
Jizák (fortified post)	21		13	7 $\frac{1}{4}$		

ROUTE 7.

From Pishpek (Ala-Archa) to the town of Karakol, Postal Road.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.	
			Versts.	Fur.	Miles.	Fur.
TOKMAK DIVISION.						
Pishpek ... ..	...	...	...	...	...	...
Issigati	23		15	2		
Tokmak, town of...	28		18	4 $\frac{1}{2}$		
		51			33	6 $\frac{1}{2}$
Kára-Bulak picket	32 $\frac{1}{2}$		21	4 $\frac{1}{4}$		
Jil-Arik "	23 $\frac{1}{4}$		15	3 $\frac{1}{2}$		
Kok-Mainak "	24		15	7 $\frac{1}{4}$		
Kute-Maldi "	24		15	7 $\frac{1}{4}$		
ISSIK-KUL DIVISION.						
Turai-Gir picket	25 $\frac{1}{4}$		16	5 $\frac{3}{4}$		
Choktal "	28 $\frac{1}{4}$		18	6		
Chulpan-Ata "	28 $\frac{1}{4}$		18	5 $\frac{3}{4}$		
Kurumdi "	21		13	7 $\frac{1}{4}$		
Kungei-Aksu,, (village)...	29		19	2		
Ui-Tal "	25 $\frac{1}{2}$		16	7		
Preobrajensk (settlement)	30 $\frac{3}{4}$		20	3 $\frac{1}{4}$		
Karakol, town of	29 $\frac{1}{2}$		19	4 $\frac{1}{4}$		
		321 $\frac{1}{4}$			213	
TOTAL ...		372 $\frac{1}{4}$				

ROUTE 8.

From Altin-Emel Picket to the town of Kulja, Postal Road.

KOPAL DIVISION.						
Altin-Emel (station) ... ..	...		...	...
Báshi picket	26		17	1 $\frac{3}{4}$		
Aina-Bulák picket	27		17	7 $\frac{1}{4}$		
Konur-Olen "	20 $\frac{1}{2}$		13	4 $\frac{3}{4}$		
Koi-Bin "	25		16	4 $\frac{1}{2}$		
Borohudzir (settlement)	25		16	4 $\frac{3}{4}$		

From Altin-Emel Picket to the town of Kulja, Postal Road—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.	
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.
KULJA DISTRICT.						
Akkend picket	28		18	4 $\frac{1}{2}$		
Khorgos	22		14	4 $\frac{1}{2}$		
Alimtu	15		9	7 $\frac{1}{2}$		
Chinchahodzi	20		13	2		
Suidun	18		11	7 $\frac{1}{2}$		
Bayandai	20		13	2		
Kulja, town of	20		13	2 $\frac{1}{4}$		
		266 $\frac{1}{2}$			176	5 $\frac{1}{4}$

ROUTE 9.*From Kopál to Lepsa Station, Postal Road.*

Kopál, town of ... ..	...		...	...
Arasán (settlement)	29		19	1 $\frac{3}{4}$		
Abakumoff picket	21		13	7 $\frac{1}{2}$		
Sarkan (settlement)	33		21	7		
Kamenni Kluch boundary (or stone key)	19		12	4 $\frac{3}{4}$		
Terekti picket (Terekti stream)	20		13	2		
Lepsa station (bridge over River Lepsa)	26		17	1 $\frac{3}{4}$		
		148			98	0 $\frac{3}{4}$

ROUTE 10.*From Kárákol to the Muzárt Position, Postal Road (baggage animals).*

Kárákol, town of ... ..	...		...	...
Aksu village (cross River Aksu by bridge)	12		7	7 $\frac{3}{4}$		
Jergalán picket	33		21	7 $\frac{1}{4}$		
Taldi-Bulak „	22		14	4 $\frac{1}{2}$		
Jil-Karkara „	25		16	4 $\frac{3}{4}$		
Tute „ (formerly Sarijáz)	25		16	4 $\frac{1}{2}$		
Kapkak „	30		19	7		
Narinkol (village)	25		16	4 $\frac{1}{2}$		
Muzárt	25		16	4 $\frac{1}{2}$		
		197			130	4 $\frac{1}{2}$

ROUTE 11A.

From Tokmak, by the Buzm and Juvan-rik defiles to the Narin fortified post (on the River Narin), Postal Road.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.	
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.
Tokmak, town of... ..	...		...	...
Kára-Bulák (village)	32 $\frac{1}{2}$		21	4 $\frac{1}{2}$		
Jil-Arik station	23 $\frac{1}{4}$		15	3 $\frac{1}{2}$		
Kok-Mainak station	24		15	7 $\frac{1}{4}$		
Kachkarka "	31		20	4 $\frac{1}{4}$		
Position at the entrance of the Juvan- Arik defile	} 15		9	7 $\frac{3}{4}$		
Sari-Bulák station	25		16	4 $\frac{3}{4}$		
River Ottuk	32		21	1 $\frac{3}{4}$		
" On-Archa	23		15	1 $\frac{3}{4}$		
Narin (fortified post)	23		15	1 $\frac{3}{4}$		
		228 $\frac{3}{4}$			151	5

ROUTE 12.

From the town of Sergiopol to the Urjár Station, Postal Road.

SERGIOPOL DIVISION.							
Sergiopol, town of ... ..	...	...	...	...	...	...	...
Lesser Narin picket ... ..	...	...	...	31 $\frac{1}{2}$	20	7	
Tesek-Tai " ... ..	...	...	...	24	15	7 $\frac{1}{2}$	
Jartav " ... ..	...	...	...	17 $\frac{1}{2}$	11	4 $\frac{3}{4}$	
Karakol " ... ..	...	...	...	19 $\frac{1}{2}$	12	7 $\frac{1}{2}$	
Ters-Bakan " ... ..	...	...	...	22	14	4 $\frac{1}{2}$	
Burgán " ... ..	...	...	...	22	1	4 $\frac{1}{4}$	
Urjár Station ... ..	...	...	...	27	17	7	
					163 $\frac{1}{2}$		108
							3

ROUTES IN THE PROVINCE OF FARGÁNA.

ROUTE 13.

From Margilán to Kokand, Postal Road.

Margilán (Russian town) ... ..	...	...	...	...	...	...	...
Alti-Arik station ... ..	...	...	...	29 $\frac{1}{2}$	19	5 $\frac{3}{4}$	
Karaul-Tube station ... ..	...	...	...	28 $\frac{1}{2}$	18	5 $\frac{3}{4}$	
Kokand, town of ... ..	...	...	...	27 $\frac{1}{4}$	17	7 $\frac{1}{4}$	
					85 $\frac{1}{4}$		56
							2 $\frac{1}{4}$

ROUTE 14.

From Margilán to the town of Andiján, Postal Road.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.	
			Versts.	Fur.	Miles.	Fur.
Margilán, town of ... ..	...	...	...	...	...	...
Kuva (village)	31 $\frac{1}{4}$		20	5 $\frac{3}{4}$		
Assake, town of	21 $\frac{1}{4}$		14	0 $\frac{3}{4}$		
Andiján, town of	19		12	6 $\frac{1}{4}$		
		71 $\frac{3}{4}$			47	4 $\frac{1}{2}$

ROUTE 15.

From Margilán to the town of Osh, Postal Road.

Margilán, town of ... ..	...	...	...	...	...	...
Kuva (village)	31 $\frac{1}{4}$		20	5 $\frac{3}{4}$		
Min-Tube (village)	21 $\frac{1}{4}$		14	2		
Araván	13		8	5		
Osh, town of "	24		15	7 $\frac{1}{4}$		
		89 $\frac{3}{4}$			59	4

ROUTE 16.

From Margilán to the Uch-Kurgán, Wheel Road.

Margilán, town of ... ..	...	...	...	...	...	...
Uch-Kurgán	32		21	1 $\frac{3}{4}$		
		32			21	1 $\frac{3}{4}$

ROUTE 17.

From Margilán to the town of Wádil, Wheel Road.

Margilán (Russian town) ... ..	...	...	...	...	...	...
Wádil	26		17	1 $\frac{3}{4}$		
		26			17	1 $\frac{3}{4}$

ROUTE 18.

From Margilán to Namangán, Postal Road.

Margilán, town of ... ..	...	...	...	...	...	...
Ara-Mazár (village)	18		11	7 $\frac{1}{2}$		
Yaziaván "	12		7	7 $\frac{1}{2}$		
Min-Bulák "	22		14	4 $\frac{3}{4}$		
Namangán, town of	16		10	4 $\frac{3}{4}$		
		68			45	0 $\frac{1}{2}$

ROUTE 19.

From Margilán to Andiján, viâ Sharikhán, Wheel Road.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.	
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.
Margilán, town of ... ..	...	...	...	...	...	...
Kára-Tube	25½	...	16	7¼	...	...
Sharikhán, town of	20	...	13	2	...	...
Andiján, town of	25	...	16	4½	...	...
		70½			46	5¾

ROUTE 20.

From the town of New Margilán to the town of Chust, Wheel Road.

New Margilán, town of ... ..	...	...	...	...	...	...
Old Margilán, town of	10	...	6	5	...	...
Shamurga-Tube station	10	...	6	5	...	...
Tokali 1st well (<i>viâ</i> village of Haremdán)	18	...	11	7½	...	...
Gur-Tube, hamlet, <i>viâ</i> Tokali 2nd well, 5 versts (3 miles 2½ furlongs) ...	20	...	13	2	...	...
Terek (hamlet on the left bank of the Sir Darya)	5½	...	3	5¾	...	...
Shagant (hamlet on the right bank of the Sir Darya)	4½	...	2	7¾	...	...
Kash-Kairagáchi (hamlet)	4	...	2	5¼	...	...
Chust, town of	17¾	...	11	6¼	...	...
		89¾			59	4

ROUTE 21.

From the town of Kokand to Khojend, Postal Road.

Kokand, town of ... ..	...	...	...	...	...	...
Chuchai (village)	11	...	7	2¼	...	...
Bish-Arik (village)	20¾	...	13	6	...	...
Patar	24	...	15	7¼	...	...
Káráchi-Kum ,,	28	...	18	4½	...	...
Kostakoz, (Khojend Division)	22	...	14	4¾	...	...
Khojend, town of	20	...	13	2	...	...
		125¾			83	2¼

ROUTE 22.

From the town of Kokand to the town of Chust, Wheel Road.

Kokand, town of ... ..	...	...	...	...	...	...
Sultán-Begi (village)	20¾	...	13	6	...	...
Sank village (crossing the River Sir) ...	27¾	...	18	3½	...	...
Chust, town of	15½	...	10	2¼	...	...
		64			42	3½

ROUTE 23.

From Kokand to Teliau Fortified Post, Caravan Road for baggage animals.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.	
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.
Kokand, town of ... ..	...	...	...	...
Chil-Makhrám (crossing over the River Sir)	36		23	7		
Kámish-Kurgán	10		6	5		
Dolónali (winter huts)	30		19	7		
Shaugaz pass	19		12	4 $\frac{3}{4}$		
Teliâu (fortified post)	18 $\frac{1}{2}$		12	2 $\frac{1}{4}$		
		113 $\frac{1}{2}$			75	2

ROUTE 24.

From the town of Kokand to Teliau Fortified Post, Caravan Route (baggage animals).

Kokand, town of ... ..	...	...	...	...
Chil-Makhrám, cross River Sir	36		23	7		
Shaidán (village)	21		13	7 $\frac{1}{4}$		
Mulla-Mir "	15		9	7 $\frac{1}{4}$		
Kendir Daván pass	8		5	2 $\frac{1}{2}$		
Teliâu (fortified post)	28		18	4 $\frac{1}{2}$		
		108			71	4 $\frac{3}{4}$

ROUTE 25.

From Kokand to Isfára, Wheel Road.

Kokand, town of ... ..	...	...	...	...
Yaipán (village)	20 $\frac{1}{2}$		13	4 $\frac{3}{4}$		
Ribát "	22 $\frac{1}{2}$		14	7 $\frac{1}{4}$		
Isfára "	15		9	6 $\frac{1}{4}$		
		58			38	2 $\frac{1}{4}$

ROUTE 26.

From Kokand to Karákhikum (Southern Road), Wheel Road.

Kokand, town of ... ..	...	...	...	...
Yaipán	20 $\frac{1}{2}$		13	4 $\frac{3}{4}$		
Rapkán	13		8	5		
Khána-Badám	20		13	2		
Makhrám (fortress)	21 $\frac{1}{2}$		14	2		
Karákhikum	7 $\frac{1}{4}$		4	6 $\frac{1}{4}$		
		82 $\frac{1}{4}$			54	4

ROUTE 27.

From Kokand to Sokh, Wheel Road.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.	
			Versts.	Fur.	Miles.	Fur.
Kokand, town of ... ..	...	...	...	...	...	...
Sari-Kurgán	25	...	16	4½	...	...
Kaznau	16½	...	10	7½	...	...
Sokh	25	...	16	4¾	...	...
		66½			44	0¾

ROUTE 28.

From Kokand to Rishtán, Wheel Road.

Kokand, town of ... ..	...	...	...	...	...	...
Ultrama	16½	...	10	7½	...	...
Rishtán	20	...	13	2	...	...
		36½			24	1½

ROUTE 29.

From Kokand to Namangán, Wheel Road.

Kokand, town of ... ..	...	...	...	...	...	...
Buvaidi (village)	18	...	11	7½	...	...
Mazgil "	29½	...	19	4¼	...	...
Shagand, cross river	14	...	9	2¼	...	...
Namangán, town of	20	...	13	2¼	...	...
		81½			54	0¼

ROUTE 30.

From the town of Andiján to the town of Osh, Wheel Road.

Andiján, town of ... ..	...	...	...	...	...	...
Julia-Kuduk station	24¼	...	16	0¼	...	...
Osh	25¼	...	17	0¾	...	...
		50			33	1¼

ROUTE 31.

From Andiján to Uzgen, Wheel Road.

	From point to point.	Total between chief places.	From point to point,		Total between chief places.	
			Versts.	Fur.	Miles.	Fur.
Andiján, town of ... ..	...	...	...	...	...	...
Tishik-Tásh	18	...	11	7 $\frac{1}{2}$	...	...
Aim-Kishlák	13	...	8	4 $\frac{3}{4}$	...	...
Khánavat	19	...	12	4 $\frac{3}{4}$	...	...
Uzgen, town of	26	...	17	2	...	...
		76			50	3

ROUTE 32.

From Andiján to Jalálabád village, Wheel Road.

Andiján, town of ... ..	...	...	...	...	...	...
Tishik-Tásh	18	...	11	7 $\frac{1}{2}$	...	...
Aim-Kishlák	13	...	8	4 $\frac{3}{4}$	...	...
Suzák	16	...	10	5	...	...
Jalálabád (village)	8	...	5	2 $\frac{1}{2}$	...	...
		55			36	3 $\frac{3}{4}$

ROUTE 33.

From Andiján to Uzgen viâ Sultán Rabát, Wheel Road.

Andiján ... ..	...	...	...	...	...	...
Khara-Beg	12	...	7	7	...	...
Kurgán-Tube	22	...	14	4 $\frac{3}{4}$	...	...
Sultán-Rabát	18	...	11	7 $\frac{1}{2}$	...	...
Tura-Kul on the River Kursháb (wintering place)	16	...	10	4 $\frac{3}{4}$	...	...
Uzgen, town of	16	...	10	5	...	...
		84			55	5

ROUTE 34.

From Andiján to Buta-Kára, Wheel Road.

Andiján ... ..	...	...	...	...	...	...
Paitik	14	...	9	2 $\frac{1}{4}$	...	...
Buta-Kára, canal	18	...	11	7 $\frac{1}{2}$	...	...
		32			21	1 $\frac{3}{4}$

ROUTE 35.

From Andiján to Kokán-Kishlák, Wheel Road.

	From point to point.	Total between chief places.		From point to point.		Total between chief places.	
		Versts.	Versts.	Miles.	Fur.	Miles.	Fur.
Andiján, town of ... ..	...	...		...	...
Medresse-Avtobachi	18			11	7½		
Kokan-Kishlák	12			7	7½		
		30				19	7

ROUTE 36.

From Chust to the town of Namangán.

Chust, town of ... ..	...			...
Tura-Kurgán	26¾			17	5¾		
Namangán, town of	13¼			8	6¼		
		40				26	4

ROUTE 37.

From Chust to Babadarkhán, Wheel Road.

Chust ... ..	...			...	...
Almáz	12			7	7¾		
Charkasar	14			9	2½		
Chadak	13			8	4¾		
Ash	21½			14	2		
Ashába	20			13	2¼		
Shaidán	10			6	5		
Babadarkhán	8			5	2¼		
		98½				65	2¼

ROUTE 38.

From Chust to Kámish-Kurgán, Wheel Road.

Chust ... ..	...			...	...
Pap	16½			10	7½		
Burim-Sarai	15			9	7½		
Pumgán	13			8	5		
Amlík	11			7	2¼		
Ak-Kuduk, (winter-hut)... ..	16			10	5		
Kámish-Kurgán, canal	16			10	4¾		
		87½				58	0

ROUTE 39.

From Kámish-Kurgán to the town of Khojend, Wheel Road.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.	
			Versts.	Fur.	Miles.	Fur.
Kámish-Kurgán ... ..	...	...	...	...	...	...
Samgar, canal	52	...	34	3 $\frac{3}{4}$	...	...
Khojend, town of	21 $\frac{1}{2}$	...	14	2	...	...
		73 $\frac{1}{2}$			49	1 $\frac{3}{4}$

ROUTE 40.

From Namangán to Andiján, Postal Road.

Namangán, town of ... ..	...	...	...	...	...	...
Balikchi, town of	17	...	11	4 $\frac{3}{4}$	...	...
Khakikhovat (hamlet)	20	...	13	2	...	...
Ak-Tube (do.)	13	...	8	5	...	...
Andiján, town of	11 $\frac{1}{2}$	...	7	2 $\frac{1}{4}$	...	...
		62			40	6

ROUTE 41.

From Namangán to Kasán, Wheel Road.

Namangán, town of ... ..	...	...	...	...	...	...
Kokán-Bai	14	...	9	2 $\frac{1}{4}$	...	...
Kasán	16	...	10	4 $\frac{3}{4}$	...	...
		30			19	7

ROUTE 42.

From Namangán to Iskovat, Wheel Road.

Namangán, town of ... ..	...	...	...	...	...	...
Yáni-Kurgán	20	...	13	2	...	...
Iskovat	12	...	7	7 $\frac{3}{4}$	...	...
		32			21	1 $\frac{3}{4}$

ROUTE 43.

From Namangán to Uch-Kurgán, Wheel Road.

Namangán ... ..	...	...	...	...	...	...
Chartak	12	...	7	7 $\frac{3}{4}$	...	...
Uch-Kurgán	23	...	15	2	...	...
		35			23	1 $\frac{3}{4}$

ROUTE 44.

From Osh to Uzgen, Wheel Road.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.	
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.
Osh, town of ... ..	...	...	...	...	...	...
Káya-Su	20	...	13	2	...	...
Tura-Kul	22	...	14	4 $\frac{3}{4}$	...	...
Uzgen, town of	16	...	10	4 $\frac{3}{4}$	...	...
		58			38	3 $\frac{1}{2}$

ROUTE 45.

From Osh to Uzgen, Pack Animal Road.

Osh, town of ... ..	...	...	...	...	...	...
Uzgen, town of	45	...	29	6 $\frac{1}{2}$	...	...
		45			29	6 $\frac{1}{2}$

ROUTE 46.

From Gulcha, Fortified Post, to the town of Uzgen, Pack Animal Road.

Gulcha (fortified post) ... ..	...	...	...	...	...	...
River Lai (crossing)	19	...	12	4 $\frac{3}{4}$	...	...
Tas-ma (winter-hut), on River Tára	23	...	15	2	...	...
Winter-hut at the mouth of the river Yalpak-Tásh	17	...	11	2	...	...
Uzgen, town of	17	...	11	2 $\frac{1}{4}$	...	...
		76			50	3

ROUTE 47.

From Gulcha, Fortified Post, to the town of Uzgen, alternative and direct Road for Pack Animals.

Gulcha ... ..	...	...	...	...	...	...
Iri-Su, boundary	20	...	13	2	...	...
River Yalpak-Tásh, mouth of	17	...	11	2 $\frac{1}{4}$	...	...
Uzgen, town of	17	...	11	2 $\frac{1}{4}$	...	...
		54			35	6 $\frac{1}{2}$

ROUTE 48.

*From Gulcha, Fortified Post, to Irkishtám by the Valley of the Great Alai,
Pack Animal Road.*

	From point to point.				Total between chief places.	
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.
Gulcha ... ..	...	...	...	...	...	...
Kizil-Kurgán	16	...	10	4 $\frac{3}{4}$	...	...
Sufi-Kurgán	23	...	15	2	...	...
Kijil-Jár	18	...	11	7	...	...
Taldik-Daván pass	18	...	11	7	...	...
Sari-Tásh (on the Alai)	13	...	8	5	...	...
Ak-Tásh	20	...	13	2	...	...
River Kizil-Su (crossing)	20	...	13	2	...	...
Irkishtám	18	...	11	7 $\frac{1}{2}$	...	...
		146			96	19 $\frac{1}{2}$

ROUTE 49.

From Rishtán to Margilán, Wheel Road.

Rishtán ... ..	...	...	...	...	...	...
Alti-Arik	17	...	11	2 $\frac{1}{4}$	...	...
Margilán, town of	29 $\frac{3}{4}$	...	19	5 $\frac{3}{4}$	31	...
		46 $\frac{3}{4}$				

ROUTE 50.

From Ugzen to Jalálábád, Wheel Road.

Ugzen ... ..	...	...	...	...	...	...
Jalálábád	32	...	21	1 $\frac{3}{4}$	21	1 $\frac{3}{4}$
		32				

ROUTE 51.

From Wádil to the town of Osh, Wheel Road.

Wádil ... ..	...	...	...	...	...	...
Uch-Kurgán	30	...	19	7	...	...
Kok-Jár	27	...	17	7 $\frac{1}{2}$	...	...
Naukát	21	...	13	7 $\frac{1}{2}$	...	...
Osh, town of	35	...	23	1 $\frac{1}{2}$	74	7 $\frac{1}{2}$
		113				

ROUTE 52.

From Wádil to Sháh-i-Mardán, Wheel Road.

	From point to point.					Total between chief places.		From point to point.		Total between chief places.	
	Versta.	Versta.	Miles.	Fur.	Versta.	Versta.	Miles.	Fur.	Miles.	Fur.	
Wádil ... ..	...	...	...	...	...	...	...	...	...	...	...
Aukhána (Okhna)	11	...	7	2 $\frac{1}{4}$	...	...	7	2 $\frac{1}{4}$	...	...	...
Sháh-i-Mardán	12	...	7	7 $\frac{1}{4}$	...	...	7	7 $\frac{1}{4}$	...	...	...
		23							15	2	

ROUTE 53.

From Rishtán to Isfára, Wheel Road.

	From point to point.					Total between chief places.		From point to point.		Total between chief places.	
	Versta.	Versta.	Miles.	Fur.	Versta.	Versta.	Miles.	Fur.	Miles.	Fur.	
Rishtán ... ..	...	...	...	...	...	...	...	...	...	...	...
Sari-Kurgán	22	...	14	4 $\frac{3}{4}$	...	...	20	4 $\frac{3}{4}$	...	...	...
Liakhán	31	...	20	4 $\frac{3}{4}$	...	...	11	7 $\frac{1}{4}$	...	...	...
Isfára	18	...	11	7 $\frac{1}{4}$	...	...			47	0 $\frac{1}{4}$	
		71							47	0 $\frac{1}{4}$	

ROUTE 54.

From Rishtán to Wádil, Wheel Road.

	From point to point.					Total between chief places.		From point to point.		Total between chief places.	
	Versta.	Versta.	Miles.	Fur.	Versta.	Versta.	Miles.	Fur.	Miles.	Fur.	
Rishtán ... ..	...	...	...	...	...	...	...	...	...	...	...
Barbalik	8 $\frac{1}{4}$	...	5	3 $\frac{3}{4}$	...	...	5	2 $\frac{1}{4}$	...	...	...
Kurgán-Tube	8	...	5	7 $\frac{1}{2}$	...	...	7	7 $\frac{1}{2}$	...	...	...
Chimion	12	...	9	7 $\frac{3}{4}$	...	...	9	7 $\frac{3}{4}$	...	...	...
Wádil	15	...			...	...			28		
		43 $\frac{1}{4}$							28		

ROUTE 55.

From Isfára to Wáruk, Wheel Road.

	From point to point.					Total between chief places.		From point to point.		Total between chief places.	
	Versta.	Versta.	Miles.	Fur.	Versta.	Versta.	Miles.	Fur.	Miles.	Fur.	
Isfára ... ..	...	...	...	...	...	...	...	...	...	...	...
Sur	17 $\frac{1}{2}$	...	11	4 $\frac{3}{4}$	...	...	22	4 $\frac{3}{4}$	...	...	...
Wáruk	34	...			...	...			34	1	
		51 $\frac{1}{2}$							34	1	

ROUTE 56.

From Iskovat to Akhtám, Wheel Road.

	From point to point.					Total between chief places.		From point to point.		Total between chief places.	
	Versta.	Versta.	Miles.	Fur.	Versta.	Versta.	Miles.	Fur.	Miles.	Fur.	
Iskovat (canal) ... ..	...	...	...	...	...	...	...	...	...	...	...
Akhtám (canal)	20	...	13	2	...	...			13	2	
		20							13	2	

ROUTE 57.

From Uch-Kurgán to Min-Tube, Wheel Road.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.	
			Versts.	Fur.	Miles.	Fur.
Uch-Kurgán ... ..	...	...	...	...	...	...
Karaván	12	...	7	7 $\frac{3}{4}$	...	...
Min-Tube	16 $\frac{1}{2}$	...	10	7	...	...
		28 $\frac{1}{2}$			18	7 $\frac{1}{4}$

ROUTE 58.

From Kokand to Ak-Kuduk.

Kokand ... ..	...	...	...	...	...	...
Ak-Jár	23	...	15	2	...	...
Ak-Kuduk	14	...	9	2 $\frac{1}{4}$	...	...
		37			24	4 $\frac{1}{4}$

ROUTE 59.

From the Village of Toi-Tube¹ to Telau, Fortified Post, Wheel Road.

	From point to point.		Total between chief places.		From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	<i>Miles.</i>	<i>Fur.</i>	<i>Miles.</i>	<i>Fur.</i>			
Toi-Tube (village)					In the valley of the River Angren, as far as the village of Chagatal, level and well made; beyond it lies along the foot of the Kurama range; here the road is intersected with ravines with steep banks; ground stony.
Rakát „	7		4	5					
Chagatal „	13		8	5					
New Kanchigál „	5		3	2½					
Sungut	5		3	2½					
Telau	12½		8	2½					
		42			28		1¼		

(41)

¹ The village of Toi-Tube lies on the Tashkend-Khojend road, 32 *versts* from Tashkend (21 miles 1½ furlongs), and is connected with it by a *chaussée*.

ROUTE 60.

From Turkistán viâ Suzák to the River Chu in the direction towards Petropávlovsk.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Turkistán, town of			The road runs along the lower spurs of the Kára-Tau. Country undulating and intersected with ravines. From Kagalik the Kára-Tau mountains have to be crossed, but the pass is neither high nor difficult. From the pass the country is level; soil clay-salt. There are sands at 15 <i>versts</i> (9 miles 7¼ furlongs) from the Sarpatal well.
Babai-Kurgán (fortified post)	32		21	1¾			
Kagalik (fortified post)	32		21	1¾			
Old picket	22		14	4½			
Balbekchi	33		21	7			
Suzák (village)	30		19	7¼			
Sarpatal-Kuduk well (near fresh "gaks") ¹	30		19	7			
Chingildi well	30		19	7			
River Chu, ford at Jár-Swát, or else at Bish-Kulán	30		19	7¼	158	3¾	
		239					

¹ Swampy places are called "gaks."

ROUTE 61.

From Táshkend to Namangán.

Táshkend, town of			} Postal road.
Kára-Su (village)	27		17	7¼			
Biskent (village)	20½		13	4¾			
Ural station	18½		12	2			
Ján-Bulák station	26½		17	4½			
Mirza-Rabát station	25½	118	16	7¼	78	1¾	
Samgar (village)	23		15	2			
Kámish-Kurgán (village)	52		34	3¾			
Pungán village	35		23	1½			

Pap (village) ...	26	17	2	} Wheel road.
Chust, town of (Tuz) ...	28	18	4½	
Tura-Kurgán (village) ...	27	17	7	
Namangán, town of ...	12	7	7½	
TOTAL	203	134		4½
	...	321		

ROUTE 62.
From Khojend to Namangán.

Khojend, town of	} Wheel road.	
Sang-ar (village) ...	23	15	2		
Kámishi-Kurgán (village) ...	52	34	3½		
Pungán (village) ...	35	23	1½		
Pap (village) ...	26	17	2		
Chust, town of (Tuz) ...	28	18	4½		
Tura-Kurgán (village) ...	27	17	7		
Namangán, town of ...	12	7	7½		
TOTAL	203	134		4½

ROUTE 63.
From Pishpek to Vernei via the Kastek Pass.

Pishpek (village)	} Postal road. } Wheel road, Kastek pass. } Postal road.
Issigáti station ...	23½	15	4½	
Tokmak, town of ...	34	22	4½	
Kára-Bulák (village) ...	32½	21	4½	
Sári-Jáz, boundary ...	23	15	2	
Kastek ...	26	17	1½	
Uzun-Agáçh station ...	27½	18	2	
Lubovni settlement ...	27½	18	1½	
Vernei, town of ...	28½	18	7¼	
TOTAL	222½	147		4

ROUTE 64.

From Ujár Station to Bakhti Fortified Post, Wheel Road, very good.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.	
			Versts.	Fur.	Miles.	Fur.
Ujár Station ... ..	...	...	...	...	...	...
Barak-Pai picket	22	...	14	4 $\frac{3}{4}$	...	...
Khatin-Su picket (Makánchi)	21	...	13	7 $\frac{1}{4}$	...	...
Atagai "	30	...	19	7	...	...
Bakhti (fortified post)	27	...	17	7 $\frac{1}{4}$	...	...
		100			66	2 $\frac{1}{4}$

ROUTE 65.

From Fort Perovski to Fort No. 2 (Karamakchi) on the left bank of the River Jaman-Daria¹.

Fort Perovski ... ..	...	...	...	...	...	...
Kul-Ike boundary	25	...	16	4 $\frac{1}{3}$	...	...
Lake Kum-Kul	25	...	16	4 $\frac{1}{3}$	...	...
Bauzák boundary	25	...	16	4 $\frac{1}{3}$	...	...
Bukabai-Kul boundary	25	...	16	4 $\frac{1}{3}$	...	...
To heap of "Saksaul"	23	...	15	2 $\frac{1}{2}$	...	...
Fort No 2 Karamakchi	20	...	13	2 $\frac{1}{3}$	...	...
		143			94	6 $\frac{1}{4}$

¹ When the district was formed, the postal road passed along this bank for several years. The disadvantage of this route is that the river Sir-Daria has to be twice crossed at Fort No. 2 and Fort Perovski, and also the Kuvan-Daria. During floods the crossing is very difficult and sometimes impossible.

ROUTE 66.

From the town of Turkistán to Troitsk, Caravan Road.

[From information obtained by district staff.]

Turkistán, town of ... ..	...	...	...	...	...
River Kos-Mizbel	18	...	11	7 $\frac{1}{2}$	...
" Alish-Ilchik	20	...	13	2	...
" Bish-Arik	16	...	10	4 $\frac{3}{4}$	...
" Krach	32	...	21	1 $\frac{3}{4}$	...

From the town of Turkistán to Troitsk, Caravan Road—continued.

	From point to point.	Total between chief places.		From point to point.		Total between chief places.	
		Versts.	Versts.	Miles.	Fur.	Miles.	Fur.
Spring Kertu-Kuji	14		9		2 $\frac{1}{4}$		
„ Jideli	18		11		7 $\frac{1}{2}$		
„ Min-Bulák... ..	23		15		2		
„ Arkár	17		11		2		
„ Daut-Khaja	35		23		1 $\frac{3}{4}$		
Lake Kum-Kul	43		28		4		
„ Tele-Kul	21		13		7 $\frac{1}{2}$		
Canal Dára-Kuduk	56		37		1		
Spring Sor-Bulák	18		11		7 $\frac{1}{2}$		
„ Kámishli-Bulák	19		12		4 $\frac{3}{4}$		
„ Sari-Bulák	20		13		2		
Stream Espe	32		21		1 $\frac{3}{4}$		
River Tuz-Bulák	20		13		2		
„ Bemut	34		22		4 $\frac{1}{4}$		
„ Bulánti	33		21		7		
Ravine Tersken-Sai	33		21		7		
Jalúke	16		10		5		
River Kargána	41		27		1 $\frac{1}{4}$		
„ Koi-Dogul... ..	32		21		1 $\frac{1}{4}$		
Lake Basche-Kul... ..	37		24		4 $\frac{1}{4}$		
River Jilánchik	24		15		7 $\frac{1}{2}$		
Lake Chipik-Sor	35		23		1 $\frac{1}{2}$		
„ Ala-Kul	20		13		2		
River Kábirga	23		15		2		
Turgai, town of	15		9		7 $\frac{1}{2}$		
			765			507	0 $\frac{3}{4}$
Canal Koshelák	37		24		4 $\frac{1}{4}$		
„ Jamán-Kum	20		13		2		
River Kobirga	25		16		4 $\frac{3}{4}$		
„ „	24		15		7 $\frac{1}{4}$		
„ „	24		15		7 $\frac{1}{4}$		
Lake Kos-Kul	41		27		1 $\frac{1}{4}$		
„ Urkach	33		21		7		
„ Chágir-Kul... ..	28		18		4 $\frac{1}{2}$		
Wood Jaksi	27		17		7 $\frac{1}{4}$		
Lake Ul-Kul	38		25		1 $\frac{1}{2}$		
Tobolo ford	42		27		6 $\frac{3}{4}$		
Lake Ala-Kul	27		17		7 $\frac{1}{4}$		
Nikolaeff station... ..	27		17		7 $\frac{1}{4}$		
Troitsk, town of	110		72		7 $\frac{1}{4}$		
			503			333	3 $\frac{1}{4}$
TOTAL ... ..	...	1,268	...	...	840	4 $\frac{1}{4}$	

ROUTE 67.

From the town of Turkistán to Orsk¹ viâ the town of Turgai.

Names of Military districts.	Names of Civil divisions.	Camping grounds.	From point to point.	Total between chief places.	From point to point.		Total between chief places.				
			Versts.	Versts.	Miles.	Fur.	Miles.	Fur.			
Turkistán.	Turkistán.	Turkistán, town of	...			...	
		Sburnák-Arik (canal) ...	21 $\frac{1}{4}$		14	0 $\frac{3}{4}$					
		Stream Bish-Arik ...	35		23	1 $\frac{1}{2}$					
		Springs of Krach-Bulák ...	23		15	2					
		Stream Jideli ...	28		18	4 $\frac{1}{2}$					
		Springs of Min-Bulák ...	28		18	4 $\frac{1}{2}$					
		" of Daut-Kazgan ...	53 $\frac{1}{2}$		35	3 $\frac{3}{4}$					
		Lake Tele-Kul (south side) ...	44		29	1 $\frac{1}{2}$					
		" (north side) ...	40		26	4					
		Springs Kámishli-Bulák ...	71		47	0 $\frac{1}{2}$					
		" Sari-Bulák ...	28 $\frac{1}{2}$		18	7 $\frac{1}{4}$					
		Brook Espe-Sai ...	31 $\frac{1}{2}$		20	7					
		Spring Tuz-Bulák (Sandik) ...	22 $\frac{1}{2}$		14	7 $\frac{1}{4}$					
		Stream Kalmak-Kirgan (Beleudti) ...	31		20	4 $\frac{1}{2}$					
Orenburg.	Turgai.	Stream Muldir (Bulánti) ...	34 $\frac{1}{2}$		22	7					
		" Kugal-Jár (Jimike) ...	46 $\frac{1}{2}$		30	6 $\frac{1}{2}$					
		" Kargála ...	41		27	1 $\frac{1}{2}$					
		" Kai-Dagul ...	31		20	4 $\frac{1}{4}$					
		Lake Bashchi Kul ...	21		13	7 $\frac{1}{2}$					
		Stream Jalánchik ...	57 $\frac{1}{2}$		38	0 $\frac{1}{2}$					
		Batna Kuduk (canal) ...	34 $\frac{1}{2}$		22	7					
		Stream Kábirga ...	36 $\frac{1}{2}$		24	1 $\frac{1}{2}$					
		Turgai, ² town of ...	15 $\frac{1}{4}$		10	1					
					775			513		7 $\frac{1}{4}$	
		Orenburg.	Nikolaef.	Koshelák canal ...	30 $\frac{1}{2}$		20	1 $\frac{3}{4}$			
				Stream Ulkayák ...	36		23	7			
				" Kára-Butak ...	42 $\frac{1}{4}$		28	0			
				" Teris Butak ...	32 $\frac{3}{4}$		21	5 $\frac{3}{4}$			
Lake Ak-Chakti ...	26				17	1 $\frac{3}{4}$					
" Daul-Kul ...	32 $\frac{1}{4}$				21	3 $\frac{1}{4}$					
Stream Kazánchi-Kara-Su ...	39				25	6 $\frac{3}{4}$					
" Kokpekti ...	34 $\frac{1}{2}$				22	7					
" Alin-Sai ...	37 $\frac{1}{4}$				24	5 $\frac{1}{2}$					
" Ak-Jár ...	33 $\frac{1}{2}$				22	1 $\frac{1}{2}$					
		Kára-Su, (tributary of the River Ori) ...	28 $\frac{1}{2}$		18	7 $\frac{1}{4}$					
		Orsk, town of ...	27		17	7					
					399 $\frac{1}{4}$			274	6 $\frac{1}{2}$		
		TOTAL ...	...	1,174 $\frac{1}{4}$	...	...	788	4 $\frac{1}{4}$	

¹ This route was measured and described by Lieutenant Startsoff. The Cossack *sovnias* of the Orenburg army take this route in and out of the district. — *Author.*

² Up to this point the same as last route, but the distances from point to point do not agree, and the total is 10 *versts* more in this. — *Trans.*

Detailed description of the Caravan route between the towns of Turkistán, Turgai, and Orsk.

Turkistán, town of.—The distance from the town of Turkistán to the camping ground on the Shurnák canal is $21\frac{1}{4}$ *versts* (14 miles $\frac{3}{4}$ furlong). The road leaving Turkistán in a north-west direction passes at first for $1\frac{1}{2}$ *versts* (1 mile) between the walls of gardens as far as the Jiniishi canal, and from thence to the camping ground through a level and open country, grown over here and there with salt-soil herbs, “jantak,” a thorny bush, and “miya;” the former makes excellent food for camels, and the latter, in its dry state, passable fuel. At 8 *versts* (5 miles $2\frac{1}{2}$ furlongs) from the town the road crosses the Kárachik stream, which, except for fifteen days in the spring of the year when the water in it is very high, is always easily practicable at the ford; at 11 *versts* (7 miles $2\frac{1}{4}$ furlongs) the road crosses the dry bed of the Karsakti stream; at 18 *versts* (11 miles $7\frac{1}{2}$ furlongs) the Kos-Mezgil canals, in which the water does not always reach the road, as it is distributed over the fields above; at 22 *versts* (14 miles $4\frac{3}{4}$ furlongs) the Shurnák canal (camping ground), with good pure water. At the camping ground on the Shurnák there is little food for camels but sufficient fuel, roots of “jusan” and dung.

Shurnák canal (Sauran-Arik).—From the Shurnák canal to the Bish-Arik stream is 35 *versts* (23 miles $1\frac{1}{2}$ furlongs). From the Shurnák canal the road separating from the postal route takes an almost northerly direction over level country, intersected with dry shallow hollows. At 21 *versts* (13 miles $7\frac{1}{4}$ furlongs) the road crosses the dry bed of the Maidan-Tal stream, the water from which is drawn off into the “Arik”—irrigation cut—of the same name, flowing parallel to the course of the river and very close to it; at 26 *versts* (17 miles 2 furlongs) the road crosses the tolerably deep but dry bed of the Satim-Sai stream; at 34 *versts* (22 miles $4\frac{1}{4}$ furlongs) crosses the dry bed of the Bish-Arik with steep, but not high banks; and about $1\frac{1}{2}$ *versts* (1 mile) further on reaches the Bish-Arik canal, into which the whole water of the stream of the same name is drawn off. The road on this march passes through a level, salt-soil country, occasionally crossing, almost imperceptible, flat eminences. The whole locality between the above-named camping grounds is grown over with the “jusan” herb, furnishing good food for camels, and, in addition, its roots supply good fuel. At the camping ground on the Bish-Arik there is little “jusan;” water good and very plentiful, and sufficient fuel (“jusan”). At Bishak-Arik the caravan road into Turkistán, by which all caravans from Turgai enter Turkistán and leave it, branches off through the village of Babai-Kurgán.

River Bish-Arik.—From the Bish-Arik to the Krach spring is 23 *versts* (15 miles 2 furlongs). The road from Bish-Arik rises on to a plateau, and up to the Krach spring passes through an undulating country, intersected by dry and shallow hollows. At 9 *versts* (5 miles $7\frac{3}{4}$ furlongs) from the camping ground the road crosses the Dimbai spring; at 13 *versts* (8 miles 5 furlongs) the Toktamish-Bulák spring, near the cemetery of that name; and finally, at the 23rd *verst* (15 miles 2 furlongs) reaches the Krach spring. At all the springs named the water is good and sufficiently plentiful, but the best of all both in the quantity and quality of the water is that of Krach-Bulák at the camping ground; thea rod

between Bish-Arik and Krach is over hard stony ground. There is no grazing or vegetable fuel at all at the Krach spring.

Krach-Bulák springs.—From the Krach-Bulák spring to the Jidéli stream is 28 *versts* (18 miles $4\frac{1}{2}$ furlongs); throughout this distance the road lies in an undulating country, which, however, presents no difficulty in the way of ascents and descents. At 11 *versts* (7 miles $2\frac{1}{4}$ furlongs) road reaches the springs of Kuttu-Kuja-Bulák, with good water; about the springs is the cemetery of the same name; at 20 *versts* (13 miles 2 furlongs) the road crosses the dry bed of the Shalgaia-Kelti stream, in the bed of which to the right of the road are springs with good water. At 28 *versts* (18 miles $4\frac{1}{2}$ furlongs) the road reaches the Jidéli stream, the bed of which is also dry, but in it are many good and plentiful springs of water. From Krach to the Shalgaia stream the road is over hard, stony ground, but from the Shalgaia to the Jidéli stream over a salt-soil, and the whole of this locality is covered with light brushwood of “baialich,” amongst which are found small bushes of “saksaul.” At the camping ground on the Jidéli stream there is a great deal of water; fuel (the small bushes of “baialich” and “saksaul”) is plentiful, and there is also sufficient food for camels—“jusan.”

Jidéli stream.—From the Jidéli stream to the Min-Bulák springs is 28 *versts* (18 miles $4\frac{1}{2}$ furlongs). The road for this distance lies in a somewhat undulating country, occasionally intersected with wide, but not deep river channels; at 7 *versts* (4 miles 5 furlongs) are the tank and spring of Kotan-Bulák, with good water; at 11 *versts* (7 miles $2\frac{1}{4}$ furlongs) the road crosses the dry bed of the Aristandi stream, the banks of which are grown over with tamarisk bushes; at 26 *versts* (17 miles 2 furlongs) the road descends to the valley of the Min-Bulák, over which are scattered a number of springs with good fresh water. Throughout the whole march the road lies on hard, stony soil, except in a few places in the hollows in which the soil is salt. Throughout the whole distance there is plenty of “baialich.” At the camping ground there is plenty of water, and also a great quantity of “baialich” for fuel; there is only plenty of herbage for forage in the spring, as after that it is eaten up by the Kirgiz nomads.

Min-Bulák springs.—From the Min-Bulák springs to those of Daut-Kazgán is 53 $\frac{1}{2}$ *versts* (35 miles $3\frac{3}{4}$ furlongs). The road from Min-Bulák to the Daut-Kazgán springs lies on the spurs of the Kára-Tau range between the mountains of Kára-Murun and Diermen-Tau; the ascents and descents of the spurs are not steep and present no difficulty. At 16 $\frac{1}{2}$ *versts* (10 miles $7\frac{1}{2}$ furlongs) on the right of the road under the Diermen-Tau hill are two springs of the same name, in one of which the water is rather salt and bitter, and in the other good, but only in small quantities, perhaps sufficient for a small passing detachment of about 200 men without baggage animals. If both springs were cleaned out a large quantity of water could be counted on. From the 22nd *verst* (14 miles $4\frac{3}{4}$ furlongs) from the camping ground, the road in some places passes over smooth salt soil, and at 37 *versts* (24 miles $4\frac{1}{2}$ furlongs), diverging from the paths leading to the Ak-Kuduk well, perceptibly changes its former northerly direction for a north-westerly one, and as far as Daut-Kazgán-Tau runs on salt soil between not very large sand hillocks, grown over with “saksaul.” At 47 *versts* (31 miles $1\frac{1}{4}$ furlongs) it again enters the

Daut-Kazgán mountains, through which it runs as far as the springs at the exit from these hills. The road on this march is on stony soil, except at the salt marshes above-named. At the camping ground at the Daut-Kazgán springs there is no grass for forage, a little fuel (bushes of "baialich") and sufficient water in the springs for a detachment of 800 men, with all their baggage animals.

N.B.—As the march from Min-Bulák to the Daut-Kazgán springs is excessively long, it is necessary to carry with one as much water as the vessels permit of. The part of the water used on the first third of the march can be replenished at the Diermen-Bulák spring. In hot weather it is better to make this march at night.

Daut-Kazgán springs.—From the Daut-Kazgán springs to the Tele-Kul Lake is 44 *versts* (29 miles 1½ furlongs). The road between these camping grounds passes over a very level, salt-soil country, grown over with occasional bushes of "saksaul" and "baialich." On approaching Tele-Kul the saksaul bushes become less frequent, and finally when about 7 *versts* (4 miles 5 furlongs) from the lake, there are none to be found. At the camping ground there is plenty of herbage for forage, and sufficient fuel ("baialich"). The water in the lake is somewhat saltish.

Camping ground on the south shore of the Lake Tele-Kul.—From the camping ground on the south shore to that on the north shore of the Lake Tele-Kul is 40 *versts* (26 miles 4 furlongs). From the camping ground on the south shore the road takes a north-west direction and runs along the edge of the lake through a level, salt-soil country, thickly overgrown with "saksaul" and tamarisk. At 30 *versts* (19 miles 7 furlongs) the road reaches a narrow arm of the Lake Tele-Kul, across which a dam¹ about 58½ yards long is constructed, which serves for crossing to the north shore of the lake. From the point of passage to the camping ground the road for a distance of 10 *versts* (6 miles 5 furlongs) runs along the north side of the lake in an easterly direction. At the camping ground on the north shore of the lake there is plenty of meadow grass for forage; there is no fuel; the water in the lake is fresh.

Camping ground on the northern shore of Lake Tele-Kul.—From the camping ground on the northern shore of Lake Tele-Kul to the springs of Kámish-Bulák is 71 *versts* (47 miles 0½ furlong). After leaving the lake 12 *versts* (7 miles, ¾ furlongs) in a north-east direction, the regular caravan road leading to the Kámish-Bulák springs is struck; at 42 *versts* (27 miles 6¾ furlongs) the road descends from the flat level plateau to the basin of Lake Aris, a salt lake; at 54 *versts* (35 miles 6¼ furlongs) the road leads past three wells of Kára-Kuduk, which are on the very shore of Lake Aris. The water in the Kára-Kuduk wells is very salt, and, in addition, so little in quantity that it might be sufficient for 200 men without baggage animals. At 56 *versts* (34 miles 1 furlong) on the right of the road there are also on the margin of the lake the springs of

¹This dam was constructed on the ^{15th}/_{27th} June 1874 by men proceeding on indefinite furlong from Táshkend. It was made of "saksaul" and tamarisk found on the shore of the lake; three hours were expended in making it. As the dam mentioned may perhaps be injured by the pressure of water in spring or even carried away, in consequence of which a new one would have to be erected, this circumstance should be borne in mind by commanders, conducting marching detachments, in order that on leaving Táshkend they may provide themselves with the necessary quantity of spades, which are also necessary at some of the camping grounds for clearing out the springs and wells.

Tuz-Bulák, the water of which is salt and bitter and not much in quantity. At 65 *versts* (43 miles $0\frac{3}{4}$ furlong) the road passes near the brackish spring of Kil-Bulák, whence perceptibly turning to the left, it runs over friable salt-soil to the Kámish-Bulák spring (the halting place).

From the very lake of Tele-Kul to the descent into the Aris basin, the road runs over level high ground of clayey soil, mixed with small pebbles; this high ground is studded with an occasional bush of "baialich." After descending into the basin, the road runs over salt-soil intersected in many places with salt marshes, which are difficult to pass in spring. From the wells of Kára-Kuduk to the Kil-Bulák spring for a distance of nearly 11 *versts* (7 miles $2\frac{1}{4}$ furlongs) the road passes through deep sand between hillocks grown over with "saksaul". At the camping ground at the Kámish-Bulák springs there is plenty of water, which is saltish to the taste; round about the springs are some green reeds, which serve for fodder for horses and baggage animals;—there is no fuel. The march of 71 *versts* (46 miles $0\frac{1}{2}$ furlong) from Lake Tele-Kul to the Kámish-Bulák springs over an enormous waterless expanse of country is very hard both on men and baggage animals, and requires to be done at night, at which time camels do not get so quickly wearied, and men also suffer less from thirst: camels have to travel uninterruptedly for twenty-one hours; it is necessary to take water supplies for the road.

Kámish-Bulák springs.—From the Kámish-Bulák spring to Sari-Bulák is 28 $\frac{1}{2}$ *versts* (18 miles $7\frac{1}{4}$ furlongs). The road between the springs named runs at first for 7 *versts* (4 miles 5 furlongs) over light salt-soil, cut up with salt marsh, and beyond this to the camping ground of Sari-Bulák over sandy salt-soil, studded with bushes of baialich and saksaul. At 8 and 9 *versts* (5 miles $2\frac{1}{4}$ furlongs and 5 miles $7\frac{3}{4}$ furlongs) from the camping ground a quantity of springs are met with scattered on both sides, in some of which the water is fresh, in others brackish; the low ground in which these springs are found is covered with good meadow grass. At 24 *versts* (15 miles $7\frac{1}{4}$ furlongs) on the left of the road there is a small spring of sulphurous water. The water in the Sari-Bulák spring is clear, ferro-sulphurous, and bitter to the taste; "jusan" furnishes food for camels at the camping ground; and there is plenty of fuel ("saksaul" and "baialich").

Sari-Bulák springs.—From the Sari-Bulák springs to the Espe-Sai stream is 31 $\frac{1}{2}$ *versts* (20 miles 7 furlongs). The road from Sari-Bulák to the Espe stream is over level country, intersected in three places by broad river channels. At 15 *versts* (9 miles $7\frac{1}{2}$ furlongs) from the camping ground the road passes near the spring of Kutin-Bulák, with bitter water. Throughout the whole march little "saksaul" and "baialich" is met with. In the bed of the Espe stream there is no running water, but there are many springs and ditches with good fresh water; to obtain water in the bed it is sufficient to dig a few spades,—full and clear fresh water at once appears; the Kirghiz dig down to the water with their hands even without the aid of any instrument. The valley of the Espe stream about $\frac{1}{2}$ *verst* in width (583 yards) is covered with short green herbage furnishing very good food for horses and camels; there is plenty of fuel ("saksaul" and "baialich").

Espe-Sai stream.—From the Espe-Sai stream to the Tuz-Bulák springs is 22 $\frac{1}{2}$ *versts* (14 miles $7\frac{1}{4}$ furlongs). The road between these

camping grounds is over quite level country on salt-soil, and only at 17 *versts* (11 miles $2\frac{1}{4}$ furlongs) it begins to cross the flat spurs from the high ground of Sandik-Tau, over which it rises not very steeply to the camping ground, the springs of Tuz-Bulák. At the camping ground there are four springs, of which two are in the ravine by which the road rises and the others, 400 *sajens* (933 yards), to the left of the road, in another hollow; the water in the whole four springs will perhaps suffice for a detachment of about 800 men without baggage animals; the water in the springs is bitter to the taste. At the camping ground there is good food for camels and sufficient fuel ("baialich").

Tuz-Bulák springs (Sandik).—From the Tuz-Bulák springs to the camping ground on the Kalmak-Kirgán river is 31 *versts* (20 miles $4\frac{1}{2}$ furlongs). Between the Tuz-Bulák springs and the Kalmak-Kirgán stream the road crosses a flat highland of hard, sandy soil; along the road are met with small patches with "baialich" bushes. At 6 *versts* (3 miles $7\frac{1}{4}$ furlongs) the road crosses the broad channel of the Ak-Sai, and at 7 *versts* (4 miles 5 furlongs) between the two wells of Kos-Kuduk water bitter; at 30 *versts* (19 miles 7 furlongs) the road descends to the camping ground in the valley of the Kalmak-Kirgán stream. The water in this river has no continuous current but is interrupted, remaining in the deep pools of the bed like small elongated lakes and remains so the whole year through. In the pools mentioned a few fish breed (carp). The whole valley of the Kalmak-Kirgán is grown with green "jusan" furnishing very good food for horses, camels, and sheep, and consequently many Kirghiz camps of the Japas tribe are scattered along the stream; the thin bushes of the "kukpek" and "jantal" (thorny bushes) covering the valley serve as good fuel.

River Kalmak-Kirgán (Beleudti).—From the Kalmak-Kirgán stream to the river Muldir is $34\frac{1}{2}$ *versts* (22 miles 7 furlongs). From the camping ground on the Kalmak-Kirgán the road at first runs along the river valley, and at 6 *versts* (3 miles $7\frac{1}{4}$ furlongs) rises at a very decided incline; at 7 *versts* (4 miles 5 furlongs) the road crosses a not very deep hollow; at 17 *versts* (11 miles $2\frac{1}{4}$ furlongs) passes through the dry bed of the Miur; and at 35 *versts* (23 miles $1\frac{3}{4}$ furlongs) reaches the camping ground on the Muldir stream. Along the road on this march there is scarcely any vegetation, except in the valley of the dry Miur stream, in which grass grows. At the camping ground there is good water in great quantities, plenty of fodder ("jusan" and meadow grass), and a little fuel (roots of dry "jusan").

River Muldir (Bulanti).—From the Muldir stream to the Kugálajar stream is 46 *versts* (30 miles $6\frac{1}{2}$ furlongs). From the camping place on the Muldir the road rises, but not steeply, to an insignificant height, and at 5 *versts* (3 miles $2\frac{1}{2}$ furlongs) crosses a narrow, but deep, dry ravine; at 22 *versts* (14 miles $4\frac{3}{4}$ furlongs) it runs through a dry hollow; at 24 *versts* (15 miles $7\frac{1}{4}$ furlongs) on the right, and at 27 *versts* (17 miles $7\frac{1}{4}$ furlongs) on the left, the road passes by two pasture fields sown with feather grass; at 31 *versts* (20 miles $4\frac{1}{4}$ furlongs) the road crosses the ravine of Taldi-Sai, in which, in some places, on the left of the road, snow water remains throughout the whole summer, and caravans often camp there. In the years in which there is much snow in winter, a great deal of water remains in the Taldi-Sai ravine in the summer.

Further on, the road, after crossing three slight hollows running into the dry Teresken-Sai ravine at the 34th, 37th, and 39th *versts* (22 miles $4\frac{1}{4}$ furlongs, 24 miles $4\frac{1}{4}$ furlongs, and 25 miles $6\frac{3}{4}$ furlongs), reaches the river Kugálajár at the 47th *verst* (31 miles $1\frac{1}{4}$ furlongs)—the camping ground. Throughout the whole march between the Muldirand Kugálajár streams the road runs on hard, sandy soil, studded with small “jusan,” and very occasionally here and there with bushes of “baialich.” At the camping ground on the Kugálajár streams there are a number of springs in its bed with a large supply of water, but there is no regular stream; there is plenty of grass for forage and a little fuel (roots of “jusan”).

River Kugálajar (Jimike).—From the River Kugálajár to the River Kargála is 41 *versts* (27 miles $1\frac{1}{2}$ furlongs). The road from the camping ground rises up the steep bank of the Kugálajár stream to a flat high land, along which it runs up to the next camping ground; on this march the road runs through several slight hollows covered with feather grass. The whole country between the Kugálajár and Kargála streams is level on hard, sandy soil and studded with small “jusan.” The camping ground on the River Kargála is a very good one; the water is very good; the valley covered with many good herbs, “jusan,” fine reeds, and cow parsnip, furnishing good food for horses and baggage animals; a little fuel (roots of “jusan”). In the Kargála stream there is an excessively large quantity of fish (perch and gudgeon).

River Kargála.—From the Kargála stream to that of Kaïdagul is 31 *versts* (20 miles $4\frac{1}{4}$ furlongs). Having left the Kargála $\frac{1}{2}$ *verst* (583 yards) the road crosses a branch of the stream and imperceptibly rises out of the valley on to a flat high land; at 14 *versts* (9 miles $2\frac{1}{4}$ furlongs) the road crosses the Kudukti-Sai ravine, which falls into the basin of the Káarakul on the left of the road, in which the spring season water sometimes remains throughout the whole summer; on the right side, near the road, in the Kudukti-Sai ravine, there is a not very deep well of fresh water; further on, at the 18th, 25th, and 29th *versts* (11 miles $7\frac{1}{2}$ furlongs, 16 miles $4\frac{1}{2}$ furlongs, and 19 miles $1\frac{3}{4}$ furlongs), the road passes some small basins, in which a great deal of the spring water sometimes remains; these holes are covered with cow parsnip and fine green reeds. Between the Kargála and Kaïdagul streams the road runs over level country on hard, sandy soil; along the road a great deal of feather grass is met with. The Kaïdagul stream (the camping ground) only has a regular stream in spring; during the remainder of the year little lakes of good fresh water remain in the bed. There is plenty of fodder at the camping ground of a good quality; no fuel.

River Kaïdagul.—From the River Kaïdagul to the camping ground on the south-western edge of Lake Bashchi-Kul is 21 *versts* (13 miles $7\frac{1}{2}$ furlongs). From the camping ground in the Kaïdagul the road runs to Lake Bashche-Kul over somewhat undulating country, full of small basins, a large number of which are covered with cow-parsnip; the road throughout the whole march is on clay soil, grown over with “jusan,” and occasionally feather grass; at 14 *versts* (9 miles $2\frac{1}{4}$ furlongs) on the right of the road are ditches with fresh water. The water in Lake Bashche-Kul is fresh; on its shores there is plenty of meadow grass and reeds for fodder for horses and camels; for fuel there is in summer

dung, and in autumn and winter plenty of reed caue. The Kirghiz have their winter quarters at Lake Bashche-Kul.

Lake Bashche-Kul.—From Lake Bashche-Kul to the River Jalánchik is $57\frac{1}{2}$ *versts* (38 miles $\frac{1}{2}$ furlong). The road from Bashche-Kul up to the camping ground on the Jalánchik runs over an undulating country, full of a number of basins, the greater part of which are covered with meadow grass and fine reeds. In these basins or depressions there is water in spring. Commencing at 14 *versts* (9 miles $2\frac{1}{4}$ furlongs) and up to 31 *versts* (20 miles $4\frac{1}{4}$ furlongs) the road is on sands, amongst which there are some soft places. At the 31st and 34th *versts* (20 miles $4\frac{1}{4}$ furlongs and 22 miles $4\frac{1}{4}$ furlongs) the road runs through two deep hollows running into the low ground of the Sazáubai, with its salt marsh on the left of the road. With the exception of the 17 *versts* (11 miles $2\frac{1}{4}$ furlongs) of sandy ground, the road on this march lies the whole time on firm sand. At 58 *versts* (38 miles $3\frac{1}{2}$ furlongs) the road slopes down to the River Jalánchik, the camping ground. The water in the stream is running; the banks are grown over with meadow grass and fine green rushes; there is no fuel growing at the camping ground. There are a great many fish in the Jalánchik, pike of large size, perch, &c.

N. B.—According to the Kirghiz, caravans do not perform this march of $57\frac{1}{2}$ *versts* (38 miles $\frac{1}{2}$ furlong) in one day, but camp at the wells of Sazáubai-Kuduk at 30 *versts* (19 miles 7 furlongs) from Lake Bashche-Kul. Although there are indeed wells, there is very little water in them, and that is so brackish and tainted that detachments marching should not count on these wells, but go direct from Lake Bashche-Kul to the Jalánchik stream.

River Jalánchik.—From the River Jalánchik to the Batpa-Kuduk ditches is $34\frac{1}{2}$ *versts* (22 miles 7 furlongs). After crossing the River Jalánchik, on leaving the camping ground, by a deep and swampy ford, the road rises to hilly high ground from the river, and at 4 *versts* (2 miles $5\frac{1}{4}$ furlongs) descending into low ground of salt-soil passes near an elongated basin with water in it leaving it on the right; at 7 *versts* (4 miles 5 furlongs) the road passes near the sand hill of Sarali-Tam with a tomb on it; at 11 and 12 *versts* (7 miles $2\frac{1}{4}$ and 7 miles $7\frac{3}{4}$ furlongs) the road runs along the left side of the Kara-Tuz salt lake; at 29 *versts* (19 miles $1\frac{3}{4}$ furlongs) the road rising on to a flat highland quickly descends again to the salt lake of Batpa-Karasu, along the north-east shore of which it runs to the hollow of Batpa-Kuduk with its cuttings where the camping ground is. The road on this march lies in a salt-soil district almost bare. At the camping ground there are many ditches, but only five with water in them. The water in the wells is good and may supply 1,000 men without baggage animals, which can be watered in the neighbouring Lake Batpa-Kára-Su, the water in which is unfit for the use of men; the water in the cuts can be obtained without the use of ropes. There is sufficient fodder about the cuts; fuel there is none.

Batpa-Kuduk wells.—(In a small valley running into Lake Batpa-Kára-Su). From the camping ground at the Batpa-Kuduk wells to the River Kábirga is $36\frac{1}{2}$ *versts* (24 miles $1\frac{1}{2}$ furlongs). The road between these points runs in a somewhat undulating country, full of basins and lakes. At 8 *versts* from the camping ground on the left of the road is the large meadow of Chubti-Kul, in which there is much water in spring; but in summer it dries up, and this basin is covered with good meadow grass; at 17 *versts* (11 miles $2\frac{1}{4}$ furlongs) the road passes through a hollow, joining

the Lakes Ala-Kul and Chukur-Kul; the latter is on the right of the road, 4 *versts* off (2 miles $5\frac{1}{4}$ furlongs) near the tomb of Hasan-Ilimes; on the shores of Chukur-Kul the Kirghiz cultivate wheat and millet; at 28 *versts* (18 miles $4\frac{1}{2}$ furlongs) passes through a wide salt-marshy hollow running out from a salt lake near the road. The whole locality between the Batpa wells and the River Kábirga is on clayey salt-soil and covered with "jusan" and feather grass; basins are met with along the road for the greater part grown over with meadow herbs. The water in the River Kábirga is good; "jusan" and fine green rushes on the banks of the stream furnish good fodder for baggage animals; there is sufficient fuel (roots of "jusan").

River Kábirga.—From the camping ground on the River Kábirga the road runs at first for $1\frac{1}{2}$ *versts* (1 mile) in a north-east direction along the left bank of the river, then crosses to the right bank at a point where it is dry and turns sharply to the west, after which at 3 *versts* (2 miles) from the camping ground it descends imperceptibly to the meadow-like valley of the River Turgai; at 8 *versts* (5 miles $2\frac{1}{2}$ furlongs) makes a sharp turn to the north-east, and from here to the River Turgai for a distance of 6 *versts* (3 miles $7\frac{3}{4}$ furlongs) passes through inundated meadows (water meadows) on which the spring water sometimes remains for a long time, as for instance up to the middle of July; but such a prolonged presence of water in the Turgai valley happens very seldom, and generally the water subsides by the 1st June. When nearly a *verst* ($5\frac{1}{4}$ furlongs) from the town the road crosses the River Turgai by a well-constructed wooden bridge, which is always put together at the end of the month of May; from the time the river overflows until the bridge is put up the crossing is made by a ferry about 5 *versts* (3 miles $2\frac{1}{2}$ furlongs) above the town; the ferry is kept by Kirghiz. When the River Turgai keeps within its banks, the width is from 35 to 58 yards, and the depth inconsiderable; the water in the river is excellent. Detachments passing through, camp on the right bank of the river at the bridge. In the River Turgai there are a great many fish (pike, perch, roach, and carp, catching which forms almost the chief occupation of the inhabitants of the town. From the River Kábirga to Turgai is $15\frac{1}{4}$ *versts* (10 miles 1 furlong). There are 28 gates to the town.

Town of Turgai.—From the town of Turgai to the Koshelák water-cuts is $30\frac{1}{2}$ *versts* (20 miles $1\frac{3}{4}$ furlongs). The road between these points runs through an almost level country on hard sand, grown over with good herbs. In the first 5 *versts* (3 miles $2\frac{1}{2}$ furlongs) from the town the road runs through five not very deep hollows; at 28 *versts* (16 miles $4\frac{1}{2}$ furlongs) is the Kára-Sai hollow, in which at 2 *versts* (1 mile $2\frac{1}{2}$ furlongs) more to the right of the road are scattered many fresh wells, at which there are some Kirghiz villages; at 25 *versts* (16 miles $4\frac{1}{2}$ furlongs) on the road itself on the right there are many water-cuts of Kug-Aigir with fresh water; at 31 *versts* the road reaches the Koshelák wells; the camping ground studded about in a good meadow basin at the foot of a sand hill. At the camping ground there are many wells, and the water in them is fresh, but they all require cleaning out; although the Kirghiz who winter here clear them out in the autumn, they again get blocked up during the winter and remain in this condition throughout the whole summer. As the water in these wells is not more than $3\frac{1}{2}$ to 5 feet

below the surface of the ground, passing detachments would not require more than half an hour to clean them out; there is plenty of food for horses and camels; but not fuel growing.

Koshelák wells.—From the Koshelák wells to the camping ground on the right bank of the river Ulkayak is 36 *versts* (23 miles 7 furlongs). From Koshelák to the Ulkayak stream the road runs in an almost westerly direction over undulating ground, full of basins; at 10 *versts* (6 miles 5 furlongs) it runs through the Chukur-Kára-Sai hollow, in which on the left of the road are many fresh wells; at 18 and 19 *versts* (12 miles 7½ furlongs, and 12 miles 4¾ furlongs) the road runs through a large basin, inundated in spring by the overflow of the River Kábirga, and furnishing the Kirghiz with rich hay crops; at 23 *versts* (15 miles 2 furlongs) the road crosses the River Ulkayak easily fordable, and from this point perceptibly changes its direction to the north-west. After crossing, the road runs along the Ulkayak on its right bank, and at 14 *versts* (9 miles 2¼ furlongs) turns to the camping ground. The soil on this march is hard sand, grown over with "jusan," tamarisk, and feather grass; the water in the Ulkayak is fresh; there is ample forage at the camping ground, but no fuel.

Camping ground on the right bank of the River Ulkayak.—From the camping ground on the Ulkayak the road as far as the Kára-Butak stream leads along the river, leaving it about 1 to 2½ *versts* (5½ furlongs to 1 mile 5¼ furlongs) on the right. Only at 39 *versts* (25 miles 6¾ furlongs) does it again touch the river, which it again at once quits. The road on this march runs through many inconsiderable hollows and runs over an almost imperceptibly undulating country with hard sand-soil, covered with "jusan," cowparsnip, and feather grass; at the camping ground on the Kára-Butak the water is fresh; there is plenty of herbage (feather grass, cow-parsnip) for camels and horses; there is no fuel.

Camping ground on the River Kára-Butak close to its confluence with the Ulkayak.—From the camping ground on the River Kára-Butak to the River Teris-Butak, the road continues at a slight slope along the right bank of the Ulkayak; at 16 *versts* (10 miles 4¾ furlongs) from the Kára-Butak the road crosses the shallow Jantai stream by a ford; its banks are rather broken; at 22 *versts* (14 miles 4¾ furlongs) the road runs through the dry hollow of Koilibai-Sai, and at 25 *versts* (16 miles 4½ furlongs) of Kiz-Sai. The soil on this march is hard sand; the whole locality is covered with good feather grass and cow-parsnip. At the camping ground on the Teris-Butak stream the water is good, and there is a great deal of grass for forage; there is no fuel.

River Teris-Butak.—The road from Teris-Butak to Lake Ak-Chakti runs almost level on sand soil, covered with feather grass and cow-parsnip; at 8 *versts* (5 miles 2½ furlongs) runs through one of the hollows forming the upper course of the River Ulkayak; at 26 *versts* (17 miles 2 furlongs) the road descends to low ground and reaches the small Ak-Chakti lake, the camping ground; the water in the lake is very good; its banks are covered with grass, and all the country about with excellent feather grass; there is no fuel.

N.B.—There is a great deal of sorrel round the Lake Ak-Chakti.

Lake Ak-Chakti.—From the camping ground on Lake Ak-Chakti the road for the first 4 *versts* (2 miles 5¼ furlongs) passes over low ground, full

of little fresh-water lakes and meadow basins; at 4 *versts* (2 miles $5\frac{1}{4}$ furlongs) it traverses the broad Ak-Chakti hollow, in which the snow water sometimes remains for a long time; at 10 *versts* (6 miles 5 furlongs) on the left of the road and close to it are the fresh wells of Ak-Chakti; at 27 *versts* (17 miles $7\frac{1}{4}$ furlongs) the road descends almost imperceptibly into a vast basin containing the large lake of Aïke-Kul which lies $1\frac{1}{2}$ *versts* (1 mile) to the right of the road; on the shores of Lake Aïke-Kul and in its vicinity the Kirghiz mow a great deal of hay. At 33 *versts* (21 miles 7 furlongs) the road reaches the camping ground on the moderately-sized Lake Daul-Kul. The road on this march is through perfectly level country continuously covered with excellent feather grass; the water in Lake Daul-Kul is slightly salt, and according to the Kirghiz sometimes dries up; there is plenty of feather grass for forage at the camping ground, and no fuel except dung.

Lake Daul-Kul.—The road from Lake Daul-Kul to the River Kazánchi-Kára-Su, taking a westerly direction, at first runs level, and at the 11th *verst* (7 miles $2\frac{1}{4}$ furlongs) rises imperceptibly on to flat high ground; at 19 *versts* (11 miles $2\frac{1}{4}$ furlongs) from the camping ground the road passes near the inconsiderable Lake Jiláu-Kul, which is almost continuously covered with reeds; at 23 *versts* (15 miles 2 furlongs) on the left of the road also lies the small Lake Chukur-Kul; at 30 *versts* (19 miles 7 furlongs) the road descends to Lake Jiti-Kul (Chelkar), which it leaves on the south, and running in a north-westerly direction reaches the camping ground at 39 *versts* (25 miles $6\frac{3}{4}$ furlongs). The road from Daul-Kul to the River Kazánchi-Kára-Su passes over hard sand-soil grown over with excellent feather grass. At the camping ground on the Kázanchi stream the water is good; on the banks of the stream are many places in which meadow and feather grass grows; there is no fuel.

River Kazánchi-Kára-Su (not far from where it falls into Lake Jiti-Kul—Chelkar).—From camping ground on the River Kazánchi-Kára-Su the road after running for 7 *versts* (4 miles 5 furlongs) along the right bank of the river leaves the little Lake Kára-Su, which is the source of the River Kazánchi on the right; further on, at 26 *versts*, the road imperceptibly ascends to flat high ground separating the sources of the River Kokpekti from the Jiti-Kul depression and soon descends along a dry hollow to the camping ground where the hollow joins another, with water in it, and having united form the commencement of the River Kokpekti. The road on this march is level on hard sand-soil, covered with excellent feather grass; besides this there are along the road many meadows; at the camping ground on the Kokpekti stream the water is excellent; there is a great deal of meadow and feather grass, but no fuel.

River Kokpekti.—From the camping ground on the River Kokpekti the road to Alin-Sai runs at first along the left bank of the Kokpekti, and at 8 *versts* (5 miles $2\frac{1}{4}$ furlongs) crossing the river at a good ford continues on over an undulating country intersected with shallow ravines; at 19 *versts* (12 miles $4\frac{3}{4}$ furlongs) the road also crosses the River Kumak at a good ford, and up to the camping ground runs over the same kind of country as on the first half of the march. Although on this march there are many ravines across the road, they in no way render movement difficult. The whole country between the Rivers Kokpekti and Alin-Sai is on hard sand-soil, covered with feather grass. At the camping ground

on the Alin-Sai the water is good, and there is plenty of feather grass for forage, but no fuel.

N. B.—At 7 *verst*s (4 miles 5 furlongs) from the camping ground on the Kokpekti, the old transport road, which is much more circuitous than the present one, branches off to the left.

River Alin-Sai.—On the march between the Rivers Alin-Sai and Ak-Jár the road traverses a very undulating country, running through a great many unimportant small ravines and hollows, and, in consequence, has many sinuosities in order to cross them conveniently; at 10 *verst*s (6 miles 5 furlongs) from the camping ground the road crosses the River Isanbai, at 14 *verst*s (9 miles $2\frac{1}{4}$ furlongs) the Isebai, and at 21 *verst*s (13 miles $7\frac{1}{4}$ furlongs) the Kutebai. All three streams have little water in them, and are consequently easily practicable at the fords at any season of the year; the soil on this march is clayey, and the whole country is covered with feather grass and cow-parsnip. At the camping ground on the River Ak-Jár the water is good, and there is plenty of forage for camels and horses, but no fuel.

River Ak-Jár.—The road from the River Ak-Jár to the Kára-Sai estuary passes through almost level country, and only rises at half way to an inconsiderable height, from which it quickly descends into the valley of the River Or. At 11 *verst*s (7 miles $2\frac{1}{4}$ furlongs) from the camping ground the road passes near the moderately-sized Lake Kuyán-Kul; at 24 *verst*s (15 miles $7\frac{1}{4}$ furlongs) it passes to the right of Lake Jaltir-Kul, in which the water sometimes dries up. The water at the camp on the Kára-Su estuary is very good; there is plenty of forage for camels and horses, but no fuel.

Kára-Su (an estuary of the River Or).—From the Kára-Su estuary to the town of Orsk is 27 *verst*s (17 miles $7\frac{1}{4}$ furlongs). The road runs in the valley of the Or, through land almost continuously planted with wheat, millet, and vegetables; at 21 *verst*s (13 miles $7\frac{1}{4}$ furlongs) the road imperceptibly rises to an insignificant height, from which it again at once descends into the low ground watered by the Rivers, Or and Ural; in this locality the town of Orsk is situated, having about 2,000 houses. All detachments passing through are disposed of by billeting.

ROUTE 68.

From the Bish-Tásh boundary in the Talas Valley to Andiján.

[According to Kaulbars.]

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	
<p>From Aulie-Ata to Bish-Tásh, in the Talas valley, the distance is about 115 <i>versts</i> (76¼ miles) by a very good wheel road throughout. Forage, water, and fuel (dung) in abundance.</p>							
<p>Camping ground 2 <i>versts</i> (1 mile 2½ furlongs) below the mouth of the River Terek-Su to camping ground on the left bank of the River Bish-Tásh.</p>	24		15	7¼			<p>The road crosses the River Bish-Tásh by a deep ford, and enters a rocky and narrow defile; on leaving the defile it follows a broad valley intersected by some ravines not deep but with steep stony sides, and finally again crossing the river by a moderate ford, follows it on the left bank to the camping ground; near the camping ground there are savin bushes.</p>
<p>Southern slope of Terek-Bel pass on the bank of the river of that name, 5 <i>versts</i> (3 miles 2½ furlongs) below the pass.</p>	12		7	7¾			<p>The road bifurcates at the north mouth of the Terek-Su; the first branch runs up the River Bish-Tásh to the pass of the same name on Ketmen-Tube; the second runs up the Terek-Su to the pass of that name. Near the summit of the pass the ascent is steep, and the path runs over landslips. The descent for 1 <i>verst</i> (5¼ furlongs) is very steep. Further on the road enters a fir wood. The camping ground is a very convenient one.</p>
<p>Junction of the River Kurgán-Su with the River Uzun-Ahmad.</p>	16		10	4¾			<p>The road runs through woods, at first in the narrow defile of the river south of the Terek-Su, and then down the course of the River Uzun-Ahmad, after which it rises on to the high left bank of the river, and then runs along a sinuous narrow cornice to the camping ground.</p>

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Mouth of the River Ayak-Tik on the River Uzun-Ahmad.	21	13	$7\frac{1}{4}$						The road runs along the left bank of the River Uzun-Ahmad by dangerous cornices. From the point where the River Kára-Kungez falls into the Uzun-Ahmad, the road soon enters a broad valley grown over with reeds and bushes.
Ketmen-Tube boundary, on the right bank of the Nárin, $3\frac{1}{2}$ <i>versts</i> (2 miles $2\frac{1}{4}$ furlongs) below the tumulus and "ziárat" of Raskul Beg.	28	18	$4\frac{1}{2}$						The road runs down the broad valley of the Uzun-Ahmad, and after 12 <i>versts</i> (7 miles $7\frac{3}{4}$ furlongs) comes out in the broad valley of Ketmen-Tube, where it crosses the Chitchkán-Su by a stony, but not deep ford.
Valley of the River Kára-Su 1 <i>verst</i> ($5\frac{1}{4}$ furlongs) before joining the road from the Kok-Bel pass.	15	9	$7\frac{1}{2}$						Near the camping ground is a ford over the Nárin, which is dangerous. After this the road runs in the valley of the River Kára-Su. There is wood and bushes at the camping ground.
Junction of the Rivers Káarakol and Kára-Su.	17	11	$2\frac{1}{4}$						The road for the first 8 <i>versts</i> (5 miles $2\frac{3}{4}$ furlongs) runs in a broad valley through bushes and reeds, but afterwards the valley is suddenly so closed in by a spur from the south range that the road runs round the almost impassable defile of the river, rising to the steep but not high pass of Euker-Bel. The western descent from this is less steep, and leads to a broad valley covered with thickly grown meadows and bushes. The road is quite level, but the soil is marshy. The camping ground is a luxurious one with wood and bushes.
		133		88			$1\frac{1}{4}$		

Further on the route was only followed in the reconnaissance of M. Kaulbars for 12 *versts* (7 miles $7\frac{3}{4}$ furlongs) up the defile of the River Káarakol. The gorge is sloping but excessively narrow, rocky, and in places obstructed by landslips. From the small lake Káarakul, the ascent to the pass into the Fargána Valley commences. At the village of Uch-Kurgán the road bifurcates, one branch leading to Andiján and the other to Namangán.

ROUTE 69.

From the junction of the Rivers Bárskun and Yaktásh into the valley of the Ak-Su, the road to Káshgar.

[According to Kaulbars.]

Junction of the Rivers Bárskun and Yaktásh.									
Junction of the Rivers Yaktásh and Káragai.	30	19	7						The road runs in a broad valley on the right bank of the Yaktásh. There is no wood or bushes.

From the junction of the Rivers Bárskun and Yuktásh into the valley of the Ak-Su, the road to Káshgar—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
River Bel-Bulák, 5 <i>versts</i> 's (3 miles $2\frac{1}{2}$ furlongs) from its mouth on the River Uch-Mustir.	18		11	$7\frac{1}{2}$			A very good wheel-road running for the most part in the wide valley of the River Chakir-Korum.
Junction of the Rivers Sari-Tur and Kára-Chekur-Su.	15		9	$7\frac{1}{4}$			The road is good up to the Chakir-Korum pass, 11 <i>versts</i> (7 miles $2\frac{1}{2}$ furlongs); but the descent is so steep that a horse can with difficulty keep himself up on the crumbling debris with which it is obstructed. The road here winds through huge stony clumps ¹ . Three <i>versts</i> (2 miles) from the pass the road crosses the broad bed of the River Arik-Káratash-Su. The ford is good, as is also the camping ground.
Junction of the Rivers Kogelyáchap and Tuyamainak.	29		19	$13\frac{3}{4}$			The road rises on the right bank of the River Kára-Chukursu to the Kuburgend pass 13 <i>versts</i> (8 miles 5 furlongs). The pass is gently sloping and the ascent almost imperceptible. Further on the road runs on the broad valley of the Kogelyáchap, crossing several insignificant streams; but the passage of the ford to the left bank of the River Kogelyáchap near its junction with the Tuyamainak is somewhat difficult. The camping ground is good.
River Ichkilisu (an affluent of the Mudurun).	22		14	$4\frac{3}{4}$			From the camping ground the road again crosses to the right bank of the River Kogelyáchap, and runs over very stony soil along a steep cliff, and afterwards in a broad valley; finally after again crossing to the left bank of the river leads to the River Ichkili-Su; on the left bank is a good open space for a camping ground. There is small brushwood and a little dung for fuel.

Junction of the Mudurun with the Bálík-Su.	26		7	2		<p>The road runs in the broad valley of the Mudurun. At 20 <i>versts</i> (13 miles 2 furlongs) from the camping ground the River Mudurun is crossed by a ford, and afterwards the road crosses the steep, but not high, Kegichebel pass, whence it descends into the valley of the River Bálík-Su; close to its junction with the Mudurun there is a ford to the right bank of the River Bálík-Su. A good camping ground.</p> <p>The road is very good one (wheel). The ford over the Ak-Sai is not difficult. The camping ground is a most satisfactory one.</p> <p><i>Note by Translator.</i>—The descriptions of road opposite camping grounds are for the previous march and not for the following as in the routes before given.</p>
River Uch-Imchik (or Uráme), an affluent of the Ak-Sai on the left bank.	23		15	2		
	163			108	0½	

¹ In order to avoid the inconvenient descent from the Chakir-Korum pass, caravans travel from the junction of the Yaktash and Kara-Sai by the broad valley of the River Taragai to where the River Karakol flows into it from the left, and then up its gently sloping valley to the junction with the direct road. It is necessary to observe that this circuitous route is the more often used by loaded caravans from Káshgar, for which the ascent to the Chakir-Korum is difficult. Empty caravans do not fear the descent from this pass.

ROUTE 70.

From the River Ak-Su to the Káshgar.

[According to Reintal, who travelled by this route in 1868.]

From the camping ground at the issue of the River South Bogushti, from the defile in the Ak-Su Valley to the Káshgar outpost on River Terekti, about 3 <i>versts</i> from its confluence with the River Ak-Su.	30		19	7		<p>The road at first runs along the southern Bogushti, then along the Ak-Su, and finally along the Terekti, an affluent of the Ak-Su. Wheel road; good camping ground.</p>
Camping ground on the ascent to the Terekti pass, near the Káshgar picket.	40		26	4½		<p>Good wheel road and good camping ground.</p>
Camping ground on the south slope of the Terekti pass, on the River Jaltantásh, near its issue by the Káshgar picket.	40		26	4		<p>Ascent to the pass gentle, descent steep and very stony. The road descends by the River Jaltantásh. Dung for fuel.</p>

From the River Ak-Su to Káshgar—concluded.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Camping ground near the Issik-Karaul picket (formerly Terek-Karaul) on the River Artish.	40		26	4 $\frac{1}{4}$			A very good road.
Camping ground near Mulla's house on entering the gardens of Káshgar.	40		26	4			The road runs over a plain, then over clay hillocks, and afterwards by the defile of the Uzun-Su. At the village of Artish the road crosses the river of that name. A very good road.
Total about ...		190			125	7 $\frac{1}{2}$	

ROUTE 71.

From the town of Aulie-Ata to the town of Namangán by the Kára Bura Pass.

[From information by the Commander of the Aulie-Ata Division.]

Aulie-Ata, town of		
Boundary on the River Great (Bolsháya) Kápká.	20	13	2		From the town of Aulie-Ata the road first leads along the River Talas to the Great Kápká, then by the River Kára-Bura along the gorge of the river to the pass of the same name. From the pass the road leads by the Kára-Kispak defile and the Chatkal to the Chanásh pass. Thence by the Chanásh defile to the village of Safid Bulák. Caravans travel on this road, in preference, with horses and complete the journey in eight days.
Commencement of the Kára-Bura defile.	20	13	2		
Tas Muinák boundary in the defile of the River Kára-Bura.	18	11	7 $\frac{1}{2}$		
Mayatásh boundary in the defile of the River Kára-Bura.	16	10	4 $\frac{3}{4}$		

Kára-Bura pass ... ..	...	...	...
Kára Kispak defile	17	11	2 $\frac{1}{4}$		
Chitke-Terek boundary on the Chatkal.	20	13	2		
Archali-Mazár boundary on the Chatkal.	25	16	4 $\frac{3}{4}$		
Chanash pass ... ..	...	...	...
Tokai-Báshi boundary in the Chanash defile.	23	15	2		
Káshka-Su boundary in the Chanash defile.	27	17	7		
Ak-Tásh boundary in the Chanash defile.	30	19	7 $\frac{1}{4}$		
Safid Bulán (village)	22	14	4 $\frac{1}{3}$		
Kára-Pulwan ,,	26	17	2		
Namangáu, town of	23	15	2		
	287			190	2

ROUTE 72.

From the Nárin fortified post to the town of Andiján.

[According to Kaulbars.]

Nárin fortified post on River Nárin, outlet of the Jan-Bulák stream on the Nárin Valley by a narrow passage.	24	15	7 $\frac{1}{4}$	Good road for wheels. Good camping ground. Fuel, dung.
Left bank of the Nárin at the canals of the River Kulanák-Su (an affluent of the Nárin).	20	13	2	The road first crosses the deep gorge of the River Ar-Básh by a small suspension bridge, and then runs along the Nárin. Road generally good. Camping ground good.
Kurtka boundary beyond the Bai-bichi stream on the bank of the Nárin.	39	25	7	The road runs the wide and sterile valley of the left bank of the Nárin, far from the course of the stream. Wheel road. Fuel, willow and bushes.

From the Nárin fortified post to the town of Andiján—concluded.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Confluence of the River Mukachi with the Nárin.	21		13	$7\frac{1}{4}$			The road is intersected in places by canals, forming the only difficulty for wheeled traffic. At the camping ground willows and thorn.
River Turgai at 5 <i>versts</i> (3 miles $2\frac{1}{2}$ furlongs) from junction with River Albuga.	22		14	$4\frac{3}{4}$			Road crosses some ravines with rather steep banks, but is generally good. At the camping ground are thick bushes.
Field on the left back of the Albuga 1 <i>verst</i> above its point of junction with the River Makmal-Su.	20		13	2			The road first crosses two ravines with very steep sides, and beyond runs in the broad, level valley on the left bank of the Albuga. Having passed the remains of a Kalmak Fort, the road crosses to the right bank of the Albuga; the ford is only passable with low water, and even then dangerous, as the bottom is covered with enormous stones, and the water reaches up to a horse's breast. At the camping ground are trees and bushes in abundance.
Entrance to the narrow gorge of the River Manakelda (affluent of the Albuga).	32		21	$1\frac{3}{4}$			The road runs on the left bank of the Albuga for 22 <i>versts</i> (14 miles $4\frac{1}{2}$ furlongs) and then crosses into the broad valley of the Manakelda wheel road. Dung at the camping ground.
Junction of River Kanjegas with the River Bichan at the bottom of the ascent to the Jasi pass (Bichan).	12		7	$7\frac{1}{2}$			The only small difficulty are the steep banks of the River Kanjegas. At the camping ground brushwood and dung.
		190			125	$7\frac{1}{2}$	

From here to Andiján is 100 *versts* (66 miles $2\frac{1}{4}$ furlongs). The road from the camping ground on the left bank of the Bichán crosses the stream and rises to a steep and rather high eminence; then turning sharply to the west runs along the slopes of hills intersected by the wide and

deep ravines of the affluents of the Bichán on the right bank. For about 2 *versts* (1 mile 2½ furlongs) it then runs along a rocky, rather narrow cornice to the junction of the two Jási streams which form the Bichán. The road then turns rather sharply in a north-west direction up the left bank of the more northerly of the two streams. Ravines are also met with here, but less deep. Near the junction of the two upper Jási streams the road bifurcates; the two branches lead to the two Jási passes situated close together. The more northern of the two, according to the Kirghiz, is steep and very stony. To the southern Jási two roads lead on either side of the ravine of the stream; these both lead to a rather extensive basin formed by the rocky and steep slopes of the surrounding heights up to which a path now leads by zigzags. The ascent is in places very steep and generally bad. The descent on the Andiján side is much better. As a rule caravans from Andiján use this route but little. On descending from the pass the road enters the Fargána Valley.

ROUTE 73.

From the Nárin fortified post to the town of Kárákol viâ Bárskun Defile.

[According to Pichugin.]

Nárin Post (on the River Nárin) .	...	...	..		The whole road as far as the village of Slivkíno is for pack animals. From the Nárin post the road runs under the Nura Mountain chain by the right bank of the River Great Nárin. The valley is much hemmed in by mountains, and consequently the road in places runs along their slopes, and is besides intersected by the mountain streams in very deep ravines. The gorge of the Terek-Tekes and Nura streams are particularly deep.
Junction of the Rivers Great and Little Nárin (crossing of the River Little Nárin by a ford).	30	19	7		From the point of junction of the Great and Little Nárin the road runs to the snowy Kalmak-Tásh pass (12,000 feet). The pass is steep. Northern slope covered with vegetation (fir), but not thickly. Descent by a very narrow defile covered with pebbles. Beyond, the road is good.
Valley of the River Little Nárin (cross by a ford).	30	19	7		From the camping ground the road runs in a broad, fine valley on the right bank of the Little Nárin. The hill streams of Uratás, Jan-Bulák, Jalángach, Balgar, Uruktás, and Jánbulat intersect the road. They are all practicable and not deep. Their banks are scantily covered with bushes.

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From the *Náriu* fortified post to the town of *Kárákol* via *Bárskun Defile*—concluded.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
River <i>Keregetásh</i>	40		26	4 $\frac{1}{4}$			<p>From the point where the <i>Keregetásh</i> flows into the Little <i>Náriu</i> the road rises up the former. The road is good, and leads to the <i>Keregetásh</i> pass. The summit of the pass is covered with eternal snow and ice-fields. Its height is about 13,000 feet. On the summit a tolerably broad plateau is formed on which are marshy places.</p> <p>The descent from the pass is very gradual, but the road is not a good one, as it is abstracted with large stones and incessantly crosses from one side of a stream to the other. The stream flows swiftly, and the bottom is covered with round pebbles. This stream, the North <i>Keregetásh</i>, runs into the <i>Bárskun</i> River.</p> <p>From here the road leads by the very narrow but picturesque defile of the River <i>Bárskun</i>. The width is about 150 <i>sajens</i> (350 yards); the sides are vertical, high, and covered with fir woods. The path leads along the right bank of the river; the bank is steep but wide; it is covered with pebbles. Half way through the defile the woods from the heights come down to the very bed of the river. At 10 <i>versts</i> (6 miles 5 furlongs) before reaching Lake <i>Issik-Kul</i> the road crosses to the left bank by a ford; the width of the stream is here about 15 <i>sajens</i> (35 yards), and the bottom covered with round stones. In summer the passage is difficult. The defile ends within 3 <i>versts</i> (2 miles) of the lake. Wood ceases within 7 <i>versts</i> (4 miles 5 furlongs) of the lake.</p> <p>After its exit from the defile the road takes an easterly direction and runs along the southern shore of Lake <i>Issik-Kul</i> until</p>
Summit of the <i>Keregetásh</i> pass ...	40		26	4 $\frac{1}{4}$			
		140			92	6 $\frac{1}{3}$	
Junction of the Rivers North <i>Keregetásh</i> and <i>Bárskun</i> .	20		13	2			
Northern mouth of the <i>Bárskun</i> defile.	40		26	4 $\frac{1}{4}$			

Ford over the River Zauku ...	20	13	2		
Slivkino village (cross the River Kizil-Su by a ford).	23	15	2		
Kárákol, town of ...	37	24	4 $\frac{1}{4}$	92	6 $\frac{1}{2}$
TOTAL ...		140		185	5
		280			

close to the town of Kárákol, over quite flat country, intersected by a succession of steep ravines, at the bottom of which hill streams run, flowing into the lake. These streams are, with the exception of the Zauku, in no way difficult to cross by ford. From the village of Slivkino the road runs at 10 to 15 *versts* (6 miles 5 furlongs to 9 miles 7 $\frac{1}{2}$ furlongs) from the lake. It is a very good one.

ROUTE 74.

From Tokmak to the Narin fortified post viâ Kute-Máldi and Ulakhhol.

[According to Kaulbars.]

From Tokmak to Kute-Máldi 103 <i>versts</i> (68 miles 5 furlongs) by the postal route (<i>vide</i> above) and then on from Kute-Máldi.	30	19	7		
Junction of the Rivers Uch-Tube and Nar-Ike (an affluent of the North Ulakhhol).	25	16	4 $\frac{1}{4}$		
Point 5 <i>versts</i> (3 miles 2 $\frac{1}{2}$ furlongs) below the Ulakhhol pass on its southern slope, at the source of River Southern Ulakhhol.	23	15	1 $\frac{3}{4}$	51	5
Valley of the River Sultán Sár near Lake Karakul.		78			

Good wheel-road. Fuel; dung.

The second portion of the road from the ascent to the Ulakhhol pass is excessively difficult; the marshy ground is obstructed with stones, and the road crosses every moment from one side of the defile to the other. The Ulakhhol pass itself is steep and stony; the descent is still more steep and dangerous. The road for 5 *versts* (3 miles 2 $\frac{1}{2}$ furlongs) runs in the broad, even, and gently sloping defile of the south Ulakhhol and then crosses into the broad valley of the River Kárahøjur. It then rises to the easy Kaika-Tásh pass. From the pass the road soon enters the broad valley of the Sultán-Sár, where it joins the road from the Bárskun to the Nárin fortified post (*vide* route 73, Keregetásh to the Nárin post).

ROUTE 75.

From Vernei to Kárákol viâ San-Tásh.

[According to Kaulbars.]

	From point to point.		Total between chief places.		From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	Miles.	Fur.	
Vernei, town of	
Sophi station (Talgar)	24	15	7 $\frac{1}{2}$					Level country intersected by ravines. Good wheel-road. Bridge over River Talgar. Forage, water, and fuel.
Nadejdin Settlement (Issik)	23	15	2					Excellent wheel-road.
Asni Bulák picket (Atamkul)	30	19	7					Good wheel-road. At 10 <i>versts</i> (6 miles 5 furlongs) from the Nadejdin Settlement is that of Michailoff.
Táza-Bek picket	30	19	7					Wheel-road.
Zaitseff Settlement (Chilik)	20	13	2					Wheel-road.
Suguti picket	40	26	4					The passage of the River Chilik by the ford at full water is dangerous.
Ak Togtai picket ¹	27	17	7 $\frac{3}{4}$					At 12 <i>versts</i> (7 miles 7 $\frac{3}{4}$ furlongs) from Suguti the road enters the Turaigir defile. The ascent to the pass is steep. The descent into the Ak Togtai valley is gentle. The ford at full water is only passable by swimming, and the passage of the river is generally dangerous. The road is not good. There is water, forage, and fuel.
Kegen picket	30	19	7					The road is through mountains; wheeled vehicles can pass, but with difficulty. From the mountains the road descends into the valley of the Kegen and Karkára.

San-Tásh picket	28		18	4½				<p>Cross the River Kegen by a ford. Ford at all times easy. The road then runs over the hills of the San-Tásh range. Snow-storms rage here in winter.</p> <p>The road leads into the valley of the River Tupa; passage by deep ford. Pass over the low Kizil-Kiya hills, whence road descends into the Jergalán valley.</p> <p>The road runs at the foot of a snowy range over level country, passing hill streams. The most serious ford is that of the River Turgen-Ak-Su. Wheel-road. On the River Ak-Su there is a good wooden bridge at the village of the same name.</p> <p>Good wheel-road.</p>
Jergalán picket	20		13	2				
Ak-Su (village)	32		21	1¾				
Kárákol (fortified post)	12		7	7¾	209	3¾		
		316						

By a circuitous route 45 *versts* (29 miles 6½ furlongs.)

ROUTE 76.

From the town of Kárákol to the exit of the River Bárskun from the Mountains.

[According to Kaulbars.]

Kárákol, town of				<p>Good wheel-road. Plenty of native villages. Forage, water, and fuel everywhere.</p> <p>Level road for wheels. It crosses several irrigation canals and mountain streams. Water, forage, and fuel in abundance.</p> <p>Road passes through steep, stony ravine of the Ju-Uka and then for the last 15 <i>versts</i> (9 miles 7½ furlongs) of the march crosses some steep stony ravines. There is no forage near the camping ground.</p>
River Urdak	15		9	7½				
River Ju-Uka	31		20	4¼				
River Bárskun	30	76	19	7¼	50	3		

ROUTE 77.

From Tokmak to Káshgar viâ Lake Son-Kul, Kurtka boundary, and Lake Chádîr-Kul.

[According to Kaulbars.]

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	
Tokmak, town of	...		...	...
Entrance to the Shamsi defile ...	20		13	2			The road runs in a broad valley along the banks of the River Northern Shamsi. Wheel-road. Good camping ground. Bushe at camping ground.
Shamsi defile at the upper edge of pine wood.	16		10	5			Good road for pack animals. Pine wood at camping ground.
Defile of the River Southern Shamsi 5 <i>versts</i> (3 miles 2½ furlongs) south of the pass.	17		11	2			Road generally indifferent, as it runs over debris, slopes, &c. The ascent to the pass begins at about 4 <i>versts</i> (2 miles 5¼ furlongs) from the crest, and is very steep and stony. The descent is more gentle. Camping ground good.
Valley of the Kizárt 9 <i>versts</i> (5 miles 7¾ furlongs) from its mouth on the Kochkur.	27		17	7¼			The road runs over a perfectly smooth and sloping valley of the River Southern Shamsi, and having crossed the Kochkur valley enters that of the Kizárt. The fords are easy. Wheel-road. Good camping ground.
Northern Kizárt opposite the Chahár-Archa pass.	20		13	2			The road runs up the even valley of the Kizárt to the pass of the same name. Before reaching it there is a good camping ground at the foot of the Chahár-Archa pass.
River Jungal near the old tombs of Kadei-Kurgán and Kichkán-Kumber opposite the mouth of the River Pechil-Bulak (commencement of road to Shil-Bili pass).	25		16	4½			The road runs over the Kizárt pass; almost the best in the whole district of the Nárin; it is almost imperceptible. Road very good.
River Kára-Kichi about 2 <i>versts</i> (1 mile 2½ furlongs) from its falling into the Lake Son-Kul.	25		16	4½			The road runs over the Shil-Bili pass, which does not present great difficulties. Road generally feasible.

Source of the River Tásh-Tube (running into the Son-Kul Lake) about 2 <i>versts</i> (1 mile $2\frac{1}{2}$ furlongs) before reaching the Mulda-Ashu pass.	17	11	$2\frac{1}{4}$
Junction of the Rivers Mulda-Ashu and Kárákain.	17	11	$2\frac{1}{4}$
Kurtka point on the left bank of the Nárin River.	14	9	$2\frac{1}{4}$
River Baibiche, near the tomb of Ak-Tal, at the junction of the roads from the Rivers Terek and Mukáchi.	26	17	2
Junction of the River Chalkoda and a second river without name 6 <i>versts</i> (3 miles $7\frac{3}{4}$ furlongs) before reaching to Baibiche-Bel pass.	22	14	$4\frac{1}{2}$
Commencement of the defile of the River (Northern) Tásh-Rábat.	20	13	2
East from the defile of the River (Northern) Tásh-Rabát into the valley of Lake Chádir-Kul.	20	13	2
	286		189

$4\frac{1}{2}$

The road runs in the broad valley of the Son-Kul. Wheel-road.

The road crosses the Mulda-Ashu pass, which is not difficult, and then runs in the defile of the river of the same name by a very narrow, steep and stony descent; it soon, however, enters a flat, broad valley. Wheel-road.

The road crosses the River Nárin near the ruins of a Sart settlement. Here there is a ford over six branches of the river. The fords are dangerous and impracticable at full water. At the camping ground is a foliaceous wood.

The road is good. Forage is not altogether plentiful at the camping ground.

After passing the sources of the River Baibiche, the road leads to the pass of the same name (the first). The ascent is somewhat steep. From the pass the road enters the Chalkoda valley. The road is altogether one for pack animals.

The road runs to the second Baibiche pass in the Kálgagar-Tau mountains, from which it descends by the gently sloping Tuz-Ashu ravine to the desert valley of the Kárákain; the road intersects this and rises by the defile of the River (Northern) Tásh-Rabát, on its right bank, to the camping ground. The position of camping ground is almost quite undetermined, but the higher up the pass it is selected the better, as it diminishes the next difficult march over the Tásh-Rabát march.

The road crosses the River Tásh-Rabát by an inconvenient ford, and afterwards runs in a narrow and a stony defile, in part on cornices. The ascent to the pass is steep, as is also the descent, but only for a distance of 1 *verst* ($\frac{2}{3}$ mile); the road then runs in the smooth ravine of the River (Southern) Tásh-Rábat to its issue and the valley of Lake Chádir-Kul. From here to Káshgar is about 150 *versts* (99 miles $3\frac{1}{2}$ furlongs).

ROUTE 78.

From the Nárin fortified post to the valley of Ak-Sai and on to Káshgar.

[According to Kaulbars.]

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		RUM RES.
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	
Nárin (fortified post)	<p>The road at first runs in the narrow, indifferent defile of the River Char-Karitma for 4 <i>versts</i> (2 miles $5\frac{1}{4}$ furlongs) and then rises on to the right bank to circumvent an impassable portion of it. The road then passes over steep hills, and only becomes good on redescending to the valley of the Char-Karitma. Good camping ground, with water, forage, and fuel.</p> <p>The road throughout its whole extent is intersected by some deep ravines and is rendered difficult by the ford over the Atbásh below the confluence of the River Tuz-Ashu. At the camping ground in addition to dung there are bushes and thick wood.</p> <p>The road passes through a somewhat difficult ravine and ford of the River Tuz-Ashu, and then to the flat Kinda pass. The descent is also imperceptible. For fuel there is only dung.</p> <p>The reconnaissance of Baron Kaulbars did not pass this point, but according to the Kirghiz one may find a suitable camping ground about half way on the River Bogushti. The road up to the junction of the River Terekti with the Ak-Sai is good.</p> <p>From here to Káshgar <i>vide</i> Route 70.</p>
River Burundu, an affluent of the Atbásh on the right.	22		14	$4\frac{3}{4}$			
Junction of the Rivers Tuz-Ashu and Kinda.	29		19	$1\frac{3}{4}$			
Junction of the Rivers Káshka-Su and Tuz-Ashu.	22		14	$4\frac{3}{4}$			
Junction of the River Terehta with the Ak-Sai.	43	116	28	4	76	$7\frac{1}{4}$	
On to Káshgar about	150	99	$3\frac{1}{2}$	
TOTAL TO KÁSHGAR	266	176	$2\frac{3}{4}$	

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ROUTE 79.

From Fort Kok-Kala (Mehtar-Kala) to the Nukus fortified post.

[From information by the District Staff.]

Kok Kala (Mehtar-Kala) on the River Yangi-Su.					} The whole road is generally good; there is little sandy tract; there is water at the camping grounds, and also forage and fuel.
Naupir Arik (canal)	27	...	...
Chimbai, town of	22	...	...
Lake Kára-Ui	25½	...	...
Ruins of Máhmud-i-Kala	23	...	...
Nukus (fortified post)	10½	...	...
	107¾				

ROUTE 80.

From the Petro-Alexandroff fortified post to the town of Kazála viâ Kokcha and Bai-Imrat.

[Compiled by Staff Captain Hermann in March 1876.]

Petro-Alexandroff (fortified post)	...	...	...		} The road at first runs over sand-hills for 2 <i>versts</i> (1 mile 2½ furlongs), afterwards through cultivation. At Shurakhán it crosses a large canal and passes through the town of Shurakhán. Beyond, it runs through cultivation, crossing irrigation canals. Sand is met with in places.
Kalta-Minár Government Garden	18	11	7½		
Kokcha well	53	35	1		} The road soon enters on sand devoid of all vegetation. Hard clay soil is met with in places.
					} From the ruins of Bazár-Kala at 26 <i>versts</i> (17 miles 2 furlongs) the road for a distance of 20 <i>versts</i> (13 miles 2 furlongs) runs over undulating ground, slightly sandy, scantily covered with thin bushes. The last 7 <i>versts</i> (4 miles 5 furlongs) of the road lies in deep sand and high sand-hills.

From the Petro-Alexandroff fortified post to the town of Kazála viâ Kokcha and Bai-Imrat—continued.

	From point to point.	Total between chief places.		From point to point.		Total between chief places.		REMARKS.
		Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	
Taje-Kazán well	21		13	7 $\frac{1}{4}$				There is no want of water at the wells. It is easy to dig them out as much as necessary, but the water is saltish. Near the camping ground there is sufficient fuel; but there is little forage almost throughout the whole march.
Kára-Bátir well (abandoned) ...	17		11	2 $\frac{1}{4}$				The route lies through sand-hills; very poor in vegetation. There is one well, and water can only be got for a small detachment, and moreover it is necessary to take in a supply of water here for the next march of 140 <i>versts</i> (92 miles 6 $\frac{2}{3}$ furlongs) to the Bai-Imrat well, this tract being waterless. The water is good. There is hardly any fuel near the well. Sand-storms are here so violent that they sometimes fill up the well in the space of twenty-four hours.
Bai-Imrat well	125		82	7				For a distance of 8 <i>versts</i> (5 miles 2 $\frac{1}{2}$ furlongs) deep sands and afterwards hard clay soil. The wells of Kára-Bátir have been abandoned in consequence of the bad quality of the water, which even camels refuse to drink.
Kágaz-Bai well	12 $\frac{1}{4}$		8	0 $\frac{3}{4}$				The road at first is over hard soil, and towards the end chiefly amongst sand-hills, which are very difficult to pass. The sand is in places covered with "saksaul," tamarisk, "jusan," and occasionally feather grass. There is plenty of water in the wells; it is saltish. Little fuel; no forage near.
								For a distance of 4 <i>versts</i> (2 miles 5 $\frac{1}{4}$ furlongs) crumbling sand-hills. Further on sand-hills become less frequent, and at 8 <i>versts</i> (5 miles 2 $\frac{1}{4}$ furlongs) the road runs on to hard soil, covered with thick and pretty large brushwood. There is crumbling sand at the wells. There are two wells, the water in which is

Kos-Kuduk well	12 $\frac{1}{4}$	8	1
Murzáli well	16 $\frac{3}{4}$	11	1
Dun-Kazgán	58	38	3 $\frac{1}{2}$
Daíra-Bai well	61	40	3 $\frac{1}{2}$
Well on the Kuvan-Daria ...	41	27	1 $\frac{1}{2}$

slightly saltish. There is ample forage for camels, and fuel; for horses there is no forage.

Hard sand-hills for about 4 *versts* (2 miles 5 $\frac{1}{2}$ furlongs); beyond the country is flat and thickly grown over with tamarisk and "saksaul" for 2 *versts* (1 $\frac{1}{3}$ miles); then sand-hills follow, and afterwards level country with clay soil, covered with tamarisk.

At 1 $\frac{1}{2}$ *versts* (1 mile) before reaching the wells, the road is crossed by the dry bed of the River Yáni-Daria. The wells are situated amongst crumbling sand; there are three of them, and the water is good. There is fuel, and forage for camels may be found not far off; there is no forage for horses.

Sands at first, but not deep, for 4 *versts* (2 miles 5 $\frac{1}{4}$ furlongs); then hard, hillocky, slightly undulating country for 4 *versts* (2 miles 5 $\frac{1}{4}$ furlongs). At a high hill the road passes through a narrow stratum of sand and again enters on hard soil. The water in the well is very salt; fuel close by in abundance; no forage.

At first sandy country, covered with occasional "saksaul;" then hard ground, except for an interval of 1 *verst* ($\frac{2}{3}$ mile), where crumbling sand has to be crossed. Throughout the whole march there is fuel in the form of thin brushwood. At the camping ground are several wells; water good and abundant.

The road runs through small sand-hills for 15 *versts* (9 miles 7 $\frac{1}{2}$ furlongs), and beyond on quite hard ground, covered with occasional bushes. The country is undulating; towards the end of the march the soil again becomes sandy. The wells of Daíra-Bai as well as those of Dun-Kazgán are situated in a ravine. These wells are also sometimes called Mullali. Water in abundance.

For the first two-thirds of the march the road lies in undulating country, with hard soil almost destitute of vegetation. Beyond the road runs through insignificant sand-hills, very scantily covered with shrubs. The water in the wells, although not altogether good, is yet fit for use. Forage in the neighbourhood is always eaten down owing to large number of nomad Kirghiz about. There is also no fuel.

From the Petro-Alexandroff fortified post to the town of Kazála viâ Kokcha and Bai-Imrat—concluded.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	
Kazála, town of	43	478 $\frac{1}{4}$	28	4	317	0	The road for about 20 <i>versts</i> (13 miles 2 furlongs) runs over undulating country, without any vegetation, and beyond enters on sand past the Lake Juban-Kul. The road then runs on the crossing of the River Sir at Kára-Tube, whence to Kazála is only 3 <i>versts</i> (2 miles).

ROUTE 81.

From Fort Petro-Alexandroff to the Steam-boat quay.

[9 *versts* (5 miles 2 $\frac{1}{2}$ furlongs). Wheel-road.]

ROUTE 82.

From Fort Petro-Alexandroff to the Pervo-Nachálnei Settlement (of banished Uralians).

[19 *versts* (12 miles 4 $\frac{1}{2}$ furlongs). Wheel-road.]

ROUTE 83.

From the Lepsa Station to the Urjár Station.

[Based on information from the Government of the Semirechia Province.]

Lepsa Station (at source of River Lepsa).	...		...	...
River Burzák	28		18	4 $\frac{1}{2}$			
„ Chibindi	21		13	7 $\frac{1}{4}$			

From the village of Dashti-Kázi on the Zarafshán to the Zarafshán Glacier—concluded.

	No. of houses.	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
		Versta.	Versta.	Miles.	Fur.	Miles.	Fur.	
Guzári-Bad (village) ...	50	1		0	5 $\frac{1}{4}$			It is also impossible to count on provisions, as the inhabitants themselves purchase them at the neighbouring large inhabited points (Ura-Tube, Khojend, Samarkand). Grazing is met with in sufficient quantities only from Paldorak to the glacier.
*Rarz " ...	290	4		2	5 $\frac{1}{4}$			
Pakhut " ...	270	5		3	2 $\frac{1}{2}$			
Shavatki-Poyin " ...	120	6		3	7 $\frac{3}{4}$			
*Shavatki-Bála " ...	80	2		1	2 $\frac{1}{2}$			
			31			20	4 $\frac{1}{4}$	
Visháb " ...	76	4		2	5 $\frac{1}{4}$			
*Shamtich " ...	40	7	11	4	5 $\frac{1}{4}$	7	2 $\frac{1}{2}$	
*Oburdán " ...	205	5	5	3	2 $\frac{1}{2}$	3	2 $\frac{1}{2}$	
Pastigau " ...	175	10		6	5			
Lyangar-Rogif " ...	19	8		5	2 $\frac{1}{2}$			
*Rivamut " ...	50	2	20	1	2 $\frac{1}{2}$	13	2	
Khidzif-Oftabru " ...	15	4		2	5 $\frac{1}{4}$			
Mazis " ...	47	3		1	7 $\frac{3}{4}$			
*Lyangur-Uz " ...	92	8	15	5	2 $\frac{1}{2}$	9	7 $\frac{1}{2}$	
Vardagit " ...	3	4		2	5 $\frac{1}{4}$			
Madrushkat " ...	80	4		2	5 $\frac{1}{4}$			
*Tabushin " ...	25	7	15	4	5	9	7 $\frac{1}{2}$	
Diminoff " ...	45	12		7	7 $\frac{3}{4}$			
Pakshiff " ...	40	1		0	5 $\frac{1}{4}$			
*Paldorak " ...	210	6	19	3	7 $\frac{3}{4}$	12	4 $\frac{3}{4}$	
Rog " ...	175	5		3	2 $\frac{1}{2}$			
Khidziff " ...	40	2		1	2 $\frac{1}{4}$			
Lyangliff " ...	36	6		3				
Vodiff " ...	26	6		3				

Dikauz	...	24	4	2	5½		
Dikhisar	...	35	2	1	2½	16	4½
Tomb (Ziárat)	...		3	1	7¾	13	7¼
Glacier	...		18	11	7½		
TOTAL	...		204			135	1¾

ROUTE 85.

From the village of Dashti-Kazi to Urmítan by the left bank of the Zarafshán.

[According to Aminoff.]

Dashti-Kázi (village)	...	10	7	4	5		
Yabon	...					10	4¾
Urmítan	...	95	9	5	7¾		

At 1 verst (54 furlongs) from Dashti-Kazi cross the Zarafshán by a ford, only passable at low water. Beyond the road is better than that on the right bank of the Zarafshán which has been just described (Route 84).

ROUTE 86.

From Urmítan to Varziminoi by the right bank of the River Zarafshán.

[According to Aminoff.]

Urmítan (village)	...	95	6	3	7¾		
Urmítan-Vishkent (village)	...	100	9	5	7½	17	7¼
Dardar (village)	...	200	3	2	0		
Iskandar	...	100	4	2	5½		
Khishkat	...	60	5	3	2½		
Varziminoi	...						

The road is difficult and dangerous. From Khishkat the road crosses to the left bank by a bridge and unites with the road by which the Iskandar-Kul detachment marched (Route 84). Except the villages, no places are met with along the road fit either for bivouacs or camping grounds.

ROUTE 87.

From the village of Pakhut to Visháb by the left bank of the Zarafshán.

[According to Aminoff.]

	No. of houses.	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
		Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	
Pakhut (village)	70			This road separates from that on the bank of the River Zarafshán at 2 <i>versts</i> (1 mile $2\frac{1}{2}$ furlongs) above the village of Pakhut, and crosses to the left bank of the Zarafshán by a poor wooden bridge into the village of Falmaut; but at 2 <i>versts</i> (1 mile $2\frac{1}{2}$ furlongs) above Visháb it crosses again to the right bank of the Zarafshán. The road is generally difficult, and from the meridian of Shavatkí-Bala to Visháb it is impracticable for mounted men.
Falmaut „	40	3		2	0			
Obi-Madel	4	10		6	5			
Visháb	76	6		3	$7\frac{3}{4}$			
			19			12	$4\frac{3}{4}$	

ROUTE 88.

From the village of Oburdán to Pastigau by the right bank of the Zarafshán.

[According to Aminoff.]

Oburdán (village)	7			This road is difficult and hardly practicable for mounted men; consequently the road on the left bank of the river, <i>i.e.</i> , the route followed by the Iskandar-Kul detachment, is preferable (Route 84).
Kommodan	70	5		3	$2\frac{1}{2}$			
Padarkhin	20	$0\frac{1}{2}$		0	$2\frac{3}{4}$			
Bitkán	20	$\frac{1}{2}$		0	$2\frac{3}{4}$			
Pastigau ... ..	...	4		2	5		
			10			6	5	

ROUTE 89.

From the village of *Khidziff-Oftábrn* to *Izis*.

[According to Aminoff.]

Khidziff Oftábrn (village)	15	.. 1	5	.. 0	.. 54	Horse-road for pack animals. Cross the Zarsafshán by two bridges.
Khidziff-Soyaru "	15	4	—	2	54	
Izis	...	—	5	—	—	
		—		—	3	2½

ROUTE 90.

From the village of *Tabushin* to *Paldorak* by the right bank of the *Zarsafshán*.

[According to Aminoff.]

Tabushin (village)	...	..	..	..	..	Horse-road. Cross the Zarsafshán once by a ford near Paldorak.
Sabak "	30	6	—	3	7½	
Paldorak "	...	14	20	9	24	
		—		—	13	2

N.B.—The villages of *Mujiff*, *Podask*, *Yalgon*, and *Khairábad* have no direct intercommunication along the river. Communication is carried on by the main road on the right bank of the *Zarsafshán*, over which there are wooden bridges for crossing.

ROUTE 91.

From the village of *Varziminor* to *Lake Iskandar-Kul* up the *Fán-Daria*.

[According to Aminoff.]

Varziminor (village)	40	.. 20	50	.. 13	.. 2	There is no lack of cornices or of cranky little bridges. There is water, fuel, and forage. Grass in abundance.
Peti "	40	4	—	2	54	
Sarvada "	25	12	—	7	7½	
Khairambet "	30	4	—	2	54	
Jijik "	20	2	—	1	24	
Narvat "	...	8	50	5	24	
Lake Iskandar-Kul		—		—	33	1

ROUTE 92.

From the village of Sarvada to the source of the River Yagnáb.

[According to Aminoff.]

	No. of houses.	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
		Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	
Sarvada (village)								
Rabát	50	18		11	7 $\frac{1}{2}$			<p>The road is very difficult, although passable for mounted men. It runs the whole way up the river, crossing by shaky little bridges from one bank to the other, and occasionally deviating from the river a short distance. The lower part of the defile of the Yagnáb is very narrow and rocky, which makes the road difficult. The portion between Anzób and Margiff is especially difficult. Before reaching the latter place the road for a considerable distance is on balconies added on one to another in steps, <i>i.e.</i>, so that the end of the upper one is more than 2 feet above the end of the lower one. Movement along these balconies is very dangerous.</p> <p>At a few versts from the village of Vasrat the character of the defile changes, the valley of the River Yagnáb widens out considerably, the foot of the mountains recedes in places to a distance from the course of the river, and the hill slopes covered with meadow vegetation become more gently sloping and accessible. Water and grazing are met with in abundance. There is a little fuel (bushes) in the vicinity of the road, and it is brought by the inhabitants from the mountain gorges.</p>
Tok-Fan	60	4		2	5 $\frac{1}{4}$			
Anzób	70	18		11	7 $\frac{3}{4}$			
Margiff	50	6		4	0			
Khushrabát	200	6		3	7 $\frac{3}{4}$			
Vasrat	30	10		6	5			
Martumain	20	4		2	5 $\frac{1}{4}$			
Vagensai	30	1		0	5 $\frac{1}{2}$			
Shahsára	50	1		0	5 $\frac{1}{4}$			
Dumsai	40	0 $\frac{1}{2}$		0	2 $\frac{3}{4}$			
Shavita	25	0 $\frac{1}{2}$		0	2 $\frac{3}{4}$			
Khisakdarf	25	2		1	2 $\frac{1}{2}$			
Naumitkam	30	0 $\frac{1}{2}$		0	2 $\frac{3}{4}$			
Chukát	28	0 $\frac{1}{2}$		0	2 $\frac{1}{2}$			
Iskán	25	8		5	2 $\frac{1}{2}$			
Novi-Main	20	1		0	5 $\frac{1}{4}$			
Deh-i-Balan	50	1		0	5 $\frac{1}{4}$			
Kyansi	22	4		2	5 $\frac{1}{4}$			
Kirionte	18	2		1	2 $\frac{1}{2}$			

Deh-i-Kalán	40	4	2	5½	7
Novi-Bod	4	6	4	0	
Sengi-Mailek boundary	...	8	5	2½	
Sources of the River	...	16	10	5	
Yagnáb.					
		122		80	

ROUTE 93.

From the village of Sarváda to Kishtut.

[According to Aminoff.]

Sarváda (village)	...					
Pinion "	...	2	1	2½		
Pashrud "	...	3	2	0		
Shurmalek "	110	1	0	5½		
Kartí "	...	2	1	2¼		
Marguzár "	...	1	0	6¼		
Kishtut pass	...	18½	12	2		
Kuli-Kalán boundary	...	3½	2	2½		
Artuch (village)	...	9	5	7¾		
Pejruud "	...	5½	3	5¼		
Kishtut "	...	3½	2	2½		
		49		32		3½

The road runs up the defile of the River Pashrud, now on its right, now on its left bank. Although bridges exist everywhere the river is always easily fordable. The slopes of the defile are covered with savin. The Kishutut pass is very easy and not steep. From the pass to Kishutut the road is comparatively good; a cornice is only met with at one place, at the village of Artuch.

NOTE.—Three roads lead from Kishutut to the Penjaken plain. The southern rises from the village straight into the hills, and runs to the village of Guzar; the central one, by which the Iskandar-Kul detachment marched, runs for 6 versets (4 miles) along the course of the Kishutut-Daria; then turning sharply to the west crosses moderately high bills and descends to the village of Varzikandi, whence it leads over a plain by Guzar to Penjaken. The northern road follows the course of the Kishutut-Daria to its mouth and leads to the village of Guzar on the level, there uniting with the roads described above.

ROUTE 91.

From the Zarafshán Glacier by the Hisár Range to Karátégín.

[From inquiries by Aminoff.]

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			Versts.	Fur.	Miles.	Fur.	
Zarafshán Glacier			
Yárkhich pass	8		5	2 $\frac{1}{2}$			The road up to the pass and the pass itself are very difficult; it then descends into the defile of the River Deh-i-Mil-i-Udal, at the commencement of which it divides into two branches; the left crossing the mountains leads to the insignificant hamlet of Nagar-Ailak, situated on a small stream running into the Deh-i-Mil-i-Udal. The right road runs down the River Deh-i-Mil-i-Udal, and at the village of Sokau leads into the valley of the River Surkháb (Kizil-Su or Red River). From the village of Hisárák a road branches off to the right, and crossing some low hills leads to Garm, the chief town of the province of Karátégín. This latter road is very practicable, and it passes through an inhabited district abounding in pasture and water. The main road from Alai to Garm passes through the village of Sokau; this will be mentioned below.
Deh-i-Mil-i-Udal or Deh-i-mullah Bádál.	22		14	4 $\frac{1}{2}$			
Dikhuchi (village)	2		1	2 $\frac{1}{2}$			
Kizil-Kurum	3		2	0			
Dashti Kurum	1		0	5 $\frac{1}{4}$			
Divána Su	4		2	5 $\frac{1}{4}$			
Tura-Tal	3		1	7 $\frac{3}{4}$			
Yárkhich-Bala	8		5	2 $\frac{1}{2}$			
Yárkhich-Mian	1		0	5 $\frac{1}{4}$			
Yárkhich-Pain	2		1	2 $\frac{3}{4}$			
Khait	12		7	7 $\frac{1}{2}$			
Hisárák	8		5	2 $\frac{1}{2}$			
Sokau	4		2	5 $\frac{1}{4}$			
River Deh-i-Mil-i-Udal, mouth of	4		2	5 $\frac{1}{4}$			
		82			54	2 $\frac{3}{4}$	

ROUTE 95.

From the village of Wádif to the village of Khoja-Chauk down the River Didikhi (Subursa), an affluent of the Goriff.

[From enquiries by Aminoff.]

Wádif (village)				The Wádif pass is mentioned in the description of the Hisár range in Vol. 1, p 128, English Edition. At Khoja-Chauk the road unites with that leading from the Pákshiff pass, Garm.
Wádif pass (footpath)	9			5	$7\frac{3}{4}$					
Dubursa (village)	12			7	$7\frac{1}{2}$					
Didikhi "	8			5	$2\frac{1}{2}$					
Zia-Jangil "	8			5	$2\frac{1}{2}$					
Khoja-Chauk	15			9	$7\frac{1}{2}$					
	52			34	$3\frac{3}{4}$					

ROUTE 96.

From the village of Pákshiff to Garm by the Pákshiff pass and down the Rivers Goriff and Sor-Bokh.

[From enquiries by Aminoff.]

Pákshiff (village)				The ascent of the pass and the pass itself are comparatively easy. The road then runs down the River Goriff, which on uniting with the Didikhi is called the Sor-Bokh. The village of Beni-Sofián is situated 4 <i>vershs</i> (2 miles $5\frac{1}{4}$ furlongs) above the junction of the Sor-Bokh and the Surkh-Áb. From Beni-Sofián the road turns westward to Garm down the Surkh-Áb <i>viâ</i> the villages of Karaiman, Kocho-Máldi, Kasnek, Shul, and Sari-Pul.
Pákshiff pass	10			6	5					
Goriff (village)	12			7	$7\frac{3}{4}$					
Pasrut "	4			2	$5\frac{1}{4}$					
Khoja-Chauk "	24			15	$7\frac{1}{4}$					
Shingalich "	2			1	$2\frac{1}{2}$					
Kaurak (village)	4			2	$5\frac{1}{4}$					
Deh-i-Khojali "	4			2	$5\frac{1}{4}$					
Jingán "	2			1	$2\frac{1}{2}$					
Yám "	4			2	$5\frac{1}{4}$					
Poji "	2			1	$2\frac{3}{4}$					
Sberse "	2			1	$2\frac{1}{2}$					
Beni-Sofián "	6			3	$7\frac{3}{4}$					
Garm, town of	16			10	5					
	92			61						

ROUTE 97.

From the village of Deh-i-Balan on the River Yagnáb across the Hisár Range to the town of Kafarnihán.

[From enquiries by Aminoff.]

			From point to point.	Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.		Fur.
Deh-i-Balán (village)		From the pass the road descends by the River Kafarnihán and traverses inhabited places.
Deh-i-Balán pass	12	7 $\frac{3}{4}$		
Romit village	30	7		
Kafarnihán, town of	48	6 $\frac{1}{2}$		
			90		59		5$\frac{1}{4}$

ROUTE 98.

From the village of Chukat on the River Yagnáb to the town of Zizdi.

[Compiled on the basis of semi-instrumental survey.]

Chukat (village)		The pass is difficult and snowy. From the pass the road descends to the sources of the River Zizdi-Daria and runs along it; at the village of Ibola it unites with the road from Anzób (see Route 99).
Chukat pass ... ..	...	...	14	9	2 $\frac{1}{4}$
Kukh-Tube (village) ... ..	...	...	13	8	5
Hazára " ... ..	...	...	3 $\frac{1}{4}$	2	1 $\frac{1}{4}$
Ibola " ... ..	...	...	1	0	5 $\frac{1}{4}$
			31 $\frac{1}{4}$		20	5 $\frac{3}{4}$

ROUTE 99.

From the village of Anzob on the River Yagnáb to the village of Dushambe in the province of Hisár.

[From enquiries by Aminoff.]

Anzób (village)			Pass easily practicable; the road reaches the valley of the River Zizdi-Daria by an easy descent. Caravans from the Hisár district, furnishing the villages of Kohistán with corn, travel by this route.
Anzób pass (distance measured by chain).	11		...	...	
Ibola (village)	5		...	...	
Namáza „	1		...	5 $\frac{1}{4}$			
Zizdi „	3 $\frac{1}{4}$		2	1 $\frac{1}{4}$			
Penchok „	8		5	2 $\frac{1}{2}$			
Ushyare	12		7	7 $\frac{1}{9}$			
Paguze	8		5	2 $\frac{1}{2}$			
Gazni	5		3	2 $\frac{1}{2}$			
Bazír	4		2	5 $\frac{1}{4}$			
Fort Varsob	4		2	5 $\frac{1}{4}$			
Novobot (village) ... ..	...		...	...
Dushambe „	8		5	2 $\frac{1}{2}$			
		53 $\frac{1}{4}$			35	2 $\frac{1}{2}$	

ROUTE 100.

From Lake Iskandar-Kul to the town of Karatág in the province of Hisár.

[From enquiries by Aminoff.]

Lake Iskandar-Kul			Ascent to the Mura pass described in the review of the Hisár range (vol. 1). For routes in the Hisár district see below.
Mura pass	16		10	4 $\frac{3}{4}$			
Hakimi village	6		4	0			
Karatág, town of	32		21	1 $\frac{1}{2}$			
		54			35	6 $\frac{1}{4}$	

ROUTE 101.

From the town of Kázala to the Nukus fortified post.

[From information by the District Staff.]

	From point to point.			Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.		Fur.
Kázala, town of ... ..	...		...	...
Lake Alashbai	17 $\frac{1}{2}$		11	4 $\frac{3}{4}$		Water in the lake brackish. On the northern side of the lake are six wells with water fit for drinking and cooking food. Little forage and fuel.
Utebás	13		8	5		Water and fuel; little forage.
Irbai	20		13	2		Water; little fuel; no forage.
Jaba-Gatash	19		12	4 $\frac{3}{4}$		Little water and forage; fuel.
Sari-Bulák	16 $\frac{1}{2}$		10	7 $\frac{1}{2}$		Plenty of water and fuel; little forage.
Manás	25		16	4 $\frac{1}{2}$		Water for cooking food; for watering cattle there is the sarai well 2 <i>versts</i> (1 mile 2 $\frac{1}{2}$ furlongs) from the Manás well, and $\frac{1}{3}$ a <i>verst</i> ($\frac{1}{3}$ mile) to the right of the road near the wells of Chagai-Gat and Shanak up the Kuvan-Daria. There is forage and fuel.
Jara-Kuduk	27		17	7 $\frac{1}{4}$		Little water; no forage; fuel.
Ak-Kuduk	28 $\frac{1}{2}$		18	7 $\frac{1}{4}$		Two wells and a third 1 $\frac{1}{2}$ <i>versts</i> (1 mile) in a westerly direction; the water flows very slowly; there is no forage; plenty of fuel.
Karabas-Bugut, 10 <i>versts</i> , or 6 miles 5 furlongs, from Irkibai on the road to Kekreli.	29		19	1 $\frac{3}{4}$		Water, forage, and fuel.
Kekreli (point)	27		17	7 $\frac{1}{4}$		Water and fuel; little forage.
Un-Adam (point)	15		9	7 $\frac{1}{2}$		Plenty of water and fuel; no forage.
Buat-Bai	17		11	2		No water and forage; plenty of fuel.
Kaska	18 $\frac{1}{4}$		12	1		Plenty of water and fuel; no forage.
Bai-Shuak well	22 $\frac{1}{4}$		14	5 $\frac{3}{4}$		Water and fuel; no forage.
Buz-Ganak boundary	38 $\frac{3}{4}$		25	5 $\frac{1}{2}$		No water or forage; fuel. During rainy weather a lake is formed in the low ground with good water.
Lake Kára-Kul	43 $\frac{1}{2}$		28	6 $\frac{3}{4}$		5 <i>versts</i> (3 miles 2 $\frac{1}{2}$ furlongs) before reaching the lake, there is a well; forage and fuel.

Lake Kámishli	17	11	$2\frac{1}{4}$		Water, fuel, and forage.
Lake Changli-Kul	15	9	$7\frac{1}{2}$		Do. do.
Bais-Bai well	47	31	$1\frac{1}{4}$		Plenty of water, fuel, and forage.
Khoja-Kul	35	23	$1\frac{1}{2}$		Water, fuel, and forage.
Maili-Kul	22	14	$4\frac{3}{4}$		Water, forage, and fuel everywhere.
Charshali-Kul	23	15	2		Do. do. do.
Nukus (fortified post)	25	16	$4\frac{1}{2}$		Do. do. do.
	561 $\frac{1}{4}$			372	0 $\frac{1}{4}$

ROUTE 102.

From the town of Kazála to the Petro-Alexandroff fortified post.

[From information by the District Staff.]

Kazála, town of ... ..	...	...	...			
Khoja-Kul	491 $\frac{1}{4}$	325	5						For Kazála to Khoja-Kul <i>vide</i> Route 101.
Lake at Khyak-Tau	27	17	$7\frac{1}{4}$						Water, forage, and fuel.
Bi-Bazár	25	16	$4\frac{1}{4}$						Water, forage, and fuel everywhere.
Shahbaz-Vali	21	13	$7\frac{1}{2}$						Do. do. do.
Petro-Alexandroff (fortified post)	30 $\frac{3}{4}$	20	3						
	595			394		3 $\frac{1}{4}$			

ROUTE 103.

From Petro-Alexandroff fortified post to Nukus fortified post.

[From information by District Staff.]

Petro-Alexandroff (fortified post)						
Sháhbaz-Vali (village)	31	20	$4\frac{1}{2}$						} Water, forage, and fuel everywhere.
Ri-Bazár	27	17	7						
Khyak-Tau	23	15	2						
Khoja-Kul	24	15	$7\frac{1}{4}$						
Lake Maili-Kul	22	14	$4\frac{3}{4}$						
Lake Charshali-Kul	23	15	2						
Nukus (fortified post)	25	16	$4\frac{1}{2}$						
	175			116		0			

ROUTE 104.

From Fort Perovski to Petro-Alexandroff fortified post.

[From information by District Staff.]

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.		
			Versts.	Versts.	Miles.	Fur.		Miles.	Fur.
Fort Perovski ... ..	...	...	...	...	...	...
Bishmillah	6	3	7 $\frac{3}{4}$						
Tamar-Utkul	17 $\frac{3}{4}$	11	6 $\frac{1}{4}$						
Lake Boke	19	12	4 $\frac{3}{4}$						
Kutkapchek	19	12	4 $\frac{3}{4}$						
Abdir-Kalin	31 $\frac{1}{2}$	20	7						
Badpak-Saksaul	12 $\frac{3}{4}$	8	3 $\frac{1}{2}$						
Kaldi-Kára	15	9	7 $\frac{1}{2}$						
Sari-Chagapán	34	22	4 $\frac{1}{2}$						
Kok-Chungul	17 $\frac{1}{2}$	11	4 $\frac{3}{4}$						
Ak-Kir	26	17	1 $\frac{3}{4}$						
Khush-Baldir	30	19	7						
Ruins of Fort Churk-Rabát	25	16	4 $\frac{1}{2}$						
Fort Irkibai	25	16	4 $\frac{1}{2}$						
		278 $\frac{1}{2}$			184	4 $\frac{1}{2}$			
Kichkin-Daria	25	16	4 $\frac{3}{4}$						
Un-Adam	10	6	5						
Sun-Bai	25	16	4 $\frac{1}{2}$						
Kagas-Bai	13	8	5						
Bai-Murad	14	9	2 $\frac{1}{4}$						

Kára-Bátir (waterless steppe) ...	144		95	$3\frac{3}{4}$		
Taiji-Kazgán	22		14	$4\frac{1}{2}$		
Kokchu	22		14	$4\frac{1}{2}$		
Kaltaminár	50		33	$1\frac{1}{4}$		
Petro-Alexandroff (fortified post)	18		11	$7\frac{1}{2}$		
		343			227	3
TOTAL		$621\frac{1}{2}$			411	$7\frac{1}{2}$

ROUTE 105.

From Petro-Alexandroff fortified post to the town of Khiva.

Petro-Alexandroff (fortified post)	...		...	...
Right bank of the River Amu at the Shurakhán crossing.	11		7	$2\frac{1}{4}$		
Left bank of the Amu opposite the village of Khanki.	8		5	$2\frac{1}{2}$		
Hanki (village)	4		2	$5\frac{1}{4}$		
Khiva, town of	30		19	7		
		53			35	1

The chief difficulty on this route consists in the passage of the River Amu. Between Shurakhán and Khanki the Amu flows in several branches, the main one of which is about 300 *sajens* (700 yards) in width; besides this branch two others have to be crossed in boats and eight small branches and canals by fording. The distance between the extreme points of passage is about 8 *versts* (5 miles $2\frac{1}{2}$ furlongs). The whole of this extent is inundated with water when the river is in flood, and the passage then becomes still more complicated. The chief difficulty of all in this passage is with baggage and harness animals, camels, and horses. Great exertions are required to take them (especially camels) into the boats, and then to get them out again. The taking off and putting on loads also takes up much time. As the distance between some of the branches at the Shurakhán crossing comes to 3 *versts* (2 miles), it is necessary to have *arabas* to transport the loads between these branches. The roads from Hanki to Khiva runs through continuously cultivated country.

ROUTE 106.

(From Jizák to Khiva.)

[From information by the District Staff.]

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Jizák ... ..	...		...	...			The road from Jizák is level, smooth and firm, and occasionally intersected by canals. The country is open. There is sufficient water at the camping ground on the Kili.
River Kili	14		9	2½			The road is hard, level and stony. There is a complete absence of forage, even for camels, along the road. At the camping ground there is sufficient water for a considerable detachment.
Nurek (village on the Gierchik canal).	33		21	7			The road is over mountain spurs, and is rugged; at 6 <i>versts</i> (3 miles 7¾ furlongs) crosses the River Kurván-Niaz, and at 12 <i>versts</i> (7 miles 7¾ furlongs) a nameless stream; at 17 <i>versts</i> (11 miles 2¼ furlongs) the River Sádik-Ab-Sakal, and at 20 <i>versts</i> (13 miles 2 furlongs) the River Iliyánchi. On the latter in the mountains and near the road is the hamlet of Yáni, and at 25 <i>versts</i> (16 miles 4½ furlongs) that of Dorastán. There is ample water at the camping ground at Uchma.
Uchma (village)	35		23	1½			The road runs over the spurs of the Nurát mountains, moderately level, rugged, and unfit for wheel traffic; hamlets are seen on both sides of the road. At half way is an excellent spring. At the camping ground there is sufficient water; for fuel and food for camels "jusan" bushes must be used.
Fárish (village)	16		10	5			Road is of the same character as on former march. At 13 <i>versts</i> (8 miles 5 furlongs) on the left, the hamlet of Merzerum is visible in the hills. There is sufficient water at the camping

Sintáb (village)	18	11	7½
Temir-Kábuk	25½	16	7½
Balta-Sáldir well	26	17	2
Khush-Baigi well	31½	20	7
Baimán-Tapti well	25½	17	0½

gorund. Forage (corn, &c.) can be obtained from the inhabitants of the village of Sintáb.

The road passes through stony and sometimes very steep hills. Mountain streams and canals cross it in places. Wheel traffic is almost impossible. At 3 *versts* (2 miles) the hamlet of San is seen; at 8 *versts* (5 miles 2½ furlongs) is the large ravine and River of Katti-Sai; at 16 *versts* (10 miles 4¾ furlongs) there are hamlets on both sides of the road. At the camping ground there is water in sufficient quantity. There is "jusan" brushwood (forage for horses) and fuel.

At 13 *versts* beyond Temir-Kábuk the road issues from the hills on to sands. The sands are not deep and suitable for passage. There is no road in its strict sense, but the direction of the Kurgán-Tube hill visible in the distance is kept. At the camping ground are two very deep wells. The water is fit for use, and sufficient for 200 men and 100 horses for twenty-four hours. There is "jusan" brushwood, "kuyan-poyuk." Foxes abound.

For the first 3 *versts* (2 miles) towards the Molda-Nazar well the road is over sand, which renders the movement of baggage difficult, but beyond the road is easy and fairly good. At 13 *versts* (8 miles 5 furlongs) are the Chakmak wells with better water. The Khush-Baigi well will water a detachment of 400 men, with the usual amount of horses and camels. Close by are three wells (Sulli) with water fit for cattle. "Jusan" grows in the neighbourhood.

At half way is the Kazán-Tusti well with better water, sufficient for 400 men; the road runs over a completely level and practicable country; but at 2½ *versts* (1 mile 5¼ furlongs), before reaching the Baimán-Tapti well, sand-hills are met with which render movement difficult. The well at the camping ground will satisfy a detachment of 400 men. There is forage for cattle at 3 *versts* (2 miles) from the well. "Saksaul" grows near.

The road at first runs through a sandy tract, but afterwards is firm and smooth. There is no water along the road. At the camping ground are six wells; the water of three of them can be drunk by men, of the other three by cattle only. "Jusan" and assafoetida grow round the wells in abundance.

From Jizák to Khiva—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	
Maschi well	19 $\frac{3}{4}$		13	0 $\frac{3}{4}$			The road passes through an undulating, hard locality, cut up by low eminences bearing the name of Jaman-Tau. There is no water on the march. At the camping ground are two wells with good water, sufficient for a large detachment. There is sufficient forage and fuel in the neighbourhood.
Ayak well	15		9	7 $\frac{1}{2}$			Up to the wells of Yáni-Kazgán the road runs (10 $\frac{1}{2}$ <i>versts</i> or 6 miles 7 $\frac{3}{4}$ furlongs) over level, sandy country. There is little water in the Yáni-Kazgán wells. Beyond, the road becomes less sandy. At the camping ground there are three wells; at Riru there is ample water.
Riru well	23		15	2			The road is extremely sandy. There is no water on the march. At the Kideri well the water is of good quality and in sufficient quantity. In the neighbourhood there is forage and fuel in abundance.
Kideri well	16		10	5			For the first 26 <i>versts</i> (17 miles 2 furlongs) the road is level. When within 10 <i>versts</i> (6 miles 5 furlongs) of Támdi, the road enters the Támdi-Tau mountains, and lies in a defile up to the very camping ground. At the camping ground are many springs with good water. Fuel and forage are to be had in the neighbourhood.
Támdi (this point is determined astronomically).	38		25	1 $\frac{1}{2}$			The road at first is over even ground, but at 16 <i>versts</i> (10 miles 4 $\frac{1}{2}$

Bish-Bulák well	35		23	1½		
Tuz-Kuduk well	33		21	7		
Uch-Kuduk well	30		19	7		
Bas-Kára well	45		29	6¼		
Min-Bulák springs (thousand springs).	20	499½	13	2	331	0½

furlongs) deep sands commence, rendering movement very difficult. At the camping ground there are five wells; none of them are deep, but the water in them is not good. There is little fuel about, but sufficient "Jusan."

The road is over even ground. At 14 *versts* (9 miles 2¼ furlongs) are the wells of Anti-Achi with brackish water. The water in the Tuz-Kuduk well is so salt, that neither men nor horses can drink it. There is no fuel nearer than 1½ *versts* (1 mile) from Tuz-Kuduk.

The road is even, sometimes intersected by the beds of streams, which, in the spring, flow down from the Altin-Tau mountains, extending parallel to the road. In the wells at the camping ground there is water in sufficient quantity, and moreover of good quality. There is forage and fuel.

There are no traces of a road, but the country is even and practicable. At 35 *versts* is the ravine of Ak-Sai with excessively steep banks. On the left down the ravine is the Min-Bulák well. The wells of Bas-Kára are situated in a depression, the descent into which is very steep. The water in the wells is good. There is forage and fuel in the neighbourhood.

Country even and practicable. Towards the end of the march, movement is rendered difficult by lofty sand-hills. The springs are situated amongst these sand-hills, which are thickly grown over with brushwood, "jangil," which furnishes good fuel. There is very little forage.

ROUTE 107.

From Bish-Bulák Well to Bas-Kára Well.

[From information by the District Staff.]

	From point to point.			Total between chief places.		From point to point.		Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	Miles.	Fur.		
Bish-Bulák well ... ..	...	...	...	...	...	...	...	...	...	<p>The road from Bish-Bulák to Tuz-Kuduk runs, for the first 3 <i>versts</i> (2 miles), over salt-soil and afterwards on sand. Half way there are two wells with saltish water, but fit for cattle. "Jangil" and "saksaul" grow along the road, but there is little forage, as "jusan" is only occasionally seen. At the camping ground (Tuz-Kuduk) are five wells about 9½ feet deep; there is plenty of water, but it is quite salt and fit only for cattle. The road to Kuz-Kuduk is not difficult. It passes the Jangli well (water fit for use and plenty of it) and Uch-Kuduk (stopped up); the soil on the road is sandy-salt.</p> <p>The wells of Kuz-Kuduk are situated amongst the Altin-Tau mountains in a defile; there are four wells about 12 feet deep; there is plenty of water, and it is fit for use. At the camping ground there is fuel—"saksaul" and "jangil," but no forage. From Kuz-Kuduk the road runs in a defile for about 4 <i>versts</i> (2 miles 5½ furlongs), and then issues on to hillocky ground grown over with "jusan" (wormwood) and "jangil." Ascents and descents are inconsiderable, and the road is generally good.</p>
Tuz-Kuduk wells	32		21	1¾						
Kuz-Kuduk wells	32		21	1¾						
Bas-Kára	36		26	6¾			66	2½		
		100								

From the Well of Ayak viâ Aristán-Bel-Kuduk to the passage of the Amu at Shaik-Arik—concluded.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Ichke-Yár (goat ravine)	20	389	13	2 $\frac{1}{4}$	257	6 $\frac{3}{4}$	From Sardába-Kul the road leads along the right bank of the Amu ; it is partly sandy, partly firm ; sometimes it runs by hillocks. At the camping grounds bushes serve for fuel and reeds for forage.
Ruins of Meshekli (fortified post).	19		12	4 $\frac{3}{4}$			
Bazirián-Tugai	22		14	4 $\frac{1}{2}$			
Passage of the Amu-Daria at Shaik-Arik	19		12	4 $\frac{3}{4}$			

ROUTE 109.

From Petro-Alexandroff fortified post viâ Támádi and Aristán-Bel-Kuduk to Min-Bulák springs.

[From information by District Staff.]

Petro-Alexandroff (fortified post)	...	...	...		From the Petro-Alexandroff fort for a distance of 10 <i>versts</i> (6 miles 5 furlongs) the road is fit for infantry and cavalry ; but the canals which intersect the road render it somewhat difficult for artillery and carts. At 11 <i>versts</i> (7 miles 2 $\frac{1}{4}$ furlongs) the road cuts through sand-hills ; beyond this up to 20 <i>versts</i> (13 miles 2 furlongs), <i>i.e.</i> , to the heights of Kára-Gir-Tau, the road rises slightly, in parts sandy, in parts firm. From Kára-Gir-Tau to the salt marsh (3 $\frac{1}{2}$ <i>versts</i> , or 2 miles 2 $\frac{1}{2}$ furlongs) there are sand-hillocks rising to 28 feet in height.
Sak-Kuli well	25		16	4 $\frac{1}{2}$	At the camping ground there is one well about 56 feet deep ; the water is salt and of a sulphurous taste. There is sufficient

Sari-Bulák	..	...	...	23	15	2
Pugetli	„	...	...	17	11	2 $\frac{1}{4}$

water for 500 men and 50 horses. Forage can be found to the north-west of the well, about 700 yards from it. Fuel about a *verst* ($\frac{2}{3}$ mile) from the well.

From Sak-Kuli the road, after rising up a slope of 30° and crossing a salt marsh, ascends a mountain for 7 *versts* (4 miles 5 furlongs); it runs in sand (to a depth of 2 $\frac{1}{2}$ inches) with frequent passes.

From 7 *versts* (4 miles 5 furlongs) to the Kára-Tau mountains, passes are met with up to 70 feet in height; here the sands are still deeper. After descending from the Kara-Tau (the descent for 700 yards is at an angle of 20°) the road passes through a small pass, descends to salt-soil, and beyond, as far as the Sari-Bulák well, runs over level saltish soil.

At 3 *versts* (2 miles) from Sari-Bulák there is a spring at Mazárkam in which the water is fresh and good. It is sufficient for 1,000 men and 200 horses. In the event of scarcity of water the horses can drink at the two wells of Sari-Bulák, where the water, although salt, is not injurious. There is plenty of forage and fuel a *verst* ($\frac{2}{3}$ mile) from the spring.

From the Sari-Bulák well, after crossing fine sand for 1 $\frac{1}{3}$ *versts* (1 mile), the road rises at an incline, which, although insignificant, is covered with deep sand-hills for 2 *versts* (1 mile 2 $\frac{1}{2}$ furlongs). After this the sand becomes less, and firm ground is crossed. Soon, however, difficult sand-hills again commence, continuing to 15 *versts* (9 miles 7 $\frac{1}{2}$ furlongs), after which the road descends through small sands to the Bugetli wells.

At Bugetli there are four wells with brackish water, quite unfit for men to drink; horses also drink it unwillingly. There is forage and fuel.

From Bugetli to the salt marsh the road runs through sands, but not difficult ones. From the salt marsh it is up a slight incline on hard ground for about 2 *versts* (1 mile 2 $\frac{1}{2}$ furlongs); beyond for 3 *versts* (2 miles) it rises on a hill, through sand, 2 $\frac{1}{2}$ inches deep, with frequent small passes. When within 1 $\frac{1}{2}$ *versts* (1 mile) of the well at the camping ground, the road runs over hard, undulating ground.

From Petro-Alexandroff fortified post to Min-Bulák springs—concluded.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			Versts.	Versts.	Miles.	Fur.	
Atantai well	34		22	4 $\frac{1}{4}$			There are two wells at Atantai, of which one is blocked up by sand, and there is very little water in the other. Forage for 100 horses may be found $\frac{1}{3}$ verst ($\frac{1}{3}$ mile) to the north-west of the well. There is plenty of fuel. From the Atantai well the road for a distance of 12 versts runs over undulating, sandy ground; after this the soil becomes firmer, and shallower sand is met with. On this part of the route, movement is not difficult, even for artillery.
Bazgu-Bai ,,	33		21	7			Near the Bazgu-Bai wells are the three wells of Musret with saltish water, but fit for use; the water is sufficient for 600 men and 200 horses. There is no forage or fuel near. At Bazgu-Bai there are eight wells, of which five are blocked up. In the remainder there is sufficient water, and it is fit for use. At a verst ($\frac{2}{3}$ mile) from the wells both forage and fuel are to be found. From Bazgu-Bai for 5 versts (3 miles 2 $\frac{1}{5}$ furlongs) the road is not difficult, even for artillery, but beyond, up to 10 versts (6 miles 5 furlongs), it runs through crumbling, but not deep, sands. After this up to the Kára-Kalpák wells the ground is level and tolerably firm.
Kára-Kalpák-Kazgán well ...	16		10	4 $\frac{3}{4}$			The Kára-Kalpák-Kazgán well lies somewhat to one side of the road. At the camping ground are two wells, one of which is blocked up; the depth is about 84 feet; the water is saltish and tainted. There is sufficient water for 500 men and 100 horses. Forage and fuel at about 1 verst ($\frac{2}{3}$ mile) from the wells in plenty.

Besekli springs	22		14	4 $\frac{3}{4}$		
Min-Bulák springs (a thousand springs).	20	190	13	2	125	7 $\frac{1}{2}$

From the Kára-Kalpák-Kazgán wells the road runs over undulating, sandy ground, which does not particularly impede movement.

There are two springs at Besekli; in one the water is good, in the other saltish. There is sufficient water for 1,000 men and 200 horses. Fuel and forage can be found to the south-east of the springs.

From Besekli to Min-Bulák, the road, although traversing mountains, may be said to be suitable even for artillery, as the ascent is by terraces of no great steepness or height, and the descents are gentle. Sand is met with in places.

At the Min-Bulák springs trees grow. The water is good, and there is fuel, but scarcely any forage. There is enough water for 600 men and 150 horses.

ROUTE 110.

From Katti-Kurgán fortified post to Petro-Alexandroff fortified post.

[From information by the District Staff.]

Katti-Kurgán, town of ... ..	...		...	...
Penshamba (village)	14		9	2 $\frac{1}{4}$		
Ghulkent	30		19	7		
Gardion	25		16	4 $\frac{3}{4}$		
Chakman-Tube	20		13	2		
Kalkán-Ata	20		13	2		
Arab-Khána	22		14	4 $\frac{3}{4}$		
Tash-Rabát, town of	28		18	4 $\frac{1}{2}$		
Khish-Duván (village)	35		23	1 $\frac{1}{2}$		
Vafkent "	28		18	4 $\frac{1}{2}$		
Liyakliak	36		23	7		
Jandor (village) 16 <i>versts</i> (10 miles 4 $\frac{3}{4}$ furlongs) from Bukhára.	25		16	4 $\frac{1}{2}$		
Caravansarai on the high road from Bukhára to Kára-Kul.	20	303	13	2	200	6 $\frac{1}{2}$

From Kalli-Kurgán fortified post to Petro-Alexandroff—concluded.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versta.</i>	<i>Versta.</i>	Miles.	Fur.	Miles.	Fur.	
Kára-Kul (village)	28	107	18	4 $\frac{1}{2}$	70	7 $\frac{1}{2}$	
Khoja-Davlet well	24		15	7 $\frac{1}{4}$			
Lake Kára-Kul	15		9	7 $\frac{1}{2}$			
Landing stage on the Amu-Daria	17		11	2 $\frac{1}{4}$			
Fort Osti	23		15	2			
Khoja-Kinepsi	16	10	4 $\frac{3}{4}$				
Ruins of Narkiz-Kala	23	15	2				
Jideili (point)	16	10	4 $\frac{3}{4}$				
Sari-Dágh (point)... ..	22	14	4 $\frac{3}{4}$				
Shurtakli opposite the ruins of Daya-Khatin-Kala in the Tekin pass.	22	14	4 $\frac{3}{4}$				
Kukertli, near the ruins of ...	22	14	4 $\frac{1}{2}$				
Ruins of Kizil-Rabát	21	13	7 $\frac{1}{2}$				
Burlu-Uzad-Tugai	14	9	2 $\frac{1}{4}$				
Uch-Chuchak (point)	28	18	4 $\frac{1}{2}$				
Ichke-Yár	20	13	2				
Meshekle	19	11	2 $\frac{1}{4}$				
Bezergen-Tugai	21	13	9				
Ak-Kámish	19	12	4 $\frac{3}{4}$				
Petro-Alexandroff fortified post...	26	287	17	2	190	1 $\frac{3}{4}$	
Number of marches 31 ...		697			462	0	

ROUTE 111.

[From the passage of the Amu at Shaik-Arik Canal viâ Hazâr-Asp to the Town of Khiva.]

[Route of the Turkistân detachment in 1873.]

Passage of the Shaik-Arik	...	...	...	...	...	...	...
Hazâr-Asp, town of	...	20	13	2	57	0	
Ishân (village)	...	17	11	2½			
Yangi-Arik (village)	...	20	13	2			
Khiva, town of	...	29	19	1½			
		86					

The width of the Amu at the point of passage is 550 sajenes (1,283 yards). The river flows in one branch. In the centre is a hollow. The passage is performed in native boats (*kayaks*). The road from the point of crossing runs through a continuously cultivated district by corn-fields and gardens right up to the town of Khiva.

ROUTE 112.

From the town of Khiva viâ the ruins of the town of Zamukshir to the town of Iliyâli.

[Traversed by Colonel Kostenko in 1873.]

Khiva, town of	...	...	...	...	...	...	...
Lake Zaikesh	...	27	17	7½	66	2	
Bederkesh (village)	...	19	12	4½			
Ruins of Zamukshir	...	38	21	7			
Iliyâli, town of	...	21	13	7			
		100					

} The road runs through cultivated country.
The road runs over a wild desert steppe; in places crumbling sands.

ROUTE 113.

From the town of Khiva to the ruins of Kunia-Urgench.

[By this route the detachment under Colonel Glukhovski marched in 1873 for the exploration of the Urun-Daria. There were topographers with the detachment.]

	From point to point.			Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.		Fur.
Khiva, town of		To the Shamrát canal the road is through a cultivated district. From Shamrát the steppe commences. The road is generally suitable. There is plenty of water at the camping ground; fuel and brushwood are found. There is ample forage at the camping ground and along the route, except over the extent of steppe from the Shamrát canal.
Kazavat (village)	20		13	2		
Old bed of the Amu (Daudan)	21		13	7 $\frac{1}{2}$		
Tashauz, town of... ..	26		17	1 $\frac{3}{4}$		
Iliyáli, town of	30		19	7 $\frac{1}{4}$		
Kizil-Tákir (garden)	20		13	2		
Shamrát canal	20		13	2		
Kush-Bend ,,	32		21	1 $\frac{3}{4}$		
Kunia-Urgench	3		1	7 $\frac{3}{4}$		
	172				114		0

ROUTE 114.

From Kunia-Urgench to Lake Sari-Kámish.

[The Urun-Daria expedition under Colonel Glukhovski followed this route in 1873.]

Kunia-Urgench		From Kunia-Urgench throughout the whole route there is fuel, brushwood (of saksaul and tamarisk), everywhere; but there is no forage except at the camping ground of the Dekche wells,
Arik-Kujuk	20		13	2		
Salak-Bend dam	24		15	7 $\frac{1}{2}$		
Igenklich ,,	25		16	4 $\frac{3}{4}$		

Ak-Bugut dam	...	...	24	15	$7\frac{1}{4}$		
Dekche wells	...	...	35	23	$1\frac{1}{2}$		
Sari-Kámish	...	...	16	10	$4\frac{3}{4}$		
Lake Sari-Kámish	...	...	8	5	$2\frac{1}{2}$		
			152			100	6

where there is plenty of reed fit for horses. There is water at the camping grounds in sufficient quantity and also of good quality except at the Dekche wells, where it is brackish and almost undrinkable. The water of Lake Sari-Kámish is totally unfit to drink.

ROUTE 115.
From Krásnovodsk to Lake Sari-Kámish.
 [Reconnaissance of 1875.]

Krásnovodsk	...	...	...	...	...
Kurt-Kuisi well	...	...	44	29	$1\frac{1}{4}$		Water in the well saltish.
Belek	...	...	33	21	7		Water brackish.
Káarachagli	...	...	24	15	$7\frac{1}{4}$		Water fresh.
Mula-Kari	...	...	24	15	$7\frac{1}{4}$		Do. do.
Tásh-Arvát-Kala	...	...	19	12	$4\frac{3}{4}$		Fresh springs.
Kosh-Agir	...	...	$23\frac{3}{4}$	15	6		Water fresh.
Aji-Kui well	...	...	29	19	$1\frac{3}{4}$		Water saltish and bitter.
Bukhu-Ruja	...	...	21	13	$7\frac{1}{2}$		Water brackish.
Zuïruk	...	...	$13\frac{1}{2}$	8	$7\frac{1}{2}$		Water fresh.
Askáb	...	...	25	16	$4\frac{3}{4}$		Do. do.
T'opiyatán	...	...	$16\frac{1}{2}$	10	$7\frac{1}{2}$		Wells and a lake with fresh water.
Burguk	...	...	26	17	$1\frac{3}{4}$		Water brackish.
Lake Jamála	...	...	$14\frac{3}{4}$	9	$6\frac{1}{4}$		Water fresh.
„ Khalmaji	...	...	22	14	$4\frac{3}{4}$		Water brackish.
„ Yanijá	...	...	33	21	7		Do. do.
„ Igdi	...	...	17	11	2		Water saltish.
Bála-Ishem well	...	...	48	31	$6\frac{1}{2}$		Water fair.
Ivanek (point)	...	...	12	7	$7\frac{3}{4}$		A waterless point on the Uzboi.
Kizil-Jakir (point)	...	...	25	16	$4\frac{3}{4}$		Do. do. do.
Torpáni (point) wells of Kech-Geldi.	...	...	15	9	$7\frac{1}{2}$		Water fit to drink.

From Krásnovodsk to Lake Sari-Kámish—concluded.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Kutani-Kubatat (point on the Uzboi)	15		9	7½			Waterless. A road from the Dekhli wells on the stony bank of the Uzboi leads to these wells.
Cherishli well	31		20	4½			
Nomad cemetery	20		13	2			Above this point on the Uzboi traces of canals are seen in which water used to run up to 1840. After rains there is plenty of water in the bed of the river, but it soon dries up. About 2 <i>versts</i> (1 mile 2¼ furlongs) before reaching this pit, the Uzboi intersects the Sari-Kámish road from Krásnovodsk to Khiva.
Káratásh (point)	12		7	7¾			
Rain pit	30		19	7			Wet salt-soil. The northern edge of this salt-soil. Water fit for use.
Kařilyaran-Kul	20		13	2			From here to Kunia-Urgench by the preceding route (Glukhovki's) is 152 <i>versts</i> , or 100 miles 6 furlongs.
Betendal-Gel	18¼		12	1			
Sari-Kámish]	20		13	2			
		65½¾			432	0¼	

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ROUTE 116.

From Kinderli to Khiva.

[Route of the Mangishlak detachment in 1873 taken topographically by Neprintseff.]

Porsu-Burun well at Kinderli*			* On the Caspian Sea.
On-Kaundi "	21	13	7¼			
Senek "	70½	46	6			

Bish-Akti	...	15½	10	2½		
Kámishái	"	13	8	4½		
Kárashek	"	30	19	7¼		
Búsága	"	32½	21	4¼		
Kára-Kin	"	20½	13	4¼		
Kínir	"	28	18	4½		
Uzun	"	11½	7	5		
Cherkezli	"	25	16	4½		
Iltenjá	"	24	15	7½		
Bailir	"	20½	13	4½		
Kizil-Agir	"	8½	5	5		
Baicha-Gir	"	53	35	1		
Tabán-Su	"	28½	18	7½		
Alan	"	13½	8	7½		
Irbasan	"	27½	18	2		
Kára-Kuduk	"	28	18	4½		
Chibin descent	"	41½	27	4		
Lake Iraili-Khachkan	"	30	19	7		
Kungrád, town of	"	24	15	7½		
Oguz (point)	...	24½	16	2		
Klad-Jargán well	...	18½	12	2		
Karabaili (point)	...	26	17	2		
Khojelli, town of	...	30½	20	1½		
Jalaigach-Chiganák (point)	...	28½	19	0½		
Mangit, town of	...	30½	20	1½		
Yangi-Bazár (village)	...	31½	20	7		
Kyat, town of	...	22½	14	7½		
Kosh-Kupir, town of	...	17	11	2½		
Khiva, town of	...	17	11	2		
TOTAL	...				539	0½
						813½

ROUTE 117.

From Khiva to Kinderli Bay.

[Route of the Mangishlak detachment in 1873, taken topographically by Neprintseff.]

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Khiva, town of ... ..	...		...	2 $\frac{1}{4}$			
Kosh-Kupir, town of	17		11	4 $\frac{3}{4}$			
Shah-Abád, town of	14 $\frac{1}{2}$		9		20	7	
		31 $\frac{1}{2}$					
Rappai (village)	21 $\frac{1}{2}$		14	2			
Iliyáli, town of	44		29	1 $\frac{1}{4}$			
		65 $\frac{1}{2}$			43	3 $\frac{1}{4}$	
Kizil-Tákir (hamlet)	20		13	2			
Alili, town of	10 $\frac{3}{4}$		7	1			
Kunia Urgench, town of	28		18	4 $\frac{1}{2}$			
		58 $\frac{3}{4}$			38	7 $\frac{1}{2}$	
Kop-Sheid well	21 $\frac{1}{2}$		14	2			
Koten-Kala (point)	31		20	4 $\frac{1}{2}$			
Kungrád, town of	42		27	6 $\frac{3}{4}$			
		94 $\frac{1}{2}$			62	5 $\frac{1}{4}$	
Ir-Ali-Khachkán	24		15	7 $\frac{1}{4}$			
Chibin descent	30		19	7			
Kára-Kuduk well	41 $\frac{3}{4}$		26	5 $\frac{1}{2}$			
Irbasán "	28		18	4 $\frac{1}{2}$			
Sunya-Temir "	39		25	6 $\frac{3}{4}$			
Amán-Jel "	40 $\frac{1}{2}$		26	6 $\frac{3}{4}$			
Tuzel-Bai "	31		20	4 $\frac{1}{2}$			

Kusheta	...	32 $\frac{1}{2}$	21	4 $\frac{1}{2}$		
Alkhe-Bek	"	18 $\frac{1}{2}$	12	2 $\frac{1}{2}$		
Khán-Bai	"	11	7	2 $\frac{1}{2}$		
Karsak-Jainav	"	11	7	7 $\frac{1}{2}$		
Al-Kruk	"	15	9	4 $\frac{1}{2}$		
Kagniti-Bába Khán	"	26 $\frac{1}{2}$	17	4 $\frac{1}{2}$		
Busaga	"	20 $\frac{1}{2}$	13	4 $\frac{1}{2}$		
Sai-Kuyu	"	28	18	4 $\frac{1}{2}$		
Kámishtí springs	"	30	19	7 $\frac{1}{2}$		
Bish-Akti well	"	13	8	4 $\frac{1}{2}$		
Jitikul (rain water basin)	"	28 $\frac{1}{2}$	18	6		
Art-Kaundi springs	"	37 $\frac{1}{2}$	24	5 $\frac{1}{2}$		
Porsu-Burun well (at Kinderli Bay on the Caspian Sea).	"	28	18	4 $\frac{1}{2}$		
					533 $\frac{3}{4}$	6 $\frac{1}{2}$
TOTAL	...				784	5$\frac{1}{2}$

ROUTES TO BUKHÁRA.

ROUTE 118.

From the town of Kazála to Bukhára (1st route).

[From information by the District Staff.]

Kazála, town of (passage of the Sir-Daria).	...	...	...	...
Lake Alambai	"	15	9	7 $\frac{1}{2}$		
Utebás well	"	18	11	7 $\frac{1}{2}$		
Irbai well (on the Kuván-Daria)	"	25	16	4 $\frac{1}{2}$		
Jabaga well	"	18	11	7 $\frac{1}{2}$		
Sari-Bulák springs	"	20	13	2		
Kuvat well	"	17	11	2 $\frac{1}{2}$		
Jamán-Cheganák well	"	25	16	4 $\frac{1}{2}$		

The road runs through sand-hills, grown over with bushes, thorn and tamarisk. From Irbibai the sand-hills are thickly overgrown with "saksaul."

From the town of Kazáda to Bukhára (1st route)—continued.

	From point to point.		Total between chief places.		From point to point.		Total between chief places.		REMARKS.
	Versts.	Miles.	Versts.	Miles.	Versts.	Miles.	Versts.	Miles.	
Jira-Kuduk well	15	9	7 $\frac{1}{2}$	4 $\frac{3}{4}$					} Waterless tract.
Ak-Kuduk "	30	19	7 $\frac{1}{4}$	0 $\frac{3}{4}$					
Karabas-Bugut "	35	23	1 $\frac{1}{2}$	2					
Irkibai fort and "	10	6	5	4 $\frac{3}{4}$					
Kizil-Kak ...	105	69	4 $\frac{3}{4}$	7	151	1			
Bakeli spring (Bukan mountains)	68	45	0 $\frac{3}{4}$	2					
Chili well	17	11	2	4 $\frac{3}{4}$					
Uz-Kuduk "	22	14	4 $\frac{3}{4}$	7					
Kok-Potas "	33	21	7	1 $\frac{1}{2}$					
Batpak-Kum sands	35	23	1 $\frac{1}{2}$	6 $\frac{3}{4}$					
Tumen-Bai well	42	27	6 $\frac{3}{4}$	1 $\frac{1}{4}$	236	5 $\frac{1}{4}$			
Tumen-Bai hill	35	23	1 $\frac{1}{4}$	1 $\frac{1}{4}$					
Jusali-Sai well	26	17	1 $\frac{1}{2}$	1 $\frac{1}{2}$					
Karak-Ata "	12	7	7 $\frac{1}{4}$	7 $\frac{1}{2}$					
Kizil-Kak "	18	11	7 $\frac{1}{2}$	7					
Agatma "	27	17	7	7					
Nazarbai "	28	18	4 $\frac{1}{2}$	4 $\frac{1}{2}$					
Vardanza (fort)	24	15	7 $\frac{1}{4}$	4 $\frac{1}{4}$					
Lyak-Lyaki (village) (passage of the Záratshán).	31	20	4 $\frac{1}{4}$	4 $\frac{1}{4}$					
Bukhára, town of	17	11	2 $\frac{1}{2}$	2 $\frac{1}{2}$	121	2 $\frac{1}{2}$			
TOTAL		768			509	0 $\frac{1}{2}$			

ROUTE 119.

From Kazála to Bukhára (2nd route).

[From information by the District Staff.]

Kazála ... ..	...	...	...	...	...	...	...	...	...
Lake Alambai	15	9	$7\frac{1}{2}$						
Utebás well	18	11	$7\frac{1}{2}$						
Irbai „	25	16	$4\frac{1}{2}$						
Jabaga „	18	11	$7\frac{1}{2}$						
Sari-Bulák springs	20	13	2						
Kuvat well	17	11	$2\frac{1}{4}$						
Jamán-Chaganák well	25	16	$4\frac{1}{2}$						
Karak well	20	13	2						
Taspen-Kazgán	25	16	$4\frac{1}{2}$						
Akkir	30	19	7						
Sari-Chaganák	15	9	$7\frac{1}{2}$						
Bukan	200	132	$4\frac{3}{4}$						
		428			283		$5\frac{1}{2}$		

ROUTE 120.

From Kazála to Bukhára (3rd route).

[From information by the District Staff.]

Kazála, town of ... ..	...	...	...	...	...	...	...	...	...
Lake Alambai	15	9	$7\frac{1}{2}$						
Utebás well	18	11	$7\frac{1}{2}$						
Irbai „	25	16	$4\frac{1}{2}$						
Jabaga „	18	11	$7\frac{1}{2}$						
Sari-Bulák „	20	13	2						
Kuvat „	17	11	$2\frac{1}{4}$						
Jamán-Chaganák „	25	16	$4\frac{1}{2}$						
Jira-Kuduk „	15	9	$7\frac{1}{2}$						

From Kazála to Bukhára (3rd route)—concluded.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles	Fur.	
Ak-Kuduk well	30		19	7 $\frac{1}{4}$			
Karabas-Bugut,,	35		23	1 $\frac{1}{5}$			
Bis-Tám „	20		13	2			
Uruunbai	12		7	7 $\frac{3}{4}$			
Onadim well	17		11	2			
Suinbai-Buguti	20		13	2 $\frac{1}{4}$			
Ak-Kuduk well	20		13	2			
Kára-Sor	10		6	5			
Tobadsbán (in the Bukan mountains).	90		59	5 $\frac{1}{4}$			
	<hr/> 407		<hr/>	<hr/>	269	6 $\frac{1}{4}$	

ROUTE 121.

From Katti-Kurgán to Bukhára.

[Traversed by Colonel Kostenko in 1870.]

Katti-Kurgán, town of			
Zira-Bulák (small hamlet) ...	12		7	7 $\frac{1}{5}$			Country open, slightly undulating, good for travelling. From the crossing by the bridge in Shirin-Khatin the Bukharian possessions commence, and the road runs through the beautifully cultivated Zárafshán valley amongst gardens, corn-fields, and small groves. The road preserves this character up to the village of Tásh-Kupriuk. Thence to Kernine it runs chiefly through open country; on the right of the road are gardens and fields, and on the left waste land bounded by a low range. From Kernine for about 12 <i>versts</i> (7 miles 7 $\frac{3}{4}$ furlongs) gardens extend, and then the road crosses the waterless steppe of Málik straight to the
Shirin-Khatin (village) (wooden bridge over the Nurapai canal).	6		4	0			
Mir (hamlet)	7		4	5			
Kalah-i-Daus, (small fort) ...	15		9	7 $\frac{1}{5}$			
Zia-ud-din town of	5		3	2 $\frac{1}{2}$			
Tásh-Kupriuk (village) (small bridge over the Nurapai).	4		2	5 $\frac{1}{4}$			
Fort Kernine	24		15	7 $\frac{1}{4}$			
End of gardens	12		7	7 $\frac{1}{4}$			

Málik (hamlet)	6	3	7 $\frac{3}{4}$		
Khair-Rabát "	24	15	7 $\frac{1}{4}$		
Bustán (large village)	4	2	5 $\frac{1}{4}$		
Uangati "	6	3	7 $\frac{3}{4}$		
Ata-Zanbat "	6	4	0		
Ak-Murud (hamlet)	4	2	5 $\frac{1}{4}$		
Kuyuk-Mazár "	8	5	2 $\frac{1}{2}$		
Tum-Arik "	4	2	5 $\frac{1}{4}$		
Khosya "	2	1	2 $\frac{1}{2}$		
Khoja-Yaksheba "	1 $\frac{1}{3}$	1	0		
Hasan-Khoja "	2	1	2 $\frac{1}{3}$		
Choloki	1 $\frac{1}{2}$	1	0		
Bogo-uddin (village)	2	1	2 $\frac{1}{2}$		
Bukhára, town of	9	5	7 $\frac{3}{4}$		
	165		109	3	

village of Kham-Rabát. The Málik steppe is at first flat and then slightly undulating; soil is stony sand. There is no water. From Kham-Rabát right up to Bukhára the road runs through a well-cultivated district with gardens, fields, vegetable gardens, canals, and habitations. The soil of the road is clayey salt, consequently this road is terribly dusty in the summer and excessively muddy in wet weather. From Bogo-uddin to Bukhára the road runs in a broad avenue, intersected with ditches and planted with trees. The soil is in places firm, in others sandy; across the irrigation cuts stone and tolerably solid bridges are thrown.

N. B.—From the village of Kuyuk-Mazár another road diverges to Bukhára *viâ* the village of Gurbun, situated at 7 *versets* (4 miles 5 furlongs) from Bukhára. The distance from Kuyuk-Mazár to Bukhára *viâ* Gurbun is the same as *viâ* Bogo-uddin, about 23 *versets* (15 miles 2 furlongs). Gurbun lies on the broad canal of Shah-Abád and serves as it were for a port to Bukhára. Wood is floated down to this point from the sources of the Zarafshán and stored here. From here to Bukhára, it is conveyed by road, either on *arâbas* or mules.

ROUTE 122.

From Samarkand to Bukhára viâ Chilek and Mitán by the right bank of the Zarafshán.

[From information by the District Staff.]

Samarkand ... ..	...	...	...
River Kára-Daria (cross by ford)	8 $\frac{1}{2}$	5	5		
Ak-Daria (cross by ford)	8	5	2 $\frac{1}{2}$		
Chilek (village)	13 $\frac{1}{2}$	8	7 $\frac{1}{2}$		
Sari-Kul "	5	3	2 $\frac{1}{2}$		
Metan "	21	13	7 $\frac{1}{2}$		
Karachali "	5	3	2 $\frac{1}{2}$		
Balta-Bek "	30	19	7		
Tasmachi (1)	5 ¹	3	2 $\frac{1}{2}$		
	96		63	5	

The road passes through the Zarafshán valley, excellently cultivated and thickly populated. Brooks and canals intersect the road. From Karachali the road rises to the hilly right bank of the Ak-Daria and runs through a steppe, uninhabited district. From Balta-Bek to Bukhára, the character of the road is as at first.

¹ Tasmachi is on the frontier, one half on one side of the Jaman-Bulák canal belongs to Russia, the other half on the other side to Bukhára.

From the hamlet of Tasmachi beyond this point to Bukhára the road is only known from enquiries, viz.—

	From point to point.			Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.		Fur.
Tasmachi	On the heights of Chichagáta, 2 <i>versts</i> ($1\frac{1}{3}$ mile) to the south, is the residence of the Beg, Fort Khatircha.
Chashir (village)	8		5	$2\frac{1}{2}$		
Chichagáta	12		7	$7\frac{3}{4}$		
Bakhcha-Kalián	16		10	$4\frac{3}{4}$		
Uch-Tut	12		7	$7\frac{3}{4}$		
Kalkan-At	8		5	$2\frac{1}{4}$		
Arab-Khána	24		15	$7\frac{1}{4}$		
Babadugi	8		5	$2\frac{1}{2}$		
Shapurkhán	12		7	$7\frac{1}{2}$		
Katagán	24		15	$7\frac{1}{2}$		
Fort Vardánzi	8		5	$2\frac{1}{2}$		
Lyak-Lyaki (village) (cross the River Zarafshán).	32		21	$1\frac{3}{4}$		
Bukhára, town of	16		10	$4\frac{3}{4}$		
TOTAL		180			119	$2\frac{3}{4}$
		276				

ROUTE 123.

From Samarkand viâ Jám to Shahr-i-Sabz.

[From information by District Staff.]

	From point to point.			Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.		Fur.
Samarkand, town of	The road is throughout a good wheel one. From Jám it runs over a slightly undulating steppe.
End of the oasis	30		19	7		
Jám (village)	40		26	$4\frac{1}{4}$		
Kitáb, town of	58		38	$3\frac{1}{2}$		
TOTAL		128			84		$6\frac{3}{4}$

ROUTE 124.

From Samarkand viâ Jám to Karshi.

[From information by the District Staff.]

Samarkand, town of			The road is suitable for traffic with carriages. The route runs over an undulating steppe, covered with grass. General Abramoff's detachment marched by this route in 1868, when acting against the rebel son of the Amir of Bukhára, Katti-Turya.
End of oasis	...	...	30	19	7		
Jám (village)	...	...	40	26	4½		
Shur-Kuduk well	...	...	29	19	1¾		
Karátegin	..	...	12	7	7¾		
Kungur-Tau	..	...	15	9	7½		
Kárshi, town of	...	...	17	11	2¼		
			143			94	6½	

ROUTE 125.

From Samarkand to Kitáb and Shár viâ Kára-Tube.

[According to Maef, 1st.]

Samarkand			This is the shortest route from Samarkand to Shahr-i-Sabz. <i>Arábas</i> can go as far as the village of Kára-Tube; beyond, the route is fit for pack animals to the hamlet of Kainar. The road from Samarkand at first runs through continuous gardens. At Ankhor-Arik the gardens cease and steppe commences, bare and lifeless, only covered with thorny bush in places. At 16 <i>versts</i> (10 miles 4¾ furlongs) from Samarkand the road crosses a deep ravine with steep banks. From here to Kára-Tube it is also 16 <i>versts</i> (10 miles 4¾ furlongs). Within 8 <i>versts</i> (5 miles 2½ furlongs) of Kára-Tube, the road enters the foot of the mountains, and therefore becomes more difficult. The road here becomes a small path in places, so that M. Maef is surprised how <i>arábas</i> can move along it.
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From Samarkand to Kitáb and Shár viâ Kára-Tube—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	
Kára-Tube (village)	32		21	1 $\frac{3}{4}$			The village of Kára-Tube lies in a hollow amongst high mountains. The road from Kára-Tube runs in the defile of Katta-Sai, in which flows a turbulent little mountain stream of the same name. It crosses from one side to the other. The ascent to the pass is at first hardly perceptible, but then becomes steeper.
Takhta-Karachi (pass)	20		13	2			The Takhta-Karachi pass consists of small open spaces, obstructed by huge granite boulders. Savin grows a little below the pass. The southern slope of the range is much steeper.
Kainar (village)	5		3	2 $\frac{1}{2}$			To the village of Kainar a path leads by a cornice above a deep precipice; the path is excessively sinuous and obstructed with round stones which roll down from the precipitous slopes. The village of Kainar lies at the exit from the Takhta-Karachi defile. From here the road becomes fit for wheels and runs through an inhabited district.
Urus-Kishlák (village)	6		3	7 $\frac{3}{4}$			Urus-Kishlak is a poor little village inundated by water.
Kitáb, town of	2		1	2 $\frac{3}{4}$	48	3	The two towns of Kitáb and Shár were not long ago surrounded by one wall about 80 <i>versts</i> long (53 miles), and which included in addition several villages with the gardens, fields, and vegetable gardens belonging to them. These entirely occupied the whole space within the wall ¹ .
Shár, „	8		5	2 $\frac{1}{4}$			
		73					

¹ This wall is now destroyed in many places.

ROUTE 126.

From Shár to Kárshi.

[According to P. A. Maeff (2nd), who traversed it in 1877.]

Shár, town of	<p>The road throughout runs along the Kashka-Daria through the continuously inhabited Kashka-Daria oasis. Between Chirakchi and Karatigán the oasis somewhat thins off. But there is no want either of water, forage, or fuel.</p>
Chirakchi, town of	...	...	20	...	13	2	
Karabágh (village)	...	...	16	...	10	5	
Chim-Kishlák	„	...	18	...	11	7 $\frac{1}{4}$		
Karatigan	„	...	12	...	7	7 $\frac{3}{4}$		
Khánabád, town of	...	...	12	...	7	7 $\frac{3}{4}$	
Kárshi,	„	...	12	...	7	7 $\frac{1}{2}$		
			90				59	5 $\frac{1}{2}$

ROUTE 127.

From Kárshi to Bukhára.

[According to P. A. Maeff (2nd), who travelled this route in 1877.]

Kárshi, town of	<p>The road passes through the continuously inhabited district of the Kárshi oasis.</p> <p>The village of Kassan, large and entirely commercial, constitutes the extreme western point of the oasis. From here the Kashka-Daria inclines to the north-west, and after passing Kassan 11 <i>verst</i>s (7 miles 2$\frac{1}{4}$ furlongs) reaches the Maimanak Mountains, where it loses itself in the sands.</p> <p>Together with the Káshka-Daria the gardens also disappear from the road, so that it soon begins to cross a completely bare and waterless steppe. There are only clumps of the Issirik grass¹ growing on the steppe.</p>
Kassan (village)	24	...	15	7 $\frac{1}{4}$		

¹ This grass is used by the Bukháriats for all diseases, for which it is sold in all the bazars in Bukhára. They dry the grass and burn it on coal, from which the sick man inhales the smoke. They also treat animals with it.

From Káshí to Bukhára—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
		Versts.	Miles.	Fur.	Miles.	Fur.	
Khoja-Mubárák (village) ...	30		19	7			The poor and miserable village of Khoja-Mubárák is situated on the steppe; it is destitute of anything green. Water is supplied from a canal, brought from the Kashka-Dária. At Khoja-Mubárák commence the cisterns (<i>sardaba</i>) erected formerly throughout Turkistán by the celebrated Abdulla Khán; these cisterns are now becoming ruined and unfit for use. At the present time there is only water in two of them, viz., in the <i>sardaba</i> at 5 <i>versts</i> (3 miles $2\frac{1}{2}$ furlongs) from Mubarah, and in the <i>sardaba</i> at Kakir.
Cistern at Kakir ¹ ...	28		18	$4\frac{1}{2}$			This <i>sardaba</i> is 15 <i>arshins</i> (35 feet) high from the cupola to the bottom, and when M. Maeff passed, the water stood at a depth of 5 <i>arshins</i> ($11\frac{2}{3}$ feet). From this cistern the steppe continues to Karaul-Bazár and for 2 <i>versts</i> ($1\frac{1}{3}$ miles) beyond it, so that its whole extent along the road comes to 80 <i>versts</i> (53 miles).
Karaul Bazár ...	20		13	$2\frac{1}{4}$			Karaul-Bazár is a caravan-sarai, also constructed by Abdulla Khán. Now this building is becoming ruined. Near the caravan-sarai is a small steppe bazar consisting of a few wretched little shops, and a well with brackish water, excessively repulsive to the taste (<i>vide</i> "Sketches of the Khanate of Bukhára," by N. A. Maeff, 1st, Táshkend 1875, p. 60). From Karaul-Bazár the character of the steppe changes, the soil becomes stony sand, and all vegetation completely disappears. This kind of steppe continues to the salt lake, situated on the high ground of Mama-Jugarta, from whence almost up to Bukhára a salt tract continues. From Mama-Jugarta to Bukhára is 16 <i>versts</i> (10 miles $4\frac{3}{4}$ furlongs). The salt tract, however, soon ceases, and the country commences to show signs

Bukhára	40	142	26	4	94	1
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of life with cultivation. From the village of Kagán at 8 *verst*s (5 miles $2\frac{1}{4}$ furlongs) from Bukhára the continuously inhabited oasis of Bukhára commences.

¹ There is a house here for the Amir in the event of his crossing the steppe.

ROUTE 128.

From Bukhára to the town of Charjui.

[From information by the District Staff.]

Bukhára, town of ... ..	...	...	...	...	...	...
Shahr-Islam (village)	24	...	...	...	...	...
Kára-Kul "	32	...	...	...	...	...
Ardan "	36	...	...	...	...	...
Dengiz	28	...	...	...	...	...
Passage of the River Amu	24	...	...	...	...	...
Charjui, town of	8	152	...	...	...	...

Up to Kára-Kul the road runs through a continuously populated oasis.

From Dengiz to the bank of the River Amu are the deep hilly sands of Sundukli.

ROUTE 129.

From the town of Kárshi to Guzár.

[According to N. Maëff, 1st.¹]

Kárshi, town of ... ..	...	...	...	...	...	...
Takhta-Kupriuk (village)	7	...	4	5	...	...
Yangi-Kend "	15	...	9	$7\frac{1}{2}$	...	...
Guzár, town of	18	40	11	$7\frac{1}{2}$	26	4

The road runs through a populated district. The village of Takhta-Kupriuk lies on the Bish-Arik canal; there is a bridge here. From Takhta-Kupriuk the country is flat, slightly undulating over steppe. The village of Yangi-Kend is a very poor one; it is situated on the River Guzár-Daria. There is little water, so that the inhabitants use well water. From here to Guzár the road is even and good. Villages are seen on each side. At the town is a ford over the Guzár-Daria.

¹ See work above quoted, pp. 10-17.

ROUTE 130.

From Uch-Chuchak to the town of Charjui by the right bank of the Amu-Daria.

[According to Khokhryakoff.]

	From point to point.		Total between chief places.		From point to point.		Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.			
Uch-Chuchak ... ..	...	...	...	...					From Uch-Chuchak the road runs up the right bank of the Amu over hard ground. There is sufficient grazing and fuel.
Ruins of Fort Turpak-Kala	28½		18	7¼					From Turpak-Kala the character of the road is as before.
Tik-Suvát (point)	30		19	7					From Tik-Suvát half way to Kizil-Rabát, and by the ruins of Fort Kukertli, there is an extent of sand for about 2 <i>versts</i> (1½ miles).
Ruins of Kizil-Rabát	30		19	7					From Kizil-Rabát the character of the road is as at first.
Ak-Yaska (point)	24		15	7¼					From Ak-Yaska for a distance of 3 <i>versts</i> (2 miles) slight sand, and then the road becomes firm, even, and good.
Jeniske-Tugai (point)	24		15	7¼					From Jeniske-Tugai there are at first deep sands, and then a good road.
Shortakli (point)	24		15	7¼					From Shortakli the road is also fair.
Ruins of Fort Kiz-Kala	30		19	7¼					From Kiz-Kala there are small sands at the commencement of the march, and afterwards the road is suitable for traffic.
Jideli (point)	30		19	7¼					From Jideli at the commencement of the march for a distance of 3 <i>versts</i> (2 miles) there is sand. At Ak-Rabát there is a Bukháriat settlement of fifty houses; the inhabitants are Tájaks. This is the commencement of the Bukhára oasis.
Ak-Rabát	26		17	2					From Ak-Rabát to Astu the road is good. Astu is a small fort, inside and in the neighbourhood of which Tájaks live. Food and forage can be purchased here.
Fort Astu	24		15	7¼					From Astu to the village of Karánch the road is fair.
Karánch (village)	24		15	7¼					From the village of Karánch the road runs through continuously cultivated country.

(120)

Passage of the River Amu
Charjui (town and fort)

...	24		15	7½	
...	8		5	2¼	
		326½			216
					3½

Charjui is one of the most important towns of the Khanate of Bukhára. It is the residence of a special *bekship*. The wall of the fort is falling down. There are in the town about 400 houses, of which half are empty, and about 100 shops in the bazar. Ten horse-mills. The cost of products in the market is as follows: One *batman* (239 lbs. avoird.) of rice costs from 8 to 11 *roubles* (25s. 4d. to 35s. 10d.); one *batman* of wheat from 3 *roubles* 20 *kopecks* to 3 *roubles* 60 *kopecks* (10s. 1½d. to 11s. 5½d.); one *batman* of "jugár" (? millet) 3 *roubles* (9s. 6d.); one *batman* of flour from 4 *roubles* to 4 *roubles* 40 *kopecks* (12s. 8d. to 13s. 11d.). There is no barley. For grinding one *batman* of wheat the price is 80 *kopecks* (2s. 6d.); one *batman* of cotton in the pod costs 7 *roubles* 20 *kopecks* (22s. 9½d.); one *batman* of silk 40 *roubles* (126s. 8d.); one *batman* of meat from 8 to 10 *roubles* (25s. 4d. to 31s. 8d.); one *pud* (36·113lbs.) of butter (cow) up to 5 *roubles* (15s. 10d.); a horse costs from 20 to 200 *roubles* (63s. 4d. to £21 13s. 4d.); a bullock from 10 to 30 *roubles* (31s. 8d. to 95s.); a cow from 8 to 20 *roubles* (25s. 4d. to 63s. 4d.); a sheep 5 *roubles* (15s. 10d.); a camel from 30 to 80 *roubles* (95s. to 253s. 4d.); "saksaul" wood is brought from a distance of 40 *verst*s (26½ miles), and sold for 60 *kopecks* (1s. 11¼d.) the camel load. There is no other fire-wood, and "saksaul" is only brought in in the winter.

ROUTE 131.

From the Nárin fortified post to Káshgar.

[According to Beintal, who traversed this route in 1875.]

Nárin (fortified post) (on the River Nárin).	...	...	...
River Ash-Básh	30	19	7		
Sari-Bulák (stream)	25	16	4¼		

From the Nárin fortified post to Káshgar—concluded.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	
	Shirikti (stream)	25		16	4½		
Masali "	25		16	4½			
Chirmash "	25		16	4¾			
Kotur-Tásh (point on Lake Chatir-Kul).	25		16	4½			
Kára-Korum	28		18	4½			
Káshgar Tuyun (picket)	20		13	2			
Do. Suek "	22		14	4¾			
Chakmak (fortified post) (belonging to Káshgar).	15		9	7½			
Murza-Terek (picket)	15		9	7½			
Akchi "	30		19	7			
Tezek-Tásh "	20		13	2¼			
River Artish	10		6	5			
Mazár (picket)	15		9	7½			
Káshgar, town of	6		3	7¾			
Yangishahr (citadel of Káshgar)	6		4	0			
		342			226	5¾	

Routes in the Bekships of Hisár and Kulyáb belonging to Bukhára.

These routes were compiled from semi-instrumental surveys, carried out by M. Maëff, 1st, during his expeditions in the Hisár district in the years 1875, 1878, and 1879. From Shahr-i-Sabz to Hisár three routes lead, which are closed on the Shahr-i-Sabz side by three fortresses, viz.: Yakka-Bágh closes the entrance to the Yakka-Bágh valley, through which the most eastern route passes; Yár-Tube, with a citadel now fallen into complete decay, bars the entrance to the Yaman-Chagán defile by which the Kalta-Minar road runs; and Guzár blocks the road leading through the Guzár defile.

ROUTE 132.

From the town of Shár¹ viâ Tâsh-Kurgán to Sar-i-Jui.

Shár, town of	...	...	...	...	...	...	...	...	...	<p>The road from Shár to Yakka-Bágh runs through the continuously cultivated lands of the Shahr-i-Sabz valley. It is even and good. The gardens of Yakka-Bágh commence at 4 <i>versts</i> (2 miles $5\frac{1}{4}$ furlongs) from the tumulus. Yakka-Bágh is situated on the bank of the Yakka-Bágh Daria. The climate of Yakka-Bágh is very injurious, and fevers are obstinate.</p>
Yakka-Bágh, town of	...	...	19	...	12	...	4 $\frac{3}{4}$	...	...	<p>From Yakka-Bágh to Tash-Kurgán the road at first lies in the Yakka-Bágh valley along the river, which is a swift mountain stream. From the village of Pahár the road rises steeply by zig-zags in the rocky slopes of the Mas-Kára-Khoya range covered with savin and similar brushwood vegetation. Near the summit the road becomes less steep and is easily practicable to the very summit, which forms a rocky rugged ridge. Having passed this ridge the road commences to descend into the Tash-Kurgán valley, still lying on the northern slope of the Hisár range.</p>
Tâsh-Kurgán (village)	...	...	46	...	30	...	4	...	...	<p>The descent at first is convenient, but then becomes very steep and difficult.</p> <p>The road presents a narrow path covered with hill rubbish, which winds incessantly round the projections of rocks at the very edge of a precipice. The descent leads direct to the gardens and fields of Tash-Kurgán, a large hill village.</p> <p>Tash-Kurgán uses water from mountain springs. The Tâsh-Kurgán Daria stream (the sources of the Yakka-Bágh Daria) runs below the village in a deep gorge and is joined here by another stream, Shud-Arad, full of water. The passage of the Tâsh-Kurgán Daria is by a bridge of primeval construction, and the Shud-Arad is crossed by a ford. After crossing the Tâsh-Kurgán Daria the road rises on the red sandstone slopes of the Tâsh-Kurgán mountains bordering the Tâsh-Kurgán valley. These mountains form an undulating, hilly highland, and are everywhere covered with cultivation.</p>

¹ Another name for Shahr-i-Sabz.
M. Oshânin also travelled by this route in 1878; his route somewhat differs from that of M. Maef.

From the town of Shár viâ Tâsh-Kurgân to Sar-i-Jui—continued.

From point to point.	Total between chief places.		From point to point.		Total between chief places.	
	Versts.	Miles.	Fur.	Miles.	Fur.	Miles.

There is wood (*archa*!) everywhere in abundance. Gradually getting higher the road at last rises to the main ridge of the Hisâr range, at the Lagari-Murda pass. Two roads traverse this pass; the first of these routes is the shorter, but very difficult; the other considerably better, though but little used. In order to attain the shorter route, the road turns to the right, and by an even easy slope rises to the very summit of the pass, which forms a gravelly even, cupola-formed open space. Here there are two pyramidal heaps formed of stone, marking the summit of the pass. The difficulties then begin with the descent from the pass, and the Jigits only make use of this road on hurried marches. They travel the greater part on foot, leading their horses. Excessively steep and dangerous owing to numerous landslips, the descent leads down to the bed of the small saltish stream, the Sârimsk-Bulâk (or Sur-Su). Here the road rises on to an even, gravelly, open space, and runs along it to red sandstone hills grown over with *archa* and forming the slope of a deep channel called the Sârimsklik, in which flows the mountain stream of the same name. This channel leads to the narrow Bakhcha gorge, which has been pierced through the rocky overhanging masses by water. The width of the Bakhcha gorge is from 5 to 10 paces. The rocks almost meet over the head of the traveller, owing to which continuous semi-darkness reigns in the whole gorge. Along the edge of the gorge a stream trickles, which fills up the whole of it in the spring season when the snow melts; communication then ceases here. This gorge, however, does not extend for more than 20 to 30 *sajens* (47 to 70 yards). The second route leading from the Lagari-Murda pass runs to the left of the first,

Bakhcha (village)	32½	21	4¼
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just described, and also comes out in the gorge mentioned above. The descent is by terraces which have short but very steep slopes, and it runs round the deep channel by a narrow cornice. From there the road runs by the Surfa range, crosses once more a shallow valley, covered with good grass, and by a series of gradual ascents and descents comes out finally in the Sarim-saklik channel. The gorge above mentioned may also be avoided by going more to the west by a convenient and good river channel leading out on the Bakhcha-Sai valley, into which the road through the Bakhcha gorge also leads. From the Bakhcha gorge the road lies through the narrow defile of the Bakhcha-Sai forming the upper part of the Sang-Gardak defile. Here the road runs, now on cornices overhanging the mountain stream, flowing swiftly over enormous stones (Sang-Gardak Daria), now on the bank of the stream itself crossing incessantly from side to side. The road is very stony and dangerous, and often ascends by a steep path the heights on the bank, in order to avoid the bed of the river which is too stony and difficult for passage. The village of Bakhcha is situated in a small hollow formed by the heights on the bank receding from the bed of the stream. Like all hill villages situated in defiles, it occupies small space in width, but extends lengthwise along the defile. Huts and gardens interspersed with small patches of ploughed land are placed in groups, wherever the most suitable places for habitation occur. The road from the *kishlak* (village) of Bakhcha to that of Sang-Gardak is just as difficult as the preceding portion from the Bakhcha gorge to Bakhcha, and crosses incessantly from one side of the Sang-Gardak Daria to the other. With low water, crossing is usually done by fording; but in spring and summer, when the water is high, bridges are used, constructed at different places. The construction of these bridges is excessively simple; it is merely a few trunks of fir cut down and thrown across from one bank to the other.

¹ Dwarf fir or pencil cedar.

² Higher up on the descent there is no *urcha* or any other trees.

From the town of Shár viâ Tásh-Kurgán to Sar-i-Jui.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Sang-Gardak (village)	13		8	5			<p>The village of Sang-Gardak is much more extensive than Bakhcha, but has the same character as all mountain villages. In Sang-Gardak lives the "Amlak-Dar," who not only has authority over the local population of the <i>kishlák</i>, but over the nomads living in the mountains.</p> <p>The road beyond Sang-Gardak to the exit from the defile is less difficult, although also very difficult to traverse in many places. Where the narrow path, clinging to the sides of the rocks on the very edge of a precipice, becomes too narrow (1 to $1\frac{1}{2}$ <i>arshins</i>, or $2\frac{1}{3}$ to $3\frac{1}{3}$ feet), balconies are constructed; where the rocks approach to the very edge of the river bed, heaps of stones are thrown down, over which a road has to be picked. On this portion of the route also the road is often taken over the side heights, to avoid the bank of the river, which is obstructed with huge boulders that have fallen down from the neighbouring cliffs.</p> <p>At 2 <i>versts</i> ($1\frac{1}{3}$ miles) from Sang-Gardak down the defile, an abundant spring of water, clear as crystal, flows from the precipitous rock. The whole of this defile, commencing from the Bakhcha gorge, where it begins, to the very end or exit, is grown over with most varied kinds of tree and shrub vegetation.</p> <p>The nearer you get to the issue of the defile on to the plain, the better and more even becomes the road. At the very end of it is situated the village of Dagan, surrounded by fields and gardens. Eight <i>versts</i> (5 miles $2\frac{1}{2}$ furlongs) beyond is the town of Sar-i-Jui on the bank of the River Tupalan (Tupalak).</p>

Sar-i-Jui	43	153½	28	4	101	6	<p>The citadel of the town is not kept up and is falling into ruins like all the citadels of the Hisár district, which have now already lost their military significance.</p> <p>Sar-i-Jui is the place of abode of a Bek, to whom also since 1879 the town of Sar-i-Osio with its district, and that of Urchi, are subject. In both the towns named, which formerly had their own separate Beks (Beks), Amlak-Dars are now established, furnished by the Bek of Sar-i-Jui. The road from the village of Dagan to the town of Sar-i-Jui is everywhere even and suitable for traffic. Besides this route there is also the direct route from the village of Dagan to Urchi. From Dagan to Urchi is 16 <i>versts</i> (10 miles 4¼ furlongs).</p>
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ROUTE 133.

From Shár to Derbent viâ the village of Katta-Minár.

Shár, town of Chim-Kurgán (village)	16		10	4¾			<p>From Shár the road runs through uninterrupted cultivation amongst rice-fields, which can be easily inundated, of which fact the people of Shahr-i-Sabz used to take advantage in their wars with the Amir Nasrullah. From Chim-Kurgán the road passes villages partly in fields sown with wheat (rice is not sown here) and partly in uncultivated ground used for pasturing camels. Between the <i>kishlaks</i> of Komadan and Yár-Tube the wheat-fields again begin. Yár-Tube is a large village on the mountain stream, Lyanger-Bulák. The citadel of Yár-Tube is almost entirely ruined and is no longer kept up.</p> <p>At 6 <i>versts</i> (4 miles) beyond Yár-Tube the road enters the mountains and runs between gently sloping hills in a broad, even valley. At the beginning of the Yár-Tube defile the road to Yakka-Bágh turns off. At 15 <i>versts</i> (9 miles 7½ furlongs) from Yár-Tube the road traverses the stony defile of Darwáza-i-Kam.</p> <p>The village of Katta-Minár is situated on the mountain stream Katta-Uru Daria; this is the residence of an "Amlak-Dar."</p>
Yár-Tube	24		15	7¼			

From Shár to Derbent viâ the village of Katta-Minár—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
		Versts.	Miles.	Fur.	Miles.	Fur.	
Katta-Minár (village)	28		18	4½			<p>From Katta-Minár the road leads over undulating elevated open ground with moderate slopes. A difficult ascent is met with on issuing from the village of Katta-Minár in rising on to the Tâsh-Tube range. The spring of Shakar-Bulák is half way between Katta-Minár and Kára-Khoval. Four <i>versts</i> (2 miles 5¼ furlongs) further on, the spring of Unar-Bulák is met with. Here the road leading from the village of Kush-Lush to the Guzár road branches off.</p> <p>On leaving the village of Kára-Khoval the road rises by a steep and narrow path on to the Azis range. After this at the village of Kotur-Bulák the road runs in a rocky defile, stony and difficult for travelling. Beyond, the country becomes more even and at the villages of Rusta-Bulák and Ak-Rabát is perfectly suitable even for vehicles.</p> <p>At Ak-Rabát the Kalka-Minár road joins the Guzár one.</p>
Kara-Khoval „	20		13	2¼			
Ak-Rabát „	24		15	7¼			
Derbent, town of	16		10	4¾			
		128			84	6¾	

(128)

ROUTE 134.

From Shár to Guzár.

Shár, town of	} <i>Vide</i> last route, No. 133.
Chim-Kurgán (village)	16	10	4¾		
Yár-Tube	24	15	7¼		
Guzár, town of	24	15	7¼		
		64		42	3½

From Yár-Tube runs over even, slightly undulating country, covered with stones and intersected with canals (*ariks*).

ROUTE 155.

From Jám to Guzár.

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Jám (village)	<p>From Jám, which lies at the foot of the mountains, the road once enters them, and at $1\frac{1}{4}$ <i>versts</i> ($6\frac{1}{2}$ furlongs) from turns to the left at a granite pillar. Although this road is convenient for <i>arabas</i>, it is very difficult. The deep ruts, increased by the rain water, make travelling difficult. The road runs the whole time along a stream, sometimes approaching close to steep and broken bank.</p> <p>At almost half way is the mountain village of Arab-Bendi. A few <i>versts</i> further on is an extensive hollow with spring water. The village of Kará-Kiya (Bish-Chashma) is situated in a small valley, watered by the Kará-Kiya-Bulák stream. Along its banks are scattered small patches of lucerne grass, and barley.</p> <p>The right bank of the stream is more gently sloping than the left, which descends in terraces. On its sloping open space are situated 10 to 15 earth huts (Kará-Ui) of the Uzbaks, of the Kipchak-Sarai tribe.</p> <p>In the summer the village is empty, as all the inhabitants have fled to the mountains. Halt can be made for rest at the village of Arab-Bendi, almost half way or at the ascent to the pass of the small hollow with spring water.</p> <p>The road along the Jám defile requires making in many places, which should consist in smoothing down the deep gullies and in constructing slopes (ramps) where the road descends on to the slopes of the hill, as it is quite destroyed at its entrance to the hollow.</p> <p>The village of Kará-Kiya is situated 2 <i>versts</i> ($1\frac{1}{2}$ miles) to the side of the road.</p> <p>At 6 <i>versts</i> (3 miles $7\frac{3}{4}$ furlongs) from the turn of the Chirákechi road towards Kará-Kiya it issues from the hills.</p>
Kará-Kiya (village)	...	...	20	13	2			

From Jám to Guzár—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
							<p>The route from Kará-Kiya through mountains, and beyond them over steppe, presents no difficulties whatever. At the issue of the road from the mountains the Uchun canal flows, conducted from the Kará-Kiya Bulák.</p> <p>From Kará-Kiya right up to the Kashka-Daria no settled inhabited points are met with. The mountain steppe, covered with short-growing, burnt-up grass, is only enlivened by the "kibitkas" (nomad huts) of Nomad Uzbaks and by their herds. There are plenty of wells on the steppe, but they are very deep, not less than 50 to 60 paces¹, which is evident from the paths beaten out by the men in drawing up the buckets or skins. There is abundance of water in the wells.</p> <p>At $\frac{1}{4}$ <i>verst</i> (300 yards) from the Uchun canal a road branches off leading to the village of Kará-Tube, 2 <i>versts</i> ($1\frac{1}{2}$ miles) from Chirákchi on the Káshka-Daria, and somewhat before this the road leading to Shár and Kitáb is seen. Both these roads pass wells.</p> <p>At 8 <i>versts</i> from the issue (5 miles $2\frac{1}{2}$ furlongs) from the mountains the Chirákchi road rises to a high ridge (Kir) with a gentle opposite slope. Eight <i>versts</i> (5 miles $2\frac{1}{2}$ furlongs) still further on the road crosses the dried-up bed of the Chuyan-Daria, after which the range of heights of the Chuyan-Kirler at once commences.</p> <p>On its south side is the Chuyan well, $\frac{1}{4}$ <i>verst</i> (300 yards) from</p>

Kok-Tásh well	...	...	...	20	13	2		
Chirákchi, town of	...	...	18	58	11	7½	38	3½

the road ; 5 *versts* (3 miles 2½ furlongs) further on are the three wells of Kok-Tásh with good water where one can camp. Halt can be made at the Chuyan wells.

The road on this march nowhere requires repair.

The character of the country on this march is the same as on the former one, *viz.*, even and slightly undulating steppe, covered with dried up grass. At 8 *versts* (5 miles 2½ furlongs) from the Kok-Tásh well are the wells and wintering place of Ikezak, with small plots of wheat cultivation ; 8 *versts* (5 miles 2½ furlongs) further on is the village of Kal-Tube on two canals led in from the Káshka-Daria. Two *versts* (1½ miles) further beyond the Káshka-Daria is the town of Chirákchi. The whole extent between Kal-Tube and Chirákchi is taken up with fields chiefly rice and wheat. The passage of the Káshka-Daria is by a ford at the town itself. Usually the Káshka-Daria has very little water in it, but in the year 1878 the water was very high. One can encamp for the night in a level and dry field on the Ab-i-Partau canal, on the west side of Chirákchi. Halt for rest can be made at the Ikezak wells, 10 *versts* (6 miles 5 furlongs) from Chirákchi.

The road on this march requires no repair. It runs the whole time over an even, dry steppe through fields, and is several times intersected by canals bearing the general name Kairma. The chief canal bearing this name, and from which all the secondary ones are led, is seen on the right of the road between steep banks. At 6 *versts* (4 miles), at a single hut, a road leading to the village of Kairma branches off to the right. From the Igre-Kul-Sai ravine it is 8 *versts* (5 miles 2½ furlongs) on to Kará-Bágh. The *araba* road suddenly makes a sharp bend in order to avoid this same Igre-Kul-Sai ravine, and runs meandering through sown fields.

A camp for the night may be chosen on the Guzár road behind the village of Kará-Bágh on fallow wheat-fields. Halt for rest at the Kairma canal, 8 *versts* (5 miles 2½ furlongs) from Kará-Bágh at the bifurcation of roads.

¹ Sic in original. A queer way of measuring depth.

From Jám to Guzár—concluded.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Kará-Bágh (village)	24.		15	7 $\frac{1}{4}$			<p>The road on this march also runs over the same even steppe, enlivened by wheat-fields near the villages. A whole group of villages, called Kará-Bágh, are situated near each other on the canals leading from the Yakka-Bágh-Daria or Kizil-Su. From the central village to the outside one is 3 <i>versts</i> (2 miles). At 4 <i>versts</i> (2 miles 5$\frac{1}{4}$ furlongs) further the road runs through a belt of gardens and fields, disposed in a long band along the steppe on the Kamai canal (issuing from the Lyangar-Bulák near Yár-Tube and running almost to Chim-Kurgán). This group of settlements bears the general name of Kamai, after the canal watering them.</p> <p>At 11 <i>versts</i> (7 miles 2$\frac{1}{4}$ furlongs) from Kará-Bágh, another high road crosses, running from Kárshi <i>viá</i> Chim-Kurgán to Yár-Tube. Between this road and a small series of heights on the left, Uzbek villages (<i>auls</i>) have established themselves at brackish wells. This point is called Uch-Tube. The nomads bring water for drinking from cisterns, constructed further on near the mountains. From Kará-Bágh to these "auls" is 13 <i>versts</i> (8 miles 5 furlongs). At 23 <i>versts</i> (15 miles 2 furlongs) the road once again crosses a range of heights, with very easy slopes and not difficult for movement. From this range commences an uninterrupted series of wheat-fields belonging to Guzár and the neighbouring villages. At 11 <i>versts</i> (7 miles 2$\frac{1}{4}$ furlongs) from Guzár the road crosses the Abarde canal, and at 2$\frac{1}{2}$ <i>versts</i> (1 mile 5$\frac{1}{4}$ furlongs) further passes</p>

Guzár, town of	34	58	22	4 $\frac{1}{4}$	38	3 $\frac{1}{2}$
TOTAL ...		116			76	7

the village of Abarde. From this to Guzár is 8 $\frac{1}{2}$ *versts* (5 miles 5 furlongs). One can camp at Guzár itself on the canal led from the Guzár-Daria on the reaped corn-fields. Halt for rest can only be made on the steppe without water, which, in case of necessity, can be obtained in skins from Kamai canal. The road requires no repairs.

ROUTE 136.

From Guzár to Shir-Abád.

Guzár, town of		
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Guzár is a large town with a strong citadel, and is one of the most important towns of the Bukhára Khánate. It forms the commercial centre to which the nomads drive their flocks in enormous quantities for the great weekly bazar on Thursdays. They also bring in wood, salt, and lead; 4,000 head of sheep and cattle are driven in to the Guzár bazar every week, so that purchasers come here from Kárshi and Bukhára. Guzár lies at the entrance to the easily-traversed Guzár defile, which commences at 8 *versts* (5 miles 2 $\frac{1}{2}$ furlongs) from the town. At 3 *versts* (2 miles) from the town the road rises to the crest of a gentle ascent. There the road after inclining from the Guzár-Daria for a distance of 1 *tash* (5 miles 2 $\frac{1}{2}$ furlongs) from it again approaches it. At 8 *versts* (5 miles 2 $\frac{1}{2}$ furlongs) from the town at the entrance to the mountains, the Kará-Kamar ravine crosses the road. At 4 *versts* (2 miles 5 $\frac{1}{2}$ furlongs) beyond this there is a "sarai." Here the channel of the Ilchi-Galdai branches off on the left of the road. The village of Kush-Lush stands at the junction of the two rivers, Katta and Kichi-Uru-Daria, which form together the Guzár-Daria.

From Guzár to Shir-Abád—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			Versts.	Versts.	Miles.	Fur.	
Kush-Lush (village)	16		10	$4\frac{3}{4}$			<p>The march from Guzár to Kush-Lush does not present great difficulties for the movement of wheel transport. The road requires repairing only at the following points: (1) at 11 <i>versts</i> (7 miles $2\frac{1}{4}$ furlongs) near the entrance to the mountains; (2) at 15 <i>versts</i> (9 miles $7\frac{1}{2}$ furlongs) there is a very stony bit, but it is passable for <i>arabas</i> even in its present (then) condition, although with difficulty. In moving on to the Amu-Daria, halt for rest can be made $\frac{1}{2}$ <i>verst</i> ($\frac{1}{3}$ mile) this side of the Kará-Kamar ravine, on the bank of the Guzár-Daria, where there is a broad open space, partly occupied by wheat-fields. Camp for the night may be chosen on the broad and level open space in front of the village of Kush-Lush (this district is also called Kush-Lush), or else crossing the Kichi-Uru-Daria at the point where the road to the Kará-Khoval valley branches off.</p> <p>In moving back towards Táshkend, halt for rest may be made at Kará-Kamar or a little nearer Guzár on the Guzár-Daria; camping ground may be taken either on the Augum-Bágh canal (2 <i>versts</i> from the town behind a hill) or at the village of Yár-Tube on the Guzár-Daria.</p> <p>At the village of Kush-Lush the road bifurcates; one branch leads out to the Anar-Bulák spring on the main Kálta-Minár road, and the other branch leads to Derbend <i>viá</i> Tenga-Khoram, Chashma-i-Háfiz-Ján, and Ak-Rabát. Here both roads re-unite. In the reconnaissance of M. Maeff to the Amu-Daria in 1878, he was obliged to choose, not the same road he travelled in</p>

Tenga-Khoram (point)	20	13	2 $\frac{1}{4}$
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1875, but the other; the cause or this was owing to the heavy flood in the Guzár-Daria from the almost incessant spring rains and the abundance of winter snow. The road which he chose twice crosses the Kichi-Uru-Daria at the village of Kush-Lush, and then almost the whole distance up to the point Tenga-Khoram follows the right bank, only crossing to the left at a few places.

This road is considerably more difficult than the previous march from Guzár to Kush-Lush, especially at the beginning. At 5 *versts* (3 miles 2 $\frac{1}{2}$ furlongs) from Kush-Lush the road crosses the deep ravine of Gum-Bulák, and $\frac{1}{2}$ *verst* further ($\frac{1}{2}$ mile) the still steeper ravine of Yár-Tube. At the point where the road clings to the steep slopes of the mountain, it would be easy to construct a descent to the bank of the Kichi-Uru-Daria, where the road is good. From Yár-Tube the broad and easy Kará-Chash valley begins. The "ziárat" of Bibi-Kará-Chash, to the right of the road in the mountains, is considered half way.

The road requires repairing at the following points: (1) descent and ascent at the Gum-Bulák and Yár-Tube ravines; (2) at 7 *versts* (4 miles 5 furlongs) from Kush-Lush, at the bend of the Kichi-Uru-Daria; (3) at 1 *verst* ($\frac{3}{4}$ mile) from Tenga-Khoram; also at the head of the Kichi-Uru-Daria, where the road passes under overhanging and partly fallen rocks. The road runs over an even, slightly undulating, gravelly and in parts stony plain. At 2 *versts* (1 $\frac{1}{2}$ miles) from the camping ground the road crosses the River Kon-Sai; at 4 $\frac{1}{2}$ *versts* (2 miles 7 $\frac{1}{2}$ furlongs) the ravine of the Tuz-Sai stream flowing out of the salt mines 16 *versts* (10 miles 4 $\frac{1}{2}$ furlongs) from the road; at 10 *versts* (6 miles 5 furlongs) the Kon-Sai stream enters the defile of Ak-Dagán. Here throughout the whole defile the road is very difficult for movement. On issuing from the defile the broad and easy valley of Uzun-Kuduk extends beyond, so called from the name of a well which lies in it at 12 *versts* (7 miles 7 $\frac{1}{2}$ furlongs) from Tenga-Khoram. The water in the well is very good and fresh; the brooks running here dry up

From Guzár to Shir-Abád—continued.

From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
		Miles.	Fur.	Miles.	Fur.	
<i>Versts.</i>	<i>Versts.</i>					
						<p>in summer. From Uzun-Kuduk the valley is called Sari Kamar. At 14 <i>versts</i> (9 miles 2¼ furlongs) from Tenga-Khoram the ascent to the Tásblag-Misháb mountain commences. From here a distinct and uninterrupted ascent by terraces commences to Ak-Rabát, the highest point of this ascent. At 5 <i>versts</i> (3 miles 2½ furlongs) from Chashma-i-Háfiz-Ján cultivation begins, and at 4 <i>versts</i> (2 miles 5¼ furlongs) from it there is a single branching tree (<i>archa</i>) on the road. This point is called Yak-Archa. The village of Chashma-i-Háfiz-Ján is situated on the brook of the same name. The whole country between Kush-Lush and Chashma-i-Háfiz-Ján is completely unwooded, unless the smallest bushes of tamarisk and a few willows met with on the streams on the road are taken into consideration.</p> <p>At Chashma-i-Háfiz-Ján vegetation is more abundant; bushes of barberry, tamarisk, and willow are met with about and serve as fuel to the local inhabitants and passing caravans. Wood, however, for fuel (dry savin and maple) can easily be obtained from the mountains at Ak-Rabát on camels and mules. Wood is also supplied from these hills to Guzár and Kárshi. One <i>araba</i> load of savin wood costs in Guzár from 20 to 40 <i>kopecks</i> (1¾ <i>d.</i> to 3¾ <i>d.</i>). On this march the road only requires serious work as follows: (1) At the descent into the Tug-Sai ravine, 4½ <i>versts</i> (3 miles) from Tenga-Khoram; (2) in the Ak-Dagán defile, at 10 <i>versts</i> (6 miles 5 furlongs), where blasting would probably be required in some places. Halt for rest</p>

Chashma-i-Háfiz-Ján	22	14	4½
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can be made at Uzun-Kuduk well at 12 *versts* (7 miles 7¼ furlongs) from Tenga-Khoram and 10 *versts* (6 miles 5 furlongs) from Chashma-i-Háfiz-Ján.

From the open space on which the village of Chashma-i-Háfiz-Ján is situated, a distinct and still steeper terrace-like ascent again commences. The route is enlivened by savin and maple trees scattered on the slopes of the mountains about the road. At 2 *versts* (1½ miles) from Chashma a spring with saltish water, but fit to drink, is met with on the road. Further on, at 6 *versts* (4 miles) from Chashma, there is a "sarai" on a stream with good water. This point and the stream bear the common name of Ak-Rabát. The highest point of the whole ascent, the Ak-Rabát pass, is 10 *versts* (6 miles 5 furlongs) from Chashma-i-Háfiz-Ján. At the descent from the pass, at a half-ruined caravan-sarai (Rabát), the road bifurcates; one branch goes straight by the valley of Chakcha and the defile of the Iron Gate to Derbend, and the other branch turns to the north and leads *viá* Kará-Khoval and Kálta-Minár to the valley of Shahr-i-Sabz. On the descent from the pass, at 1 *verst* (¾ mile), there is a narrow gorge (crevice) of Táh-Kalama, formed by two rocks approaching each other, after which the Chakcha valley commences a very uneven, undulating, and cut up locality. Along the bottom of the valley runs the Chakcha brook flowing from the Ak-Rabát mountains. The Chakcha valley extends for 8 *versts* (5 miles 2½ furlongs), and is closed at the end by a high mountain ridge. The road enters a narrow, picturesque, and very winding gorge, about 2½ *versts* long (1 mile 5¼ furlongs). This is the Iron Gate, or Buzgola-Khána (Russian Jeléznaya Voratá). The bottom of the defile is very stony, but traffic is practicable for vehicles. The Chakcha brook flows at the bottom of the defile, but it dries up here in summer. On issuing from the defile of the Iron Gate the road lies for 4 *versts* (2 miles 5¼ furlongs) in a broad, even, and easy valley to the "ziárat" and sarai on the Shur-Ab brook. The water in the brook is good, notwithstanding that its name signifies "salt water."

From Guzár to Shir-Abád—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Shur Áb	25½		16	7¼			<p>The road from Chashma-i-Háfiz-Ján to the Shur-Áb stream may be reckoned as difficult, and requires much putting in order and serious work.</p> <p><i>1st.</i>—At the ascent to the highest point of the Ak-Rabát pass, 10 <i>versts</i> (6 miles 5 furlongs) from Chashma, where the road is obstructed by huge stones.</p> <p><i>2nd.</i>—Further back still at the steep descent to the Ak-Rabát stream.</p> <p><i>3rd.</i>—The gorge formed by the two rocks of Tásh-Kalama should be widened by blasting, as working up the stony narrow cornice in the rock on the right side of the stream would be much more difficult and take longer time.</p> <p><i>4th.</i>—The whole valley of the Chakcha requires serious work to form a suitable road in it for a distance of 8 <i>versts</i> (5 miles 2½ furlongs).</p> <p><i>5th.</i>—The bottom of the defile of the Iron Gate should be cleared of the masses of stone which have fallen into it in some places.</p> <p><i>6th.</i>—The road in the valley leading from the Iron Gate to the Shur-Áb stream should be widened in some places where it forms a mere path worn out of the slope of the mountain.</p> <p>The undulating open space at the Tásh-Kalama gorge 11 <i>versts</i></p>

(7 miles $2\frac{1}{4}$ furlongs) from Chashma, may serve as a halting place for rest. From the Shur-Áb stream the road turns eastward by the Derbend defile. The mountains bordering this defile on the left are called Buli-Baili (*i.e.*, the connecting ridge). At a little over 1 *verst* ($\frac{2}{3}$ mile) from Shur-Áb a path branches off from the main Derbend road to the right, leading to the bed of the Shur-Áb stream, which enters, at about $1\frac{1}{3}$ *versts* (1 mile) further on, the narrow and very difficult defile of Buzgala, which is obstructed with stones. Here the pack animal road to Shir-Abád, avoiding Derbend, runs in the bed of the Shur-Áb stream and over masses of stones which have fallen down in disorder.

Opposite the ruins of a caravan sarai constructed by Abdulla Khán, the road leaving the bed of the Shur-Áb stream rises steeply up the mountain by a winding and difficult ascent, which extends for 3 *versts* (2 miles) and leads into a defile with the dry bed of a mountain stream in it. This defile is also very difficult for passage.

A steep and stony ascent brings the road out of it on to the broad plain of Dakh-Kará-Kend, slightly undulating and with gravelly soil.

The valley is intersected in places by the beds of mountain streams. From the commencement of the valley to the village of Shur-Áb is 12 *versts* (7 miles $7\frac{3}{4}$ furlongs). The village is in undulating ground, and is not visible from a distance.

This march is one of the most difficult. Halt for rest can be made at the exit of the road from the defile on to the Dakh-Kará-Kend plain.

Repairing, or, more accurately, making the road *ab initio*, should be carried out at the following points:—

1st.—At the turn of the road from the Shur-Áb into the Derbend defile.

2nd.—At the turn of the path on to the Shir-Abád road.

3rd.—At the bottom of the bed of the Shur-Áb stream.

4th.—At the ascent of the mountain from the stream.

From Guzár to Shir-Abád—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Ser-Áb	25		16	4½			<p>5th.—Throughout the whole extent of the defile leading out into the Dakh-Kára-Kend valley. It is, however, possible to avoid the difficult road by the Shur-Áb stream by going on by the Derbend road to the ruins of Abdulla Khán's caravan sarai; here a descent to the Shur-Áb stream might be made and a steep ascent up the mountain. It would be easier to carry out this work than to make a road in a mass of fallen rocks and stones for a distance of 8 to 10 <i>versts</i> (5 miles 2½ furlongs to 6 miles 5 furlongs).</p> <p>The road from the village of Ser-Áb runs over an even, gravelly country for the first 2½ <i>versts</i> (1 mile 5¼ furlongs). Here the road descends by a small slope into a plain intersected by three streams of good water. Two <i>versts</i> (1½ miles) further on the road again rises to the elevated Chaga-Tai valley, which is stony and intersected by deep ravines with steep banks. At 10 <i>versts</i> (6 miles 5 furlongs) from Ser-Áb the road crosses one of the deepest ravines, at the bottom of which flows the Gazak-Su stream. Across this stream an almost floating wooden bridge is thrown. The other ravines, although they do not require bridge, are most wearying for movement. At the 12th <i>verst</i> (7 miles 7¾ furlongs) the road approaches the Shir-Abád-Daria and follows its right bank throughout. At the 15th <i>verst</i> (9 miles 7½ furlongs) before reaching the wintering hut of Igerchi, here there is a broad, dry field, where one can camp.</p>

Igerchi (wintering hut)	15	9	$7\frac{3}{4}$
Lailakan (village)	12	7	$7\frac{1}{2}$

The whole of this march is very heavy, and the road requires making in many places. At 4 *versts* (2 miles $5\frac{1}{4}$ furlongs) from Ser-Ab the road requires making at the ascent where it leaves the hollow and rises to the high Chaga-Tai plain. Beyond this at all the ravines, at the portion of road at the 12th *verst* (7 miles $7\frac{1}{4}$ furlongs), where it approaches the Shir-Abád-Daria, and also at the stream which flows in the Shir-Abád-Daria.

At 4 *versts* (2 miles $5\frac{1}{4}$ furlongs) from Igerchi another wintering place is met with Shádi-Bai-Tugai with clover fields and considerable water meadows, inundated with water and grown over with reeds. Here, on the right of the road, hills approach the bank of the Shir-Abád-Daria, along which the road runs; these are of very original appearance with huge round stones lying on their summits. From the Shádi-Bai point the country becomes very hilly with deep stony ravines. From the Panj hollow covered with cultivation and villages a very hilly locality again commences; the hills here have not a rugged stony character but are covered with burnt-up grass. The village of Lailakan is situated on the bank of the Shir-Abád Daria, and has good gardens; at the village itself the road crosses the Básh-Khurd-Su stream.

This portion of the road presents the greatest difficulties. Two roads run from Lailakan to Shir-Abád: one by the left bank crosses to the other bank of the Shir-Abád-Daria at the village itself by a ford, after which it rises to the heights on the bank, and finally enters the Nan-Dahán defile, by which, covering the whole width of the defile, the Shir-Abád-Daria breaks through. Here the road is in the bed of the stream itself in order to avoid travelling by cornices under the overhanging rocks on the bank; the other road by which M. Maeff went runs by the right bank of the Shir-Abád-Daria, and is much better comparatively than that on the left bank. This road also runs along the elevated hilly bank of the river. At 6 *versts* (3 miles $7\frac{3}{4}$ furlongs) from Lailakan the road crosses the Shir-Ab stream, which has its source 4 *versts* (2 miles $5\frac{1}{4}$ furlongs) from the town. At 4 *versts* further (2 miles $5\frac{1}{4}$ furlongs) it runs along the edge of

From Guzár to Shir-Abád—concluded.

From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
		<i>Versts.</i>	<i>Fur.</i>	Miles.	Fur.	
						<p>the precipitous bank, and at $8\frac{1}{2}$ <i>versts</i> (5 miles 5 furlongs) from Lailakan enters the Nan-Dahán defile, following its right bank on a cornice. This cornice is nothing but a mass of heaped-up stones and rocks torn down from the bank by time and the wearing away of the raging spring water; above the path are overhanging rocks undermined by the water. The road is unusually difficult and dangerous; but, as has been said above, it may be avoided when the water is low by going in the river bed, which indeed is generally done.</p> <p>When there is much water both caravans (donkeys) and travellers keep to the cornice, at the risk every moment of falling off the confused, heaped-up mass of stones into the water of the river. The road between huge stones is so narrow that sometimes it becomes like a door, through which the loads can hardly pass. From the defile of Nan-Dahán both roads (that on the right bank and that on the left) unite and run along the right bank of the Shir-Abád-Daria over elevated hilly country. At 4 <i>versts</i> (2 miles $5\frac{1}{4}$ furlongs) from Shir-Abád its gardens already begin, and from a distance of 2 <i>versts</i> ($1\frac{1}{2}$ miles) its strong citadel (<i>urda</i>) is seen on a high hill.</p> <p>The road from Lailakan to Shir-Abád is very difficult, and requires real making almost throughout the whole distance of 16 <i>versts</i> (10 miles $4\frac{3}{4}$ furlongs). The making of the road in the Nan-Dahán defile in particular presents many difficulties, and beyond it for a distance of 8 <i>versts</i> (5 miles $2\frac{1}{2}$ furlongs) to Shir-Abád along the right bank of the river.</p>

Shir-Abád, town of	16	151½	10	4¾	100	3¼	Halt for rest can be made at the entrance to the defile of Nan-Dahán, and on the return journey at half way opposite the "ziárat" of Kalla, on the left bank of the river.
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ROUTE 137.

From Shir-Abád to Kelif, a hill town.

Shir-Abád, town of	Shir-Abád is one of the most populous towns in the southern portion of the Khánate of Bukhára. Its gardens extend for 1½ <i>versts</i> (1 mile) on the road to the hills (south-west) and almost as far in a southern direction to the Amu-Daria. The streets of the town are very narrow, so that they serve exclusively for traffic on horseback and with pack animals. There is not a single <i>araba</i> in the town, as is also the case in other towns of the southern portion of the Khánate of Bukhára. The road to Kelif runs in a south-western direction from Shir-Abád towards the hills, and at first lies in a hilly country very suitable for movement with hard, gravelly soil. At 3 <i>versts</i> (2 miles) the village of Nauvakh is met with on the road, or more accurately a group of small hamlets extending for a distance of 1 <i>verst</i> (¾ mile) and bearing one common name. The road throughout passes by fields watered by the Nauvakh-Arik. To the right unproductive greyish-yellow hills border the road, covered with burnt-up vegetation. The locality from the village of Nauvakh is called Khoja-Kuya, from the name of the central village which is at 7 <i>versts</i> (4 miles 5 furlongs) from Shir-Abád. At a ruined tank to the left of the road it is reckoned 8 <i>versts</i> (5 miles 2¼ furlongs) from Shir-Abád. The road here runs over a salt steppe to the termination of the reddish range of Khoja-Kuya-Tau mountains, behind which
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From Shir-Abád to Kelif, a hill town—continued.

From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
		Miles.	Fur.	Miles.	Fur.	
						<p>rises the higher grey range of the Básh-Khurd. At 12 <i>versts</i> (7 miles $7\frac{3}{4}$ furlongs) the road enters the mountains and runs in a broad, easy defile, which requires no working up. The ascent is inconsiderable and not difficult; the soil is firm and gravelly. This ascent terminates in a level, elevated open space, after which the defile assumes a wild character and extends in a narrow channel between precipitous limestone rocks, encumbering the passage, which is in addition obstructed with masses of detached rock.</p> <p>This defile bears the name of Gaz-Sai. The banks of the Gaz-Bulák stream are grown over with groups of trees (willows) between which in places are to be seen wretched huts and small patches of cultivation. From the open space above mentioned one can see that the Gaz-Bulák stream is fringed with tree vegetation down its course. The village of Gaz with its reddish clay huts clings to the very crest of the ascent, so that at Gaz-Kishlák the defile issues on to a level broad valley (30 to 55 <i>versts</i>, or 20 miles 7 furlongs to 23 miles $1\frac{1}{2}$ furlongs) which extends uninterruptedly from here almost up to Kelif. To the north this valley (according to the inhabitants) leads out to Derbend and Baisun. From Shir-Abád to Gaz-Kishlák is 26 <i>versts</i> (17 miles $1\frac{3}{4}$ furlongs). The mountains forming the Gaz-Sai defile are called at the village on the left side Uch-Kora, and on the right Chungul.</p>

On the march above described the road only requires repairing in the Gaz-Sai defile for a distance of 6 *verssts* (4 miles). Halt for rest can be made at the commencement of the Gaz-Sai defile on the Gaz Bulák stream.

The broad valley, into which the Gaz-Sai defile leads out, bears the name of *Karezátlik*, because an underground canal (*karez*) is conducted along it for a distance of 17 *verssts* (11 miles 2¼ furlongs),—a remarkable work, made in older times. The inhabitants of the valley keep it up most carefully, as this canal alone enables the moderate population, scattered over the valley south of Gaz-Kishlák, to live. Higher up (more to the north of this village), the valley abounds in streams of water, and consequently is more populous. The width of the *karez*, which is marked on the steppe by a number of wells, is from 3¼ to 16 feet. The road from Gaz-Kishlák, bending round the Uch-Kora hill, runs the whole time along the *karez*. The route is very even and suitable for travelling.

On the right the valley is bordered by the Knitin-Tau range. At 3½ *verssts* (2 miles 2½ furlongs) from Gaz-Kishlák is the village of Yákub-Bai. Wheat-fields extend uninterruptedly from Gaz-Kishlák to Yákub-Bai. Where the Uch-Kora range, bordering the valley on the left, recedes from the road, forming a wide open space, the entrance of the Kátta-Kámish-Sai defile, the village of Zinon is seen 3 *verssts* (2 miles) off the road.

The Kátta-Kámish-Sai defile is formed by the Uch-Kora and Kátta Kámish ranges. On this latter range beyond the village of Zinon are seen the villages of Ak-Tásh-Karézi and Chahar-Bágh-Karézi, 13 *verssts* (8 miles 5 furlongs) from Gaz-Kishlák; 3 to 3½ *verssts* (2 miles to 2 miles 2¾ furlongs) further along the road, the village of Kempir-Bulák is met with. This latter village is fed with the water of the underground canal (*karez*), which here comes to the surface of the ground and is distributed over fields of wheat, barley, millet, and cotton. From Gaz-Kishlák to Kempir-Bulák is from 16 to 17 *verssts* (10 miles 4¼ to 11 miles 2¼ furlongs).

Gaz-Kishlák (village) ...

26

17

1¼

From Shir-Abád to Kelif, a hill town—continued.

REMARKS.

	From point to point.		Total between chief places.		From point to point.		Total between chief places.	
	<i>Versts.</i>	Miles.	<i>Versts.</i>	Miles.	<i>Fur.</i>	Miles.	<i>Fur.</i>	
Kempir-Bulák (village)	17	11						
					2 $\frac{1}{2}$			

On this march no improvement whatever is required on the road. Halt for rest can be made at any point of the march on the *karez*, which has fresh, clear spring water. The road, which is also even, runs in the broad valley, and is also suitable for travelling. At 3 *versts* (2 miles) by the hills is the village of Ahri. The road gradually draws near to the Kuitin-Tau mountains, the contour of which stands out more sharp and distinct with every *verst*. Where the valley is apparently closed by the gloomy cupola-shaped mass of the Karraga (a branch of the Kuitin-Tau mountains), the road enters the defile of Kempir-Dagán. From the village of Kempir-Bulák to the entrance to the defile is 4 $\frac{1}{2}$ *versts* (3 miles). At the entrance a small stream runs, flowing from a spring, near the village of Kempir-Bulák. Its waters the moderate-sized ploughed land of the village. The rocky range of Jumalak-Tau from the right side of the Kempir-Dagán defile and lower hills border the left side, forming a continuation of the Ak-Tash mountains. The Kempir-Dagán defile extends for 6 *versts* (3 miles 7 $\frac{1}{2}$ furlongs), and is quite fit for the passage of artillery and wheeled train. The soil is firm and gravelly. There are no ravines or landslips at all. From the issue from the Kempir-Dagán defile to Kelif is reckoned 2 $\frac{3}{4}$ to 3 "tash," or 20 to 24 *versts* (13 miles 2 furlongs to 15 miles 7 $\frac{1}{4}$ furlongs); the latter distance is nearer the truth. The defile leads out on a level, gravelly steppe, which extends from here to the Amu-Daria, and on the west is bounded by the Kuitin-Tau range.

At 4 *versts* (2 miles $5\frac{1}{4}$ furlongs) from the issue of the road from the defile on to the steppe the village of Oguz-Bulák is met with on the stream of the same name which flows out of the Kuitin-Tau mountains at Khoja-Kainar, 16 *versts* (10 miles $4\frac{3}{4}$ furlongs) from Oguz-Bulák village. The Oguz-Bulák stream flows from here in branches; one irrigates the fields of Oguz-Bulák village and runs on uninterruptedly to Kelif; the second stream flows in a ravine and loses itself on the steppe; the third runs to the village of Kalluk (at the Kuitin-Tau mountains) and waters its fields. At the village of Oguz-Kishlák the road unites with the Guzár-Kelif road, running from this point to the village of Kalluk. From Kempir-Bulák to Oguz-Bulák is 15 *versts* (9 miles $7\frac{1}{2}$ furlongs).

From the village of Oguz-Bulák the road runs over the same smooth steppe to the Amu-Daria; the small range of crenelated hills Kizil-Khoraz runs parallel to the road on the right, and on the left another low range, now rising above, now losing itself in the steppe—the Kulan-Achkán.

In front, 15 *versts* from Oguz-Kishlák, another low range, the Kára-Ura, is seen. The road runs the whole time along the Oguz-Bulák canal, grown over with high tamarisk bushes (*jangil*). The steppe presents a green appearance from the thorn bushes and shrubs of other steppe vegetation, which do not require irrigating moisture.

From 12 *versts* (7 miles $7\frac{3}{4}$ furlongs) to the bank of the Amu-Daria an enormous salt tract commences, extending almost uninterruptedly to Kelif; crumbling sand only commences at $\frac{1}{2}$ *verst* ($\frac{1}{2}$ mile) from the bank of the Amu-Daria; apparently once inundated by the water of the river. The salt tract is also covered with green thorns, the same as the whole steppe, and the sheen of the white crystals of salt covering the surface of the soil only appears through the vegetation. The salt tract extends for a great distance in all directions as far as the eye can see. On the shore of the Amu-Daria the salt tract ends at 3 *versts* (2 miles) from the Kára-Ura range.

From Shir-Abd to Kelif, a hill town—concluded.

From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
		Miles.	Fur.	Miles.	Fur.	
<i>Versts.</i>	<i>Versts.</i>					
						<p>Kelif is situated on the level right bank of the Amu-Daria, where the river, contracted to a breadth of 500 paces, is carried along with a loud gurgling sound. Its course is here very swift. The river is contracted at Kelif by the Khadam-Gácha range, rising on the left (Afghán) side of the river. In other places, as at Chushka-Guzár, Kára-Kamar, and Kerki, the width of the Amu is not less than 800 <i>sajens</i> (1,866 yards). Kelif is actually a very insignificant town, more like a village, although it has its own bek. There is neither a <i>musjid</i> in it, nor bazar, nor gardens. On a mound rising from a small promontory on the river are the huts of the ferrymen. The <i>bek</i> lives on this mound. Kelif owes its importance to the fact that many caravans cross the Amu-Daria here, because two good roads lead out of it, <i>viz.</i>, to Guzár and Kárshi. On the Bukhára shore at Kelif there are three boats. Notwithstanding the swiftness of the stream, the passage is carried on both at high and low water without a check.</p> <p>The swiftness of the current even aids the passage, as it drives the boats to the Afghán shore. It also does not hinder boats and reed rafts being floated down from the higher parts of the Amu-Daria to Charjui and Khiva. The Kerki fishermen go up the river to Kobábian, where they occupy themselves in catching fish and return to Kerki with their takes keeping to the Afghán shore throughout, where the current is weaker and there are no sunken rocks. From Hazret-Imám, near Kuliáb,</p>

reed rafts laden with marten skins are floated down the Amu to Khiva. *Kayaks* (boats) being heavy and clumsy do not even float down the Amu, and consequently cannot go up. The fishermen, however, in their light boats go either down or up the river without trouble.

On the opposite bank of the Amu-Daria there is no village, but only a ferry post (as there is opposite Chushka-Guzár) and three wretched huts. On the very summit of the Khadam-i-shácha range is seen a "ziarat," and beyond the mountain range, at a distance of 40 *vershs* (26 miles $4\frac{1}{4}$ furlongs), is the Afghán village of Akcha. The chief there is Másha Khán with 600 *Sarbazars*. There is no large permanent body of troops on the Afghán shore of the Amu-Daria. Afghán spies constantly make their way to the Bukhára shore collecting information of different kinds. In their turn the Bukháriats receive all necessary information with regard to events on the Afghán shore from the Bukhárian salt-drivers. With the exception of the swift current of the Amu-Daria where the banks are constructed at Kelif, as described above, there are no other impediments to navigation. There are in fact rapids at Kelif, but these rapids caused by huge masses of rock, five in number, extend only to the centre of the river, commencing from the rocky promontory on the Bukhára shore on which the citadel of Kelif is built. The Amu-Daria rapids, thus form (by the rock masses in them) one immediate continuation of those rocky scattered ridges which rise on the Bukhára shore. Besides the rapids opposite the mound at 4 *vershs* (2 miles $5\frac{1}{4}$ furlongs) from Kelif there are a series of rapids, but these are much smaller, and the water near them does not boil up and foam so much. Both series of rapids may be avoided by keeping to the left or Afghán bank. The depth of the Amu-Daria is very considerable; the native ferrymen affirm that in the rapids the depth of the river attains 40 *sajens* ($93\frac{1}{2}$ feet), and in other parts exceeds 50 *sajens* (116 $\frac{1}{2}$ feet).

Kelif	...	...	...	35	78
	...	...	...	22	17
	...	...	...	51	54

ROUTE 138.

From Kelif to the Kára-Kamar passage of the Amu.

From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
		Miles.	Fur.	Miles.	Fur.	
<i>Versts.</i>	<i>Versts.</i>					
						<p>From Kelif to Kára-Kamar is 21 <i>versts</i> (13 miles $7\frac{3}{4}$ furlongs). The road from Kelif to the nearest pass of the Shir-Abád bekship, that of Kára-Kamar, runs due west through the town or village of Kelif (190 houses). From Kelif an uninterrupted succession of fields, vegetable gardens, and small gardens extends for 4 <i>versts</i> (2 miles $5\frac{1}{4}$ furlongs) along the bank of the Amu-Daria. The inhabitants sow melons, cucumbers, water-melons, millet, and clover. They do not sow wheat, barley, or rice, but obtain it from the Afghán shore, in exchange for salt brought from the Kuitán mountains. The inhabitants of Kelif go to Kuitán for salt, paying for its export 20 <i>kopecks</i> ($7\frac{1}{2}d.$) per camel, 10 <i>kopecks</i> ($3\frac{1}{4}d.$) per horse, and 5 <i>kopecks</i> ($1\frac{3}{4}d.$) per donkey, and sell this salt at Akcha.</p> <p>At 2 <i>versts</i> ($1\frac{1}{2}$ miles) from Kelif the road passes by the small Bish-Barmák ridge, and then enters a valley formed by the ranges Karacha on the left and Kalan-Achkan on the right, approaching the latter range. From Kelif to the entrance to the mountains is 9 to 10 <i>versts</i> (5 miles $7\frac{3}{4}$ furlongs to 6 miles 5 furlongs). The road here runs through the range of hills, because the bank of the Amu-Daria at the point where the Kalan-Achkan range approaches the river makes a sharp bend to the south, so that the road along the bank of the Amu is longer than that direct through the hills. The Kalan-Achkan range—of limestone and not high—has a very steep slope to the west towards Kelif, and, on the other hand, descends</p>

gently to the east. The ascent to the crest of the Kalan-Achkan is excessively hard. The path rises steeply up on a cornice, overhanging a precipice. The surface of the saddleback is covered with huge masses of rock, worn smooth by time, so that the passage over them is not difficult. The descent, as stated above, is gentle, and leads to the plain of the Amu-Daria, flat with salt-soil and grown over moderately high bushes of tamarisk and sappy steppe vegetation (unfit for horse's food, for, if reduced to extremity, they even prefer camel-thorn).

Near the Kalan-Achkan hills, on the bank of the Amu, is the Turkmán village of Danagi, inhabited by a few families of Turkmáns of that tribe. The plain in which the road lies is bounded on the north by the Aktásh mountain ridge, running south-west and north-east; behind it is visible the still higher range of the Shir-Abád mountains, terminating at their eastern end in the high Kizil-Kuitán mountain.

Still further gloom the summits of Kuitin-Tau. At 15 *versts* (9 miles $7\frac{3}{4}$ furlongs) from Kelif, the road bifurcates: one branch runs to the Kára-Kamar pass and the other leads through the villages of Buz-Rabát and Taláshkan to Shir-Abád.

Opposite the Kára-Kamar crossing, at 3 *versts* (2 miles) from the bank, an isolated, not high, sandy ridge rises, which bears the name of Kára-Kamar (the black belt). In this range, on the eastern side, there are three caverns, covered inside with coarsely executed carved figures of men, horses, dogs, hands and heads. The figures are scratched out of crumbling sandstone. Shepherds drive their flocks into these caverns for the night.

At the passage of Kára-Kamar there is only one Bukhárian boat (*kayuk*), and on the other bank one Afghán *kayuk*. The character of the Amu-Daria in this locality, *i.e.*, from the Kára-Kamar crossing to the Kalan-Achkan hills, is the same as on the average of its course. The river divides into channels forming low wet islands, overgrown with reeds and shoals. The bank is covered with tamarisk bushes, and high grass along the bank are scattered in different places—the “kibitkas” of the

From Kelif to the Kára-Kamar passage of the Amu—concluded.

	From point to point.		Total between chief places.		From point to point.		Total between chief places.	
	<i>Versts</i>	Miles.	<i>Versts</i>	Miles.	<i>Versts</i>	Miles.	<i>Versts</i>	Miles.
Kára-Kamar (passage of the Amu-Daria).	21		21		13	7½	13	7½

REMARKS.

Turkmáns,—and at the crossing itself are small patches of cultivation belonging to the Turkmán ferry-men. The road requires making only at the pass over the Kalan-Achkan hills: but if artillery and transport are sent by the bank of the Amu-Daria, even this can be dispensed with, as the Kalan-Achkan pass is practicable for infantry and cavalry. Halt can be made on the bank of the Amu-Daria in any spot you please. Thus of the two roads from Shir-Abád to Kelif, the road running from Shir-Abád by Taláshkan, Buz-Rabát the Kalan-Achkan range, and Kelif appears the most convenient.

ROUTE 139.
From Kelif to Guzár, by direct route.

Kelif
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The route runs north on an even salt-soil steppe, intersected by low ranges of hills running in a south-easterly direction. Almost from the Kára-Ura hill a salt tract commences (at 5 *versts* or 3 miles 2½ furlongs from Kelif) inundated in places by the overflow of canals running from Oguz-Arik to Kelif. The road leading to the village of Kalluk at 10 *versts* (6 miles 5 furlongs) from Kelif leaves the road leading to the Kempir-Dagán defile, and further on by the Karezátlik valley and Gaz-Sai to Shir-Abád.

The road leading direct from Kelif to Guzár by the mountains, leaving the Oguz-Arik at 10 *versets* (6 miles 5 furlongs), runs over stony country, crosses the low Khoja-Sengil range, and beyond it lies, in an even, wide stream, the bed of this range, the Kat-Sai stream.

The general character of the whole tract along the bank of the Amu-Daria—*viz.*, land strongly impregnated with salt—is also found here. The road lies over the Khoja-Sengil mountains and in the bed of the Kat-Sai for a distance of 5 *versets* (3 miles 2½ furlongs). Issuing from the hills, the road enters a broad valley, bordered on the right by the Khoja-Sengil mountains and on the left by the low Kizil-Khurus range. It is 16 *versets* (10 miles 4½ furlongs) to the first village on the road, that of Oguz-Kishlak, situated on a canal, which also irrigates the fields of Kelif. From the highest points of the Kizil-Khurus range the village of Kalluk may be seen in the distance, to which it is reckoned 11 *versets* (7 miles 2¼ furlongs) from the point. Here also the road to the village of Kunjak, lying more to the east under the massive Kuitin-Tau mountains, turns off. The road runs to the fields of another village under the hills Khoja-Kainar and from thence to the north-west, following the direction of the foot of the Kuitin-Tau range to the village of Kalluk of Khoja-Kishlak. This large and comparatively rich village is situated in a swampy salt-soil locality. From Kelif to Kalluk is 24 *versets* (15 miles 7¼ furlongs).

The road is everywhere even and suitable for travelling. It requires no repairs anywhere, except perhaps widening the narrow bridges over the "ariks" (cauals) at the villages of Oguz and Khoja-Kainar.

The road crosses a deep canal at the village itself, running out of the Ak-Arik, which is led in from the mountain stream of the Kuitin-Tau near the ruins of a sarai made by Abdulla Khan. The road follows the course of the Amu-Daria the whole time, and soon crosses the south-west lowest spurs of the Kuitin-Tau. The limestone hill on to which the road rises bears the name of Ak-Jár. On the left of the road a "ziarat" stands

Kalluk ...

23

15

2

From Kelif to Guzár, by direct route—continued.

From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
		Miles.	Fur.	Miles.	Fur.	
<i>Versts.</i>	<i>Versts.</i>					
						<p>alone, the tomb of Ishim-Bai. Having circumvented the mountain mass of the Ak-Jár, the road descends into a valley bordered by the Kuitin-Tau range on the right and by a long hill range on the left, bearing different names at different points; thus this range is called Khoja-Shulluk, Anjai and its nearer spurs Gaba. The Ak-Arik runs throughout the valley irrigating the fields of the villages, except the most distant under the hills, which are supplied with spring water. The road runs over the foot of the Kuitin-Tau range, but this can be avoided by following the road a little further up the valley. At 19 <i>versts</i> (12 miles $4\frac{3}{4}$ furlongs) from Kelif the tomb of Saint Chilgaz is met with, held in great reverence by Mussulmáns. All who pass by here, whoever they may be, dismount from their horses and pass the tomb on foot. It is 21 <i>versts</i> 13 miles ($7\frac{1}{4}$ furlongs) from Kelif to the village of Khoja-Kára lying below the Kuitin-Tau. In the Kuitin-Tau mountains, 4 <i>versts</i> from Khoja-Kára (2 miles $5\frac{1}{4}$ furlongs), there are lead mines, which supply the whole Khánate with lead. The smelting is carried on according to requirements, to a small or greater extent, and the skilled workmen are collected for the purpose from the villages. Altogether from 6 to 20 <i>batmans</i> of lead are obtained (1 <i>batman</i> = 8 <i>puds</i> = 8×36.113 lbs. = 288.904 lbs.). The road to the mines is hilly and difficult. On the opposite side of the valley at the village of Kizil-Kishlák are the well-known quarries of reddish rock-salt. These quarries are at the summit of a red sandstone hill.</p>

Khoja-Kára

... ..

21

13

7 $\frac{1}{4}$

The road does not require putting in order; the difficult places—as, for instance, the ascent of Ak-Jár—may be passed round by the valley; and instead of stopping at Khoja-Kára, to which a difficult road leads, a detachment can halt in the valley at Ak-Arik.

The road from Khoja-Kára follows the same valley, watered by the Ak-Arik. On its branches lie the arable fields of the villages Altin-Tube and Tásh-Kishlák. Both these villages lie closer to the range opposite to the Kuitin-Tau. At 4 *versts* (2 miles 5 $\frac{1}{4}$ furlongs) from Khoja-Kára is the village of Tapur, on the Kairma canal, brought from the Ak-Arik. The road approaches the Kuitin-Tau, and 2 *versts* (1 $\frac{1}{2}$ miles) further on rises to the high stony At-Gaz pass. The descent from it is particularly difficult; but this stony, steep descent can be avoided by riding in the water-channel leading from the very summit. Here the road is quite even, although more winding and consequently longer. On the descent from the At-Gaz heights is situated the village of Kára-Agach, 12 *versts* (7 miles 7 $\frac{3}{4}$ furlongs) from Khoja-Kára, in a narrow winding ravine. From here an uninterrupted series of cultivated lands shaded with trees extend, giving an appearance of life to the whole valley. At 4 *versts* (2 miles 5 $\frac{1}{2}$ furlongs) beyond the small wayside village of Patar lies the large, densely populated village of Kuitán, with its fields and fruit gardens. At Kuitán is the only bazar in the whole country between Kelif and Guzár.

On the march from Khoja-Kára to Kuitan the road requires putting in order, commencing from the ascent to the At-Gaz heights. The difficult descent from this pass can, as we said above, be avoided by the ravine; but beyond, where the road passes villages, repairs are required in many places, as there are numerous canals, and in some places also the road is a mere path over a stony slope; here only the necessary width for the road, and often less, is left. Every spot that can be sown is taken up with fields and gardens. The paths along the mountain slopes leading past the fields of Kuitan are particularly narrow.

From Ketif to Ghazár, by direct route—continued.

		From point to point.	Total between chief places.	From point to point.	Total between chief places.
		<i>Versts.</i>	<i>Versts.</i>	<i>Fur.</i>	<i>Fur.</i>
Kuitán	...	20	13	2	

REMARKS.

In Kuitán the road crosses the Kuitán-Daria by a forú; this is a swift mountain stream which by means of its canals gives life to the whole valley from Kuitán to Kullak. The Kuitán-Daria has its source in springs 2 or 3 *tash* (16 to 24 *versts* or 10 miles $4\frac{1}{4}$ furlongs to 15 miles $7\frac{1}{4}$ furlongs) to the east of Kuitán. At $1\frac{1}{2}$ *versts* (1 mile) from Kuitán the road crosses the dry ravine of Kátta Jár and runs westwards past red sandstone rocks along the bank of a ravine, running into the Kátta-Jár defile. The road is good and even, but very winding, as it follows all the bends of the defile. This defile bears the name of Beglar-Kuduk from the well at its commencement, 7 *versts* (4 miles 5 furlongs) from Kuitán. The water in the well is brackish, and is only used for watering sheep. At 9 *versts* from Kuitán (5 miles $7\frac{1}{4}$ furlongs) the road crosses another road leading from Kárshi *viá* the village of Khoja-Ípil (6 *versts* or 4 miles higher up the Kuitán defile than Kuitán) to Derbend and Baisun. This road leads out at the Shur-Áb spring at the entrance to the Derbend defile, and, according to the natives, is very difficult. In many places one can scarcely pick one's way leading one's horse. At 12 *versts* (7 miles $7\frac{1}{4}$ furlongs) from Kuitán the high Karchak-Lel pass occurs, difficult owing to its steepness. The descent from the pass leads by a broad, easy valley to the Karchak-Daria, a mountain stream. From Kullak to the Karchak-Daria is 14 to 15 *versts* 9 (miles $2\frac{1}{4}$ furlongs to 9 miles $7\frac{1}{4}$ furlongs), and on the whole march from

Karchak	15	9	7 $\frac{3}{4}$
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Kuitán to the Karchak-Daria there is no good fresh water. The Karchak-Daria issues from two sources in two mountains 24 *versts* (15 miles 7 $\frac{1}{4}$ furlongs) from here—the Chancha-Káttai and the Ak-Básh. Near the Karchak wintering hut it mingles with a salt stream and loses itself in the ravines. At the point where the road crosses the Karchak-Daria the water is good and fresh; but at 4 *versts* (2 miles 5 $\frac{1}{4}$ furlongs) further on at the Karchak wintering hut and the ruins of the “rabat” (sarai) of Abdulla Khán, the water of the Karchak-Daria already becomes perceptibly salt. From the village of Kuitán to the Karchak wintering hut is 19 *versts* (12 miles 4 $\frac{3}{4}$ furlongs). The road on this march does not require much making, except at the ascent to the Karchak-Bel heights. Three roads run from the Karchak wintering hut—

- 1st.—To Kárshi, 13 *tash* (104 *versts*, or 68 miles 7 $\frac{1}{2}$ furlongs); at 3 *tash* (24 *versts*, or 15 miles 7 $\frac{1}{4}$ furlongs) on this road good water is met with, but the remaining 10 *tash* (80 *versts*, or 53 miles 0 $\frac{1}{4}$ furlong) run past salt wells over mountains and steppe;
- 2nd.—To Tenga-Khoram; and
- 3rd.—To Guzár. This is the greatest road for traffic, but is difficult. It leads from Guzár to Kelif.

From Karchak the road runs in the even grassy valley of Tulesh at the foot of red sandstone hills. The Ak-Básh range from which the Karchak-Daria flows looks white in the distance with its limestone mountains. At 6 *versts* (4 miles) from Karchak is the brackish Tulesh well which has given its name to the whole valley. One and a half *versts* (1 mile) further on the road, a natural cistern is met with, with muddy rain water, which dries up towards the end of summer. The cistern is edged round with stones. At 9 *versts* (5 miles 7 $\frac{3}{4}$ furlongs) from Karchak the difficult ascent to the steep and precipitous Ak-Tau height commences. The road leads up by zigzags on a path strewn with sharp stones overhanging a precipice. The descent is still more

From Kelif to Guzár, by direct route—concluded.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			Versts.	Fur.	Miles.	Fur.	
Bátkák-Járik	21		13	7 $\frac{1}{4}$			<p>difficult, but part of it can be avoided by the Tula-Sai water channel. At 12 <i>versts</i> (7 miles 7$\frac{1}{4}$ furlongs) from Karchak, wheat-fields commence. A rather narrow valley leads to an extensive field on which is situated an "aul" (nomad encampment) at the three wells of Bátkák-Járik; here also flows a small spring of the same name. From Karchak to the Bátkák-Járik wells is 21 <i>versts</i> (13 miles 7$\frac{1}{4}$ furlongs). This march may be considered the most difficult, owing to the waterless district through which it lies and the steepness of the ascents and descents. The road would require regular making at the ascent to and descent from the Ak-Tau mountains for a distance of 1$\frac{1}{2}$ to 2 <i>versts</i> (1 to 1$\frac{1}{3}$ miles).</p> <p>The road first runs west, following the hollow of the Gul-Bulák, in which flows a slightly salt stream of the same name. From the wells of Bátkák the road is difficult and stony, running over the débris of rocks. The path is often obstructed with huge masses of rock. At 2$\frac{1}{2}$ <i>versts</i> (1 mile 5$\frac{1}{4}$ furlongs) from Bátkák are the four brackish wells of Bátkák (for sheep), and 2 <i>versts</i> (1$\frac{1}{3}$ miles) further on is another well on the other side of the bed of the Tagai-Temir. From this well the road again enters a difficult limestone defile and makes its way as a narrow path amongst fallen masses of rock. The latter path of the march winds through hills covered with burnt-up grassy vegetation, and partly runs through the dry bed of a stream. At the point of Táka-Shur are situated a few "auls" of Uzbaks of the Kungrad</p>

Táka-Shur well	12	7	$7\frac{3}{4}$		
Guzár	34	22	$4\frac{1}{4}$		
	<hr/>	146	<hr/>	<hr/>	96
					$6\frac{1}{4}$

tribe. The water in the wells is bad, although fit for drinking in case of necessity.

From Táka-Shur to Tenga-Khoram is not more than 7 *versts* (4 miles 5 furlongs). The Kára-Chash range is seen to the right of the road for some *versts* before Táka-Shur.

On this march many places are met with where the road requires regular making, especially at the beginning by the Gul-Bulák stream and in the Tagai-Temir defile.

At 6 *versts* from Táka-Shur the road crosses a dry ravine and enters the difficult defile of Patala-Sai, which winds through the rugged mountain mass of the Adam-Tásh. At 9 *versts* (5 miles $7\frac{3}{4}$ furlongs) the road lies in the Janulak valley, running into Patala-Sai defile. The Tas mountains are seen in front, which the road crosses by a most difficult ascent. At 15 *versts* (9 miles $7\frac{1}{2}$ furlongs) from Guzár the brackish wells of Chir-buchu are met with on the road. From them the road runs along the course of a saltish stream and often crosses from one bank to the other by its stony slopes, splitting up into several paths. The whole road along the channel is very difficult, especially in the defile of the San-Bron, having its source at a spring to one side of the road. At 24 *versts* (15 miles $7\frac{1}{4}$ furlongs) from Taka-Shur another difficult ascent to the Kizil-Ur limestone mountains commences. From here Guzár is visible in fine weather, the road to which from the ascent to the Kizil-Ur hill runs over a plain, smooth and suitable for travelling, and past wheat-fields. From Táka-Shur to Guzár is 34 *versts* (22 miles $4\frac{1}{4}$ furlongs).

The whole of this long march is very difficult, destitute of fresh water, and requires regular making throughout its whole extent, with the exception of the last 10 or 11 *versts* (about 7 miles), which lie in the Guzár plain.

ROUTE 140.
From Guzár to Kaitán via Tenga-Khoram and the Ak-Básh pass.

	From point to point.	Total between chief places.		From point to point.		Total between chief places.		REMARKS.
		Verss.	Fur.	Miles.	Fur.	Miles.	Fur.	
Guzár	} The road from Guzár via Kush-Lush to the point of Tenga-Khoram has already been described (vide Route 136). The point of Tenga-Khoram consists of four open spaces amongst mountains which border them on two sides, i.e., the eastern and western (the lofty, rocky Kara-Chásh range). The first open space commences at half way between Kush-Lush and Tenga-Khoram at a very perceptible projection (spur) of the mountains. The eastern range of mountains receding from the Kichi-Uru-Daria here forms an open space 2 to 2½ <i>verssts</i> (1½ to 1 mile 5¼ furlongs) wide, twice intersected by the Kichi-Uru-Daria. Beyond the projection of a low range of hills the left hand separates it from the second open space of the same width covered with cultivation. The Kichi-Uru-Daria here flows along the western edge of the opening. This space narrows to the north and extends as a narrow defile for another <i>verssts</i> (¾ mile). On issuing from the defile a third smaller space opens out, bordered on the left (west) side by precipitous rocks. The Kichi-Uru-Daria intersects it twice. Here there is also cultivation, but to a less extent. The space is closed on the north by a low range over which the road runs, and issues on to the fourth open space, 3 <i>verssts</i> (2 miles) in length, which consequently
Kush-Lush	...	16	4½	10	4½	...	...
Tenga-Khoram	...	20	2	13	2	...	...

may be more correctly called a valley. The Kichi-Uru-Daria traverses it from west to east. The valley is full of cultivation, and this is really the point of Tenga Khoram, although this name belongs to all the four openings without distinction. There are two roads leading from Tenga-Khoram—one in a southerly direction leads to Chashma-i-Háfiz-Ján on the Shir-Abád road; the other leads, south-west, to Kuitán-Kishlák on the Kelif road. The latter route is that here described. Having crossed the Kichi-Uru-Daria the road leads by a moderate ascent on to the Altin-Tube hill and issues on to the even gravelly valley of Uzun-Sai, quite suitable for the movement of a detachment. The Kichi-Uru-Daria also flows in this valley to the left of the road at a distance of 3 to 4 *versts* (2 to 2 $\frac{2}{3}$ miles), its course being very winding. The Uzun-Sai valley extends for a distance of 9 *versts* (5 miles 7 $\frac{2}{3}$ furlongs), and is closed on the north and north-west by low, gently sloping high ground, the foreland of the higher Khoja-Máhmud range. At the foot of this sloping high ground at $\frac{1}{2}$ *verst* ($\frac{1}{3}$ mile) from the road to the east are the Jitim-Kuduk Wells with an "aul" (nomad encampment) at them. There are other "auls" in the Uigur hills bordering the valley on the west.

On the east the Uzun-Sai valley is bounded by the high Khasha-Al-Tau range. After crossing a sloping ridge at the Jitim-Kuduk wells, the road for $\frac{1}{2}$ *verst* ($\frac{1}{3}$ mile) runs through an even grassy track and rises to the defile of Kurug-Dahán (*i.e.*, the dry passage). Here the road winds along the bottom of the Khoja-Máhmud stream, with little water in it in summer. The more direct road rises on to the rather steep and stony slopes of the hills forming the defile. The bottom of the stream is unencumbered with stones, and the route by it, although winding, is suitable for traffic. Slight work is required at the road in only a few places (altogether not more than $\frac{1}{4}$ *verst* (292 yards.) At the point where the Khoja-Máhmud stream turns to the west, the Kurug-Dahán defile ends, and a good road again commences over an undulating locality covered with grass. At 14 *versts* (9 miles 2 $\frac{1}{4}$ furlongs) the road reaches the chief ridge

From Guzár to Kuitán viâ Tenga-Khoram and the Ak-Básh pass—continued.

From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
		Versts.	Versts.	Miles.	Fur.	
						<p>of the Khoja-Máhmud range, and turns to the west along the hilly foreland of this range, which is covered with thorn bushes and hill vegetation. This place serves as an excellent pasture ground for the sheep and goats of the nearest <i>auls</i>.</p> <p>At 1 <i>verst</i> ($\frac{2}{3}$ mile) from the turn the road again enters the narrow stony defile of Khoja-Máhmud, requiring making in some places. Here a gradual ascent commences, which leads out on to a gravelly, even valley bounded on the west by a steep ravine, grown over with maple and savin trees. On the east the lofty Khasha-Al-Tau range glistens in the distance; on the south the valley is closed in by the mass of the Ak-Básh mountains. A halt can be made here at the ascent to the Ak-Básh, but as there is no stream or wells in the valley, it would be necessary to procure water from the plentiful spring lying higher up in the Khat-Bulák hills.</p> <p>The most difficult part of the march is the ascent to the Ak-Básh heights. It is also necessary to remark that this is the most difficult place on the whole route from Jám to the Amu-Daria. The road is but a steep, narrow, and winding path at first on the grassy slopes of the Ak-Básh (to the source of the Khat-Bulák spring), and then winds over stones and through savin trees. In many places the road overhangs a precipice, and is so narrow that it is hardly sufficient for a horse's feet. The thick, twisting, bare roots of the savin trees or the trees felled by wood-cutters often cross the path. The neighbouring nomads take wood from here on donkeys. Notwithstanding</p>

Ak-Básh	20	13	2
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the difficulties of the road it can be put in order. A great and difficult work, comprising widening the path to an *arába* road, would have to be carried out for a distance of 3 *versts* (2 miles), but the limestone soil of the range would easily yield to tools.

A steep and winding ascent leads out on to a broad, even, open space,—the summit of Ak-Básh, grown over with ancient savin trees. This mountain spot would appear enchanting, even though not met with after a march over bare, stony mountains. The summit of Ak-Básh is like a park planted with fir. The pure mountain air fed with the resinous smell of the fir completes the charm.

Halt for the night can be made here; water may be procured from two springs lying below on the southern slope $\frac{1}{4}$ *verst* (about 300 yards) from the summit of the Ak-Básh. There is grazing everywhere.

The southern slope of Ak-Básh is much more gentle than the northern, and gradually sinks in gently sloping hills covered with grassy vegetation and high fir trees. In different places pens for sheep are constructed (these enclosures are made of dry fir branches). The road is good, but in some places steep descents should be worked at. At $\frac{1}{4}$ mile from the descent from Ak-Básh are two plentiful springs of water—Khán-Sai-Bulák. At 6 *versts* (3 miles $7\frac{3}{4}$ furlongs) from the summit of Ak-Básh the stony descent into the Kerchak-Daria valley commences. This mountain stream, giving life to the whole valley of the Kerchak-Sai, was quite unknown up to the present time. The Kerchak-Daria has its source in the Katta-Bai mountains (8 or 10 *versts* or about 6 miles from the issue of the road on to the Kerchak valley). This descent leads to the small village of Munchuk-Tube, in the Kerchak-Daria valley. This valley, $\frac{1}{4}$ *verst* (about 300 yards) in width, is hemmed in by the Kerchak-Tau hills of moderate height, covered with occasional savin bushes. High-growing fir trees have been already cut down everywhere, owing to propinquity of inhabited places, and in these places there is thick undergrowth. The crooked trees, and those worthless for building, have also been preserved. The

From Cuzár to Kuitán viâ Tenga-Khoram and the Ak-Básh pass—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			Versts.	Versts.	Miles.	Fur.	
Buz-Kishlák	30	19	7 $\frac{1}{4}$	<p>Kerchak-Daria stream does not dry up in summer. Both its banks are covered with an uninterrupted belt of fields—wheat, barley, clover, and occasionally melon and cucumber beds. Trees are hardly met with in the valley, except here and there solitary willow trees.</p> <p>The branch of the stream itself is grown over with thin bushes of the narrow-leaved willow (water willow) and tamarisk. The population of the valley is partly settled; tents are met with much oftener than huts.</p> <p>At 7 <i>versts</i> from Munchak-Kishlák, <i>i.e.</i>, from the point at which the road issues into the Kerchak-Daria valley, is the village of Jabagil. From this village the valley is narrowed by the Ak-Tau mountain, and the road crosses to the left bank of the stream. Beyond this, distant 8 <i>versts</i> (5 miles 2$\frac{1}{2}$ furlongs), is the village of Karim-Bai, and 4 <i>versts</i> (2 miles 5$\frac{1}{4}$ furlongs) from it Janghazi, 5 <i>versts</i> (3 miles 2$\frac{1}{2}$ furlongs) from the latter village is the village of Buz at the Buz-Tube hill. Here the Kerchak-Daria turns westward, and the road leaves the valley of this stream. One may encamp for the night at Buz-Kishlák; halt for rest at any point on the bank of the Kerchak-Daria, as, for instance, at Jabagil. On this march the road only requires repairing in a few places—at the descent from Ak-Básh and on the stony descent into the Kerchak-Daria valley.</p> <p>At Buz-Kishlák the road leaves the valley of the Kerchak-Daria and rises steeply on to the stony mountain of Gul-Tube; the descent from this mountain leads to the course of the salt stream of Shur-Bulák. The road crosses this stream and runs</p>

over a slightly undulating open space suitable for travelling. At 4 *versts* (2 miles $5\frac{1}{4}$ furlongs) from the ascent the road crosses a ravine with steep sides; 3 *versts* (2 miles) further on, after an insignificant bend to the east, in order to go round a steep hill, a stony tract commences, requiring repairs to road in places. The road runs, now in the bed of a dried-up salt stream, and now on its stony banks. In places stony ravines alternate with undulating gentle hills. The road runs thus for 3 or 4 *versts* (2 to $2\frac{3}{4}$ miles). At 6 *versts* (3 miles $7\frac{3}{4}$ furlongs) to Kuitán the outline of the lofty, gloomy mass of the Kuitín-Tau mountains is seen in front. The road enters a defile of red sandstone, very winding, which comes out in the Kuitán valley at the village of Kuitán itself. On this march the road requires making—(1) at the ascent to the Gul-Tube hill; (2) at the passage of the two ravines mentioned above (one of these is the bed of the Shur-Bulák); (3) for a distance of 6 *versts* (3 miles $7\frac{3}{4}$ furlongs) in different places at the end of the march, from the turn of the road in the Kizil-Sai defile to its exit on to the Kuitán valley. Halt for rest can be made at the turn of the road in the defile where there are some moderately well-to-do "auls" at wells. Encampment for the night at the village of Kuitán on a broad, even, open space, near a small lake formed by springs. The water in the lake is very good. The camping ground is sufficiently distant from rice and clover fields, melon beds, or other similar irrigated spots.

The village of Kuitán is of very great importance as a large inhabited (settled) spot lying almost half way between Guzár and Kelif. Four roads reconnoitred by M. Macéff run out of it: (1) to Guzár; (2) to Tenga-Khoram; (3) to Shir-Abád; (4) to Kelif. Store-houses may be constructed here. From the Kuitán valley forage and corn may be supplied to Kelif, as the resources of the Shir-Abád valley are insufficient. Finally, in case of communication with Shir-Abád being necessary, a good road suitable for traffic leads to it from Kuitán; for wheel traffic it would require some making, but for pack animals it is quite passable.

From Guzár to Kuitán viâ Tenga-Khoram and the Ak-Básh pass—concluded.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Kuitán	17	103	11	2½	68	2½	<p>This road, reconnoitred by M. Maeff, leads through the village of Khoja-Ipil and the defiles of Tenga-Daval and Khatak-Su, and comes out at the Nan-Dahán gorge at 10 <i>versts</i> (6 miles 5 furlongs) from Shir-Abád. Kuitán is the only place with a bazar in the whole distance from the Amu-Daria to Guzár.</p> <p>There is a bazar at Kuitán twice a week—on Wednesdays and Saturdays. All the neighbouring nomads (Ilibai) bring their products here.</p> <p>Near Kuitán in the high mountains are the only lead mines in the whole Khanate of Bukhára. Thus, if to the distance from Guzár to Kuitán given here (103 <i>versts</i> or 68 miles 2½ furlongs) the distance¹ from Kuitán to Kelif¹ (64 <i>versts</i> or 42 miles 3¼ furlongs) be added, the Guzár-Kelif route by this line will come to 167 <i>versts</i> (110 miles 5½ furlongs), <i>i.e.</i>, only 21 <i>versts</i> longer than the direct Guzár-Kelif route², but an incomparably better one.</p>

¹ Route 141.

² Route 139.

ROUTE 141.

From Kuitán to Shir-Abád.

[Mountain Road.]

Kuitán			<p>Kuitán is connected with Shir-Abád by a suitable direct road fit for pack animals. At first the road runs in the Kuitán valley, well cultivated and inhabited. At 6 <i>versts</i> (3 miles 7¼ furlongs)</p>
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from Kuitán the valley narrows, or more correctly, is barred by a detached mountain mass. This defile bears the name of Mirza-Bedil. Beyond this mountain mass the defile again opens out to a width of 50 *sajens* (116 $\frac{3}{4}$ yards). The road runs through-out along the left edge of the valley and defile past inhabited and cultivated spots, spread along the banks of the Kuitán-Daria, which waters the valley.

Beyond the defile of Mirza-Bedil, however, cultivated spots are more seldom met with, as the valley assumes an undulating character, and low, even, open spaces, suitable for cultivation, are not often to be found.

At every step in advance the defile assumes a wilder character. At 9 *verst*s (5 miles 7 $\frac{3}{4}$ furlongs) from Kuitán the difficult ascent to the Ak-Daval hill commences. This hill abounds in springs, which form the source of the Kuitán-Daria. The ground is nearly everywhere moist. In order that the spring water should not flow away uselessly, in many places pipes made of logs are laid down, by which the water is conducted into the course of the Kuitán-Daria. On the right Ak-Daval is bounded by the deep ravine of Kirk-Kiz. The ascent to Ak-Daval leads out on an extensive elevated open space, on which is established the hill village of Khoja-Ipil inhabited by Uzbaks of the Kanjigali tribe. At 4 *verst*s from the village up the same defile is the old, now almost deserted, village of Iske-Khoja-Ipil. The place where the village formerly was is now only noticeable by clumps of trees and traces of earthen walls. The open space of Iske-Khoja-Ipil is, however, at the present time enlivened by the tents of nomad Uzbaks and their enormous herds, chiefly of sheep and goats. Both these open spaces, upon which are situated the village and "aul" (nomad encampment) of Khoja-Ipil, are watered by a stream which may be reckoned as the head of the Kuitán-Daria. This opening is also the upper part of the whole Kuitán valley. At 3 *verst*s (2 miles) from Iske-Khoja-Ipil commences the ascent of a gently sloping grassy hill abounding in springs. This ascent leads to the valley of Khoja-Aksar. The country here has an undu-

From Kuitán to Shir-Abád—continued.

From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
		Versts.	Versts.	Miles.	Fur.	
						<p>lating character, and the road runs amongst low, gently sloping hills. After one more ascent solitary firs commence to appear about the road. The descent from this last height runs along the hollow of the Bish-Kutan-Sai.</p> <p>At 20 <i>versts</i> (13 miles 2 furlongs) from Kuitán, at the end of the Bish-Kutan-Sai hollow, the road reaches the main mass of the vast Kuitin-Tau range, here intersected by the Tenga-Daval defile, through which flows the swift fresh stream of Tenga-Daval-Bulák. The defile is very stony, but quite practicable for traffic with pack animals. The road crosses incessantly from one side of the defile to the other, now rising up its stony slopes, now descending to the bed of the stream. Small patches of cultivation are scattered about the defile in different places suitable for crops, and the tents of nomad Uzbaks are also seen. Here and there trees (willows) are planted along the banks of the stream, which, fed by side springs, is now transformed into a moderate-sized, swift mountain river. The slopes of the defile are covered in some places with wild vines, bearing small uneatable grapes of an unpleasant rough taste.</p> <p>At 10 <i>versts</i> (6 miles 5 furlongs) from the commencement of the Tenga-Daval defile a more important Uzbek settlement is met with,—the village of Khatak, with fields of clover, wheat, barley, melon, and cucumber, and small gardens full of willow (<i>uruk</i>) and dwarf elm.</p>

Khatak

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19

7

From the village of Khatak the road leaves the defile of the Khatak-Su (a continuation of the Tenga-Daval defile) and rises to the nearest height, still, however, following the direction of the defile for another 3 or 4 *versts* (2 to 2½ miles). Here the road turns off to the village of Pásh-Khurd. The gentle, earthy hills on which the road runs are covered with fields; here they sow wheat depending on rain, without irrigation. Gardens and the buildings of villages (Uzbaks of the Katagán tribe) situated in the defile itself are seen in some places from here at 4 *versts* (2½ miles) from Khatak. The defile of the Khatak-Su turns to the north-east, gradually receding from the road, which keeps its former south-easterly direction. The fields of the Katagáns here cease, although the road runs over an even foreland suitable for cultivation. Cultivation is only seen again at Lailakan. 8 to 9 *versts* (5 miles 2½ furlongs to 5 miles 7½ furlongs) from Khatak, and here there are even fields of "jugar," which, as is known, requires abundant irrigation. A "karez," or underground canal, which gives life to the point of Lailakan, runs from no great distance in the hills.

Beyond, the road runs through a mountainous tract, but not difficult for movement, now descending into ravines with salt water, now rising to the heights at the side. The deepest and most serious ravine or "sai" is that of Alanli-Sai with a salt stream flowing in it. At 4 *versts* from it (2½ rds miles) patches of cultivation are met with on a small open space watered by a plenteous spring. Here also may be seen fields of sesamum, which requires considerable heat to bring it to maturity.

From these patches of cultivation a gradual ascent to the Khoja-Ulkun-Tau mountain (a continuation of the Pásh-Khurd range) commences. The road in the Khoja-Ulkun hills is more difficult, but only owing to the steepness of the ascents in some places. On the actual descent from the Khoja-Ulkun range on an even, well-irrigated, open space nestles the village of Khoja-Ulkun.

From Shir-Abad to Ak-Kurgán (at the passage of the River Surkhán)—continued.

From point to point.		Total between chief places.		From point to point.		Total between chief places.		REMARKS.
Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	Miles.	Fur.	
								<p>At 2 <i>versts</i> (1½ miles) from the "aul" the road crosses a dry canal, which in case of necessity could easily be renewed, and 2 <i>versts</i> further reaches a gently sloping range of sand heights grown over with the vegetation characteristic of sandy localities. This range is called the Katta-Kum (great sands), and the lower hills extending to the south and south-east are called the Jetti-Kum (Etti-Kum). Finally, a very high sand range, which is seen in the distance to the south and which runs to the Amu-Daria, is called Khaniar. Sand-hills run up to the very bank of the Amu.</p> <p>At 8 <i>versts</i> from the "aul" of Ravatak, the road, which up to this has been running over a salt steppe along the slopes of a sand range, turns east and crosses this range.</p> <p>The highest part of the range from whence the Surkhán is seen in the distance is called Tásh-Rabát-Tube.</p> <p>Here there really was at some time or other a "rabát" (sarai), of which now only indistinct traces are left. The road runs over difficult sand-hills for a distance of 5 <i>versts</i> (3 miles 2½ furlongs), and afterwards for the remaining 7 <i>versts</i> (4 miles 5 furlongs) over steppe, which is also sandy and difficult for movement.</p> <p>The village of Ak-Kurgán is situated at the crossing over the Surkhán. On the opposite bank is situated the large village of Kataiti-Payin (<i>i.e.</i>, low Kataiti).</p> <p>The road, although difficult for movement on account of the sandy tract, does not require working at. The most suitable</p>

Ak-Kurgán	20	41	13	2 $\frac{1}{4}$	27	1 $\frac{1}{2}$	place to halt at for rest is at the descent from the Katta-Kum range on to the sandy steppe; there is, however, no water here, and it must be procured in skins from the Surkhán. The passage of the Surkhán between Ak-Kurgán and Kataiti can be made at any season, at full water in boats (<i>kayuks</i>) and at low water by fording.
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ROUTE 143.

From Ak-Kurgán (on the Surkhán) to Derbend.

Ak-Kurgán	The valley of the Surkhán, in its lower parts, is striking from its uninhabited and sterile nature. It is a continuous steppe covered with thorn. Traces of canals, however, and tradition kept up amongst the people prove that at some time this valley teemed with life. A vast canal led through it from Deh-i-Nau to the lower parts of the river, where it irrigated the fields belonging to the once celebrated Termez. All the canals here are now abandoned, and life is only seen on the low inundated spots formed by the Surkhán. The road from the Ak-Kurgán passage runs, for the greater part, elevated above the level of the river, over a dry and dusty steppe, occasionally descending to the low grounds, when the river approaches the road. At 2 <i>versts</i> (1 $\frac{1}{3}$ miles) from Ak-Kurgán, the ruins of the old fort of Chaldivar are seen on one side of the road. Another 2 <i>versts</i> (1 $\frac{1}{3}$ miles) on the road crosses an old abandoned canal and descends to the low ground of the Surkhán overgrown with high reeds and bushes of "jid." Bushes of black fig preserved here and there show that there were once rich gardens here. At 5 <i>versts</i> (3 miles 2 $\frac{1}{2}$ furlongs) from Ak-Kurgán the road reaches a bend in the Surkhán, which is here at low water about 30 <i>sajens</i> (70 yards) broad. At 8 <i>versts</i> (5 miles 2 $\frac{1}{2}$ furlongs) the road again approaches close to the precipitous bank of the low foreshore of the river. One <i>versts</i> ($\frac{2}{3}$ mile) beyond is the Arpa-Payin hillock, and near it
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From Ak-Kurgán (on the Surkhán) to Derbend—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			Versts.	Fur.	Miles.	Fur.	
Karván-Tushti	14		9	2 $\frac{1}{4}$	<p>on the bank of the Surkhán, the village of the same name. At 11 <i>versts</i> from Ak-Kurgán is situated, also on the Surkhán, the village of Kaptagai, and on the opposite bank the large village of Kakaiti. Three <i>versts</i> (2 miles) further on is the village of Karván-Tushti, with the remains of an old rampart. The road is throughout even and good. Along the Surkhán, in its lower parts, live the Uzbek tribe—Chupak,—partly settled in the villages on the river and for the greater part living in <i>kibitkas</i>, which are scattered about in different places over the steppe and on the low ground. The Uzbaks of the Surkhán raise large flocks, taking advantage of the good pasture in the wet low grounds (<i>tugai</i>) of the Surkhán.</p> <p>At the villages of Karván-Tushti the River Surkhán and the road, which throughout runs along the right bank of this stream, approach the Adil-Tau mountains, bordering the broad Surkhán valley on the west. These mountains from the side of the valley do not appear of majestic proportion. They have the appearance of sloping greyish-yellow hills, but the further one advances into the depth of the mountain mass, the more perceptible do their proportions become.</p> <p>At 5 <i>versts</i> (3 miles 2$\frac{1}{2}$ furlongs) from Karván-Tushti the mountains almost reach to the bank of the Surkhán. One <i>verst</i> ($\frac{2}{3}$ mile) to the right, at the point where the river makes a sharp turn to the east, are the ruins of Mirza-Sayid-Bai on the bank. $\frac{1}{2}$ <i>verst</i> still further on on the river is seen the villages of Kaptagai. Here the Adil-Tau mountains again</p>

Bendi-Khán defile... ..	8	5	2½
Kul-Kámish	24	15	7½

approach the bank of the river, and the locality through which the road passes becomes undulating. At 8 *versts* (5 miles 2½ furlongs) from Karván-Tushti the Bendi-Khán ravine intersects the road with an ancient bridge of good burnt brick constructed over it. The traces of brick kilns, in which the bricks for constructing the bridge were made, are still to be seen at the present time not far from the bridge. The Bendi-Khán ravine is only full of water in spring; in summer it is quite dry. It forms a continuation of the defile of the same name in the Adil-Tau mountains. The road direct to Baisun by the mountains runs in this defile along the bed of the saltish stream Gubchak-Bulák.

Eight *versts* (5 miles 2½ furlongs) to the north of the bridge over the Bendi-Khán, the small Uzbek village of Kum-Kurgán is situated on the Surkhán. In the lower parts of the valley of this river, generally only poor Uzbek villages, and but few of them, have found a refuge.

The mountain mass which fills up the whole expanse between Baisun and the valley of the Surkhán is cut through by the Bendi-Khán defile. This mountain mass does not present considerable heights, and the road cannot be reckoned a difficult one. In many places extensive open spaces are met with, with "auls" scattered about them. The Kul-Kámish, a small stony hollow with a stream in it, enables some cultivation to be carried out at this spot. The *aul* is higher up in the hills, and on the stream in the hollow there are only some corn-fields and a few mud huts (*kara-ui*).

At 8 *versts* (5 miles 2½ furlongs) from Kul-Kámish is the wealthy village of Káfirun. The road to this village leads through a not very wide mountain valley which winds out to the north towards Baisun. The village of Káfirun itself is situated amongst bare and sterile hills, but all the depressions and glades between these hills are most carefully cultivated. Not far from Káfirun to the north on the same road is the village of Tungai-Kurgán. Here the locality assumes an uneven, undulating character. In front and to the right is seen the outline of mountains of a reddish colour, rocky and

From Ak-Kurgán (on the Surkhán) to Derbend—concluded.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			Versts.	Versts.	Miles.	Fur.	
Paisun	24		15	7 $\frac{1}{4}$			<p>gloomy looking. The descents from these mountains are noticeable for their steepness. These mountains are a continuation of the Buri-Takht range, which borders the Baisun valley on the south and south-east.</p> <p>The Baisun mountain valley on the road from Kobá dian to Baisun is less cultivated and populated than is its western portion. Here the locality has an undulating character not always permitting of cereal cultivation. Baisun is a large Uzbek town; the inhabitants have long been celebrated for their opulence, whence the very name of the town, Bai-Shin, <i>i.e.</i>, the rich settlement. The neighbouring hill Uzbaks of the Kungrád tribe possess enormous herds which are pastured in summer on the high mountain valleys. The Kungráds get rid of their superfluous cattle at Guzár.</p> <p>The road from Baisun to Derbend is very difficult and crosses three passes—the Sakirtma, the Bai-Kiderni-Uri, and the Yálgiz-Bágh. The ascent to the last of these passes is especially difficult, and from it a magnificent view opens out over the whole Baisun valley. At the descent from the Yálgiz-Bágh pass lies the Tájik village of the same name.</p> <p>Derbend is also a purely Tájik town, and lies in the Shir-Abád-Daria valley. The huts of this town are scattered about in defiles. At Derbend the road leading to Kobá dian joins the Guzár-Shir-Abád road.</p>
Derbend	16	86	10	4 $\frac{3}{4}$	57		

ROUTE 144.

From Derbend viâ Baisun to Denau.

VOL. II	Derbend ... ..	...	...				From Derbend to Baisun the road runs through three passes—Sakirtma, Bai-Kiderni-Uri, and Yálgiz-Bágh. The ascent to the latter pass is especially difficult, and from it a magnificent view over the Baisun valley opens out. On the ascent to Yálgiz-Bágh there is a Tájik village with good gardens.
	Baisun, town of	16	10	4 $\frac{3}{4}$			From Baisun the road leads along a range of hills by rich villages. The locality is even and suitable for movement; it only becomes undulating at the village of Chash-Tube, 6 <i>versts</i> (3 miles 7 $\frac{3}{4}$ furlongs) from Sari-Kámish. Sari-Kámish is a small settlement, consisting of three <i>sarais</i> , surrounded by poor patches of cultivation on the bank of a saltish stream. There are other sources of spring water not far off, but these are also saltish.
	Sari-Kámish (point)	20	13	2 $\frac{1}{4}$			From Sari-Kámish the road leads along an even hill valley, and at 4 <i>versts</i> (2 $\frac{3}{4}$ miles) from Sari-Kámish enters the picturesque Ak-Karachugai defile. This defile extends for 10 <i>versts</i> (6 miles 5 furlongs). The road is good throughout. At the bottom of the defile runs a stream of saltish water, but fit for drinking. At half way, on issuing from the defile, the ascent of the Turpak-Altish height is more difficult than the descent from it. The second half of the road presents no difficulties to movement, and runs through a somewhat undulating tract to the village of Mir-Shádi.
	Mir-Shádi(village)	24	15	7 $\frac{1}{2}$			From here to Deh-i-Nau the road runs through a cultivated district past rich villages. At 3 <i>versts</i> from Deh-i-Nau the road crosses the River Kizil-Su by a ford. Deh-i-Nau forms the central point of the whole Hisár district, and on this account, as well as owing to the fruitful and rich cultivation and populousness of the whole tract of the upper course of the Súrkhán, great importance is attached to Deh-i-Nau.

From Derbend viâ Baisun to Denau—concluded.

	From point to point.		Total between chief places.		From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	<i>Miles.</i>	<i>Fur.</i>	<i>Miles.</i>	<i>Fur.</i>			
Deh-i-Nau, town of	24	84	15	7 $\frac{1}{4}$	55	5 $\frac{1}{2}$	During the last insurrection in Hisár in 1869 the forces of the whole district concentrated at Deh-i-Nau, and with the fall of this town the entire country was subjugated. The Bukháriats met with no resistance even in the distant Kuliáb and Kurgán-Tube, notwithstanding the warlike character and well-known enterprise of Sari-Khán, the chief of the Kuliáb Uzbaks.		

NOTE.—The population of the Hisár district is almost exclusively confined to the valleys of the upper course of the Rivers Surkhán and Káfirnihán. Here lie the towns of Deh-i-Nau, Urchi, Regar, Sar-i-Jui, Sar-i-Ocio, Kára-Tág, Hisár, Dushamba, Káfirnihán, and Faizábád. There is direct communication from Deh-i-Nau to Hisár through the Bába-Tág range. This is, however, a winter road; in summer it is little frequented owing to want of water. The northern towns serve as a link between the Uzbek population of the valleys and the Tájik population of the hill villages. The population of the northern towns is, however, almost exclusively Tájik; the Uzbaks are here a newly arrived race.

The remaining towns of the district serve, as it were, as advanced posts for the heart of the district, which is incontestibly contained in the above-noted locality (the basin of the Upper Surkhán and Káfirnihán). These towns are—on the east, Baljuan and Kuliáb (in the basin of the Pyánj); on the south, Kurgán-Tube (on the lower course of the Wáksh); Kobádián (on the lower part of Káfirnihán); and Shir-Abád (on the lower part of the Shir-Abád-Daria); on the west, Derbend and Baisun.

Holding the tract at the upper Surkhán and Káfirnihán, with small garrisons in Kuliáb and Baljuan, the Amir has the whole district under his sway, and owns the upper course of the Amu-Daria from its point of junction with the Wáksh to Kelif.

ROUTE 145.

From Deh-i-Nau viâ Kára-Tág to Hisár.

Deh-i-Nau	6	3	7 $\frac{3}{4}$	The town of Deh-i-Nau (<i>i.e.</i> , the new village) has a half-ruined wall and citadel. It is governed by beks sent from Bukhára. The road to Urchi runs through a continuously cultivated district. Both towns are supplied with water from the Khoja-i-pak River, flowing out of the mountains opposite Urchi.
Urchi, town of				

Sar-i-Jui (village)	...	...	16	10	5
Dash-Novat (village)	...	...	24	15	7 $\frac{1}{4}$
Regar, town of	...	...	14	9	2 $\frac{1}{4}$
Kára-Tág, town of	...	...	20	13	2

After Urchi gardens soon end, and a small elevated valley commences, grown over with occasional bushes of tamarisk. After passing clayey hills the road towards the end of the march enters the excellently cultivated basin of the river Turpalán, an affluent of the Surkhán. The River Turpalán is here called after the name of the village of Sar-i-Jui.

The inhabitants remove to the hills in summer; in winter the population of this little town amounts to 2,000.

The River Turpalán attains a breadth of 20 to 22 *sajens* (46 $\frac{3}{4}$ to 51 $\frac{1}{2}$ yards), and is unfordable. At $\frac{1}{4}$ *verst* (about 300 yards) above the town there is a bridge over the bed of the stream, which is here contracted.

The length of the bridge is about 30 paces. Half way between Sar-i-Jui and Dash-Novat is the village of Taggiyán.

Dash-Novat is a comparatively large village, and boasts of pomegranate gardens. From here the road leads over a beautifully cultivated tract right up to Regar.

Regar has a citadel, inferior in strength only to those of Hisár and Shir-Abád. From Regar the road leads along an elevated valley; on the right extends the northern extremity of the Bába-Tág range, without any very marked summits; on the left there is also a range of hills, but much less massive than the Bába-Tág.

Kára-Tág is a small hill town with an abandoned citadel. It lies in a defile at the base of the massive Kára-Tág range on the bank of the Kára-Tág Daria, over which, at the town itself, in the bazar, a bridge leads. Kára-Tág is celebrated for the manufacture of the so-called Hisár swords and knives; the workmen only live here in summer and remove to Hisár in winter. The Governor of Hisár (the Amir's son) and all the notables also come here in summer.

On the road to Hisár three villages are met with—Shur-Áb, Suji, and Kaj-Áb. The road constantly approaches the northern extremity of the Bába-Tág, and then runs along its eastern slope. The Bába-Tág here runs as a low lateral range as far as Hisár.

From Deh-i-Nau viâ Kára-Tág to Hisár—concluded.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versta.</i>	<i>Versta.</i>	Miles.	Fur.	Miles.	Fur.	
Hisár, town of	24	104	15	7¼	68	7½	<p>The swift Khanake-Daria flows under the walls of the Hisár rampart, supplying the town with water and its fields also, and inundating all the locality about the town.</p> <p>Hisár with its strong citadel, constructed on a rock, defends the entrance to the Pai-Duldul defile, which forms the commencement of the Káfirnihán valley. Hisár is the residence of a <i>bek</i> who governs the whole of the Hisár district. Although the title of "<i>Shádmán</i>," or "the joyous," is given to the town, it would more appropriately be called "the sickly," as the climate is unhealthy owing to the marshes surrounding the town. The buildings in Hisár have double-sloped roofs, and are besides fine and high.</p> <p>The situation of the town is picturesque. The building which forms the palace of the <i>bek</i> is very fine.</p>

(180)

ROUTE 146.

From the town of Hisár viâ Dushamb'a to Paizábád (in Hisár).

Hisár, town of	<p>From Hisár the road leads north-east almost at right angles to the road from Kára-Tág into Hisár. The route lies in a mountain valley rich in water, in places even inundated and</p>
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Dushamba, town of	20	13	2	
Káfirnihán, town of	25	16	4 $\frac{3}{4}$	
Faizábád, town of	20	65	13	2
						43
						0 $\frac{3}{4}$

covered with nomad Uzbaks, Marka-kchi-Uz (*i. e.*, Marka small horde). These Uzbaks migrated here in 1866 from about Ural-Tube and Jizák. Lower down the valley are other nomad Uzbaks.

Dushamba, with its strong citadel on a hill, lies at the entrance to the Varzáb defile on the bank of the Zigdi-Daria, which is hardly fordable. Above the town of Dushamba, at the entrance of the defile, there is a bridge over the river. There are no fords below Dushamba.

From Dushamba to Káfirnihán the road runs in an easterly direction along the massive Gházi-Malak range. Up to the village of Shakh-Mansúr the road is even and good. From the village of Chokh-Mazár on the left side of the road grassy hills appear, the foreland and spurs of the Varzáb-Tág range. On the right are seen the villages of Hazret-Muláni, Karivach, and others.

At the Káfirnihán River there is a wooden bridge (35 paces long) from which the road turns along the left bank of the river, and passing several villages and nomad encampments reaches Káfirnihán which lies on the left bank of the River Káfirnihán-Daria. From Káfirnihán the road at first runs south-east, then approaching the Yárjil hills it turns along the foot of them and enters a defile not very broad but suitable for travelling. The Yárjil hills are full of villages; all suitable spots, and even the sloping sides of the hills, are cultivated, and gardens are seen in the low ground. The first village in the mountains along the route is called Chashmah-i-Akash.

Faizábád lies in a plain, cultivated to a remarkable extent, has a healthy climate, and abundant hill stream and meadows, which remain green the whole summer.

The River Ilyák, an affluent of the Káfirnihán, flows through the valley about half a *tash* (4 *versts* or 2 miles 5 $\frac{1}{2}$ furlongs) from Fáizabád. The citadel of Faizábád is half ruined.

ROUTE 147.

From Faizábád viâ Baljuán to Kuliáb.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	
Faizábád, town of			<p>The route from Faizábád to the village of Narak crosses the Kaudon range. The height of the pass is 3,350 feet above the level of the sea. The ascent is excessively steep. The summit of the pass is taken up with the fields; the slopes of the hills above are green with woods of the most various kinds. Settlements are met with along the route; three of these bear the common name of Kaudon. The descent from the hill is more gentle, but steep places occur upon it, in which the road is cut in steps. The descent is especially steep at two places near a winding ravine, which bears the name of "the copper mines," near the village of Khairábád. On descending from the pass the traveller reaches the valley of the River Wáksh, the width of which is here not more than $\frac{1}{2}$ <i>verst</i> (583 yards). The village of Narak is surrounded with a wall. Six <i>versts</i> (3 miles $7\frac{1}{2}$ furlongs) to the north of the village is constructed the celebrated bridge of Pul-i-Sangi (the stone bridge). The length of the bridge is 10 paces, and it is supported on two projecting rocks rising high above the level of the river. The width of the stream here is not more than 20 paces. The path from Narak winds over rocks, sometimes descending almost to the course of the Wáksh, and sometimes leading by steps cut out of the rocks. This road bears the name of "Dandan-Chishkan" ¹ (<i>i.e.</i>, the broken teeth or the tooth-breaker). The village of Durt-Kaul is situated in the valley of the Wáksh,</p>
Narak (village)	16		10	$4\frac{3}{4}$	
Durt-Kaul (village)	16		10	$4\frac{3}{4}$	

Lyakai-Yailiau boundary	...	20	13	2 $\frac{1}{4}$
Kangur (village) ...	... ..	16	10	4 $\frac{3}{4}$
Baljuán, town of ...	... ..	16	10	4 $\frac{3}{4}$

here not more than $\frac{1}{2}$ *verst* (583 yards) wide. The hills bounding the valley are grown over with various kinds of vegetation (nut, pistachio and others). At the village of Darwáza-Kala the road leaves the Wáksh valley and turns to the south-east by the Áb-i-Kura defile. Beyond this comes the ascent to the Sebistán-Tág range. The ascent, although steep, is not stony. The slopes of the mountains are covered with the Skorodosma (*asafetida*) and other plants. On one of the terraces the road passes the summer abode of the Uzbaks of the Lyakai and Khulluk tribes, rich in horses. This summering place is called Lyakai-Yailiau. From here the road rises very steeply by a narrow path to the summit of the Guli-Zindán pass. The descent from the pass is excessively steep and dangerous; slopes of 50° and 55° are met with.

On descending from the pass the road issues on the valley of the Kangur-Bulák stream, which is well cultivated. Here in a small hollow nestles the rich village of Kangur.

From Kangur the road at first leads by the valley of the River Kangur and soon enters the narrow valley of Ruja-Kul. A sloping ascent leads on to terrace-like high ground on which is the small village of Kara-Guzár. From the village a steep descent leads to the Kára-Su stream, and afterwards the road rises to the steep Jari-Parran pass. On descending from the pass the road turns east-south-east and runs parallel to the course of the Kchi-Surkh-Áb stream and the Baljuán range. Near the descent the village of Jari-Parran is met with on the river, and somewhat further on is the ruined village of the same name, deserted by its inhabitants in consequence of incessant inundations. Here the road crosses the Kchi-Surkh-Áb by a ford and reaches Baljuán, situated where the Baljuán valley unites with one of the lateral defiles.

The town is built both in the valley and the defile. Thanks to its height above the level of the sea (2,130 feet), the climate is not hot. The direct road to Darwáz branches off here. This road, which is over snowy ranges, is extremely hard and difficult. It is traversed in two to three days.

From Faizábád viâ Baljuán to Kuliáb—concluded.

			From point to point.	Total between chief places.	From point to point.		Total between chief places.	REMARKS.	
			Versts.	Versts.	Miles.	Fur.	Miles.		Fur.
Uzur-Akir (point)	24		15	7 $\frac{1}{2}$			<p>From Baljuán the route runs down the valley of the Kchi-Surkh-Áb to the south as far as its exit from the Jari-Parran defile. The country is inhabited; along the route are the villages of Faizábád and Sulduzi. The road, gradually rising, leads to the pass over the Baljuán-Tág range; this pass bears the name of Uzun-Akir (the long manger). This name is also given to the valley lying along the eastern slope of the range as far as the small summer resort of the Uzbaks of the Lyakai tribe. On the pass itself in a small hollow is the small Uzbek hill village of Shár-Shár. The Baljuán-Tág generally is full of villages.</p> <p>The eastern side of the Baljuán-Tág is much more sloping than the western side from Baljuán. On descending from this range along the Uzur-Akir-Bulák stream, at its point of issue from the mountains is the large and rich village of Pushián, and near it another and not less important village of the same name.</p> <p>From Pushián the road runs throughout to the south-east, crossing diagonally the Kuliáb valley, which gradually widens out; at Pushián it is not more than $\frac{1}{2}$ verst ($\frac{1}{3}$ mile) wide, but at Kuliáb it has already attained a width of 3 to 4 versts (2 to 2$\frac{2}{3}$ miles). There are many villages along the road, and the nearer one approaches Kuliáb the thicker is the population.</p> <p>The town of Kuliáb has received its name from the lakes and inundations with which it is surrounded. Owing to these</p>
Pushián (village)	...	...	16		10	4 $\frac{3}{4}$		
Kuliáb, town of	...	...	12	136	7	7 $\frac{3}{4}$	90	1 $\frac{1}{4}$

lakes and inundations the climate of Kuliáb is extremely unhealthy. Within the limits of the town wall there are not more than 400 houses; but all round the town gardens are scattered about to a great distance. The citadel of Kuliáb is in a very bad state. The streets of the town are wide and comparatively clean; the town is built along ravines at the foot of rather low hills standing in a detached group.

ROUTE 148.

From Kobádian, by the hill road, to Baisun.

Kobádian, town of	From Kobádian the road runs through a tract taken up with rice-fields, and consequently very much inundated and unhealthy; the direction of the route is north-west. After an hour's ride through submerged rice-fields, the fords over seven branches of the Káfirnihán are reached, four of which are very deep (up to a horse's neck). The islands between the branches are thickly grown over with jíc, reeds, tamarisk, thorns, and are full of wild fowl and also wild boar and tigers.
Básh-Char-Bágh (village)	...	18	11	7 $\frac{1}{2}$	From Básh-Char-Bágh the road leads along the lofty Ak-Tube plateau for 64 <i>versts</i> (42 miles 3 $\frac{1}{2}$ furlongs). Along this route the road passes the point of Chagatai with the well of the same name. The elevated steppe of Ak-Tube occupies the whole space between the southern portions of the Rivers Káfirnihán and Surkhán.	
Chagatai well	...	...	32	21	1 $\frac{3}{4}$ Crossing the steppe at 32 <i>versts</i> (21 miles 1 $\frac{3}{4}$ furlongs) from Chagatai and 8 <i>versts</i> (5 miles 2 $\frac{1}{4}$ furlongs) to the village of Kakaiti the road turns sharply to the north by a small, even sandstone valley between low hills and leads out at the north-east edge of the Ak-Tube summit, then by a gentle stony descent it passes into the green valley of the Surkhán. At $\frac{1}{2}$ <i>verst</i> ($\frac{1}{3}$ mile) from the village of Kakaiti the Surkhán is crossed in a miserable <i>kayuk</i> (boat).

From Kobá dian, by the hill road, to Baisun—continued.

	From point to point.		Total between chief places.		From point to point.		Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.			
Kakaiti (village)	40		26	4					<p>The width of the Surkhán at Kakaiti is about 100 <i>sajens</i> ($233\frac{1}{2}$ yards); the depth is not great; there are shallow portions, but no ford.</p> <p>From Kakaiti to Shir-Abád due west is 4 <i>tash</i> (32 <i>versts</i>, or 21 miles $1\frac{3}{4}$ furlongs), and by the bank of the Surkhán to the Amu-Daria is 5 <i>tash</i> (40 <i>versts</i>, or 26 miles 4 furlongs).</p>
Kaptagai (village)	16		10	$4\frac{3}{4}$					<p>The right bank of the Surkhán is much poorer in villages than the left. The village of Kaptagai lies on the right bank of the above river on one of its branches.</p> <p>From here the road commences to run over an elevated and waterless steppe, in some places sandy, in others with hard clayey salt-soil. Low hills and ravines give the steppe an undulating appearance. At 3 <i>versts</i> from Kaptagai the route is crossed by the great, much-used road from Deh-i-Nau to Shir-Abád.</p> <p>At 27* <i>versts</i> (17 miles $7\frac{1}{4}$ furlongs) from Kaptagai the road enters the great Bendi-Khán defile, in the range of the same name, with the salt stream of Gubchak-Bulák flowing through it, the water of which even horses will not drink.</p> <p>From here to Kul-Kámish the road runs through the mountains, now by narrow paths winding amongst stones over steep places, now by mountain valleys and hollows, in which the nomads have found shelter for their "auls."</p>
Kul-Kámish (point)	24*		15	$7\frac{1}{2}$					<p>Kul-Kámish is a small stony hollow, with a stream in it, enabling some sort of cultivation to be carried on here.</p>

Káfirun (village)	8	5	$2\frac{1}{2}$						From here the road runs by a moderately broad mountain valley, gradually widening out to the north.
Baisun, town of	16	10	$4\frac{3}{4}$						The village of Káfirun lies amongst bare and sterile hills; close by to the north on this road is the village of Túngai-Kurgán.
		154					102	$0\frac{3}{4}$ *	Here the country takes an undulating character, and the road is intersected by steep ascents and descents right up to Baisun.

* There is an error in this route; the distance of each stage is as above, but the total is given as 171 *versts*, and not 164. It is believed that the error is at Kul-Kámish, which should be 41 or 42 *versts* instead of 24, as in the text; 27 *versts* from Kaptagai is spoken of, whereas the whole distance of the march is given as only 24. No correction in errata.—*Trans.*

ROUTE 149.

From Shir-Abád, by the hill road, to Baisun.

Shir-Abád, town of						
Lailakan (village)	16	10	$4\frac{3}{4}$						Although the road runs through the mountains, no great impediments are met with.
Pitau ,,	26	17	2						
Baisun, town of	16	10	$4\frac{3}{4}$						
		58					38	$3\frac{1}{2}$	

NOTE.—From the plain, watered by the upper courses of the Rivers Surkhán and Káfirnián, convenient routes run to the Amu-Daria plain, where even in ancient times there existed populous centres, Tokharistán, Khotal, and others, and at the present time there are the towns of Shir-Abád, Kobádián, and Kurgán-Tube. The route from Deh-i-Nau, the chief centre of the northern portion of Hisár, to Shir-Abád, runs by the broad valley of the Surkhán through the villages of Mirshádi, Kum-Kurgán, Kaptagai, Ak-Kurgán, Ravatak, and Shir-Abád.

The route from Hisár to Kurgán-Tube runs through the mountains intersecting the mountain mass of the Gházi-Malik diagonally. By this route it is reckoned 7 *faakh* (66 *versts*, or 37 miles 1 furlong) from Hisár to Kurgán-Tube. Half way is the hill village of Alar, the place of residence of an "Amlak-dar," who governs the Gházi-Malik nomads.

From Hisár one can also reach Kurgán-Tube by another road by Dushamba, a town of Káfirnián, Faizábád (in Hisár), and Narak. The route, as far as Narak, is described in Routes 146 and part of 147. The road from Narak lies in the basin of the River Wákeh, and runs along its bank; it is extremely difficult, as the river is often contracted by rocks. Owing to this the route chosen from Narak to Kurgán-Tube is more often a more circuitous mountain road (see Route 160).—*Author.*

ROUTE 150.
From Narak to Kobádian.

				From point to point.	Total between chief places.		Total between chief places.		REMARKS.
					Miles.	Fur.	Miles.	Fur.	
				<i>Verst. n.</i>	<i>Versts.</i>				
Narak	...	...	...	...	...	...			From Narak the road at first leads up the River Wáksh to the village of Durt-Kaul, 16 <i>versts</i> (10 miles $4\frac{3}{4}$ furlongs). Durt-Kaul is a large village in the valley of Wáksh with gardens and melon-beds.
Durt-Kaul	...	...	...	16	10	$4\frac{3}{4}$			From Durt-Kaul the road leads up the Wáksh for another 3 <i>versts</i> (2 miles) to the entrance to the Darai-Chilán defile. The road through the defile is in every way suitable; there is water in the stream flowing in the defile. At 12 <i>versts</i> (7 miles $7\frac{3}{4}$ furlongs) the road leads out on a high plain covered with hillocks, with "auls" and good grass. Trees are met with in places—mulberry and willow. At 23 <i>versts</i> (15 miles 2 furlongs) from Durt-Kaul is the wintering place of Mulla-Aman with good water and fields.
Mulla-Aman	...	...	...	23	15	2			From this wintering hut the road runs along the same highland, occasionally intersected by a channel with spring water. The further south one goes the sterner becomes the country. By the valley of the Ishm the road comes out at the point of Sang-Tuda, which is situated on the bank of the Wáksh. This spot is occupied by "auls," corn-fields, and melon-beds.
Sang-Tuda	...	...	...	$26\frac{1}{2}$	17	$4\frac{1}{2}$			From Mulla-Aman to Sang-Tuda is $26\frac{1}{2}$ <i>versts</i> (17 miles $4\frac{1}{2}$ furlongs). From here the road runs on the left bank of the Wáksh, partly in the low ground by the river, partly rising on the heights along the bank. At 12 <i>versts</i> (7 miles $7\frac{3}{4}$ furlongs) from Sang-Tuda the road crosses the Tabakti range and comes out on the Kurgán-Tube plain, at first stony (near the hills).
Kurgán-Tube	...	...	...	24	15	$7\frac{1}{4}$	59	$2\frac{1}{4}$	From Sang-Tuda to Kurgán-Tube is 24 <i>versts</i> (15 miles $7\frac{1}{4}$ furlongs).

ROUTE 152.

From the town of Guzár to Mazár-i-Sharif.

[According to Matvieff, who traversed this route in 1878.]

	From point to point.			Total between chief places.		REMARKS.
	Versts.	Miles.	Fur.	Miles.	Fur.	
Guzár, town of ... ..	...	...	...	...	...	From Guzár the road lies along the right bank of the Guzár-Daria stream in a broad valley, and is perfectly practicable for <i>arâbas</i> .
Kush-Lush	17	11	2¼			Kush-Lush is a large village on the right bank of the stream. From Kush-Lush for the first 15 <i>versts</i> (9 miles 7½ furlongs), as far as the village of Tenga-Khoram, the road lies in a mountain valley, not less than 1 <i>verst</i> (¾ mile) in width, and near the village crosses the swift but not deep Kichik-Ura stream. From here the road leads by the valley of the Kansai stream for 18 <i>versts</i> (11 miles 7½ furlongs) to the inconsiderable but stony Háfiz-Ján defile, through which a stream flows; it then lies in the valley of the Háfiz-Ján-Daria, as far as the village of Chashmah-i-Háfiz-Ján, crossing the stream six times. The road is fit for wheels throughout, but should be cleared of large stones (for a distance of ½ <i>verst</i> or ¼ mile) with which it is blocked in places in passing through the defile.
Chashmah-i-Háfiz-Ján	44	29	1¼			Chashmah-i-Háfiz-Ján is an inconsiderable village, lying at the sources of the stream of the same name. The road lies through a mountain valley over firm sandy soil and is quite practicable for <i>arâbas</i> .
Ak-Sarai	14	9	2¼			Ak-Sarai is an inn on the banks of the stream. From Ak-Sarai the road leads through the defiles of the Iron Gate and the

Shur-Áb. For the first 5 *versts* (3 miles $2\frac{1}{2}$ furlongs) the road passes over firm sandy soil, and presents no obstacles whatever to *arába* traffic. Near the Charchak pass, however, a descent commences into the defile called the Iron Gate, which is quite impassable for *arábas* without previous preparation of the road. At first the road leads for 70 yards along a deep crevice by an artificial cornice 4 feet wide, and beyond by a steep descent obstructed with round stones. For the free movement of *arábas* here it would be necessary to widen the cornice to 5 feet and then clear the road of the round pebbles for a distance of at least 1 *verst* ($\frac{2}{3}$ mile).

The further descent of the Iron Gate is tolerably gentle, and although obstructed with pebbles in places, it is nevertheless practicable for *arábas*, especially in the dry, sandy Chickcha hollow, extending on the left parallel to the road.

The defile of the Iron Gate itself is 3 *versts* (2 miles) long and from 14 to 23 yards in width, and with its even and firm sandy soil presents no impediment whatever to wheel traffic; the road beyond for a distance of 5 *versts* (3 miles $2\frac{1}{2}$ furlongs) as far as the Shur-Áb defile is also practicable, but there it again requires making. This latter defile, through which flows the small Shur-Áb stream, extends for 2 *versts* ($1\frac{1}{3}$ miles), and is obstructed with large fragments of the hill limestone. On issuing from the defile the road rises steeply out of the Shur-Áb hollow, then extends for 7 *versts* (4 miles 5 furlongs) over a fairly even tract, and finally again rises steeply up a stony slope for a distance of $\frac{1}{2}$ *verst* ($\frac{1}{3}$ mile). For the free movement of *arábas* from the entrance to the Shur-Áb defile to this slope it is absolutely necessary (1) to clear the road in the defile of large stones; (2) to construct a more gentle ascent out of the Shur-Áb defile; and then (3) to widen the road at the ascent of the stony slope.

For the last 13 *versts* to the village of Shur-Áb the road lies in a mountain valley about $\frac{1}{2}$ *verst* ($\frac{1}{3}$ mile) in width, and the soil being firm clayey sand, presents no obstacle to *arába* movement.

From the town of Guzár to Mazár-i-Sharif—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			Versts.	Fur.	Miles.	Fur.	
Shur-Áb (village)	38		25	1½			<p>Shur-Áb is a rather important village lying on one of the affluents of the River Shir-Abád-Daria.</p> <p>From Shur-Áb the road, running over firm sand-soil, gradually descends by a hill valley about 1 <i>verst</i> ($\frac{2}{3}$ mile) in width.</p> <p>At 12 <i>versts</i> (7 miles $7\frac{1}{2}$ furlongs) from Shur-Áb it crosses a small stream flowing in a deep but not wide hollow. The banks of this ravine are united by a narrow wooden bridge, which would require regular rebuilding to permit of the passage of <i>arábas</i>. Beyond, the road lies in the valley of the Shir-Abád-Daria stream, and up to Lailiakan offers no impediment to the movement of <i>arábas</i>. Lailiakan is a moderate-sized village scattered along the banks of the Shir-Abád-Daria. The water here is somewhat saltish to the taste, but fit for use.</p>
Lailiakan (village)	29		19	1¾			<p>From Lailiakan the road, as before, descends by the gentle valley of the Shir-Abád-Daria, and is practicable for wheel traffic. At 7 <i>versts</i> (4 miles 5 furlongs) from Shir-Abád the road twice crosses the stream, which, however, presents no difficulties at the points of crossing ; for the free passage of <i>arábas</i>, however, it would be necessary to clear the descents to the stream of large stones.</p>
Shir-Abád, town of	20		13	2			<p>The town of Shir-Abád, with several neighbouring villages, lies at the very foot of the mountains. The Shir-Abád-Daria flows through the town with clear but saltish water. The taste of the water is here spoilt by the hill salt, which is found in abundance in the neighbourhood. The climate of Shir-Abád</p>

Angar (village)	26	17	2		
Patta-Kisár (village) (on the bank of the Amu-Daria).	40	26	4		
Siáhgird (village)	30	19	7 $\frac{1}{4}$		
Mazár-i-Sharif, town of	26	17	1 $\frac{3}{4}$		
	<hr/>	284	<hr/>	188	2

is injurious to health, and the whole population of the town suffer from slow fevers almost the whole year round. From Shir-Abád to Angar the road runs over an even steppe and is fit for wheels. At 7 *versts* (4 miles 5 furlongs) from the village of Angar the road crosses the inconsiderable Kára-Su stream with water saltish to the taste. Angar is a moderate-sized village on a canal with tainted and saltish water.

From Angar the road leads over a plain for a distance of 31 *versts* (20 miles 4 $\frac{1}{4}$ furlongs) to the ruins of the town of Khairábád, and beyond by the bank of the Amu-Daria to the moderately-sized village of Patta-Kisár, near which there is a crossing. The whole extent of the road is practicable for *arabas*.

The passage of the Amu at Patta-Kisár is made at the junction of a branch with the main stream. The width of the river at this point is about 250 *sajens* (583 $\frac{2}{3}$ yards), the depth not less than 6 feet, and the swiftness of the current 3 feet a second (2 miles an hour). The banks are sloping; the right is covered with sand and the left with high reeds. The means of passage are two *kayuks* belonging to the Afgháns, capable of carrying a company at a time; the time of passage from one bank to the other is 20 minutes.

From the Afghán shore the road for the first 9 *versts* (5 miles 7 $\frac{3}{4}$ furlongs) lies over a tract overgrown with reeds and "saksaul;" after this the next 14 *versts* (9 miles 2 $\frac{1}{4}$ furlongs) is over gentle sand-hills, and finally the last 7 *versts* (4 miles 5 furlongs) through the remains of a ruined city. Siáhgird is an unimportant village, and lies at the south-east extremity of the extensive ruins. Near the village flows a canal with clean and fresh water. The road for the whole distance is practicable for *arabas*.

From Siáhgird to the town of Mazár-i-Sharif the road runs over steppe in a southerly direction and is fit for wheels.

Mazár-i-Sharif is one of the best towns of North Afghánistán and has about 30,000 inhabitants. Eight *versts* (5 miles 2 $\frac{1}{2}$ furlongs) to the west on the road to Báلكh is Taktipul, the residence of the chief commandant of the district.

ROUTES TO MARV.

ROUTE 153.

From the Bukhára Fort of Kabakli¹ (near the Amu).

	From point to point.	Total between chief places.	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Tash².</i>	<i>Tash.</i>	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Kabakli			The road is difficult and sandy. At the Takht camping ground are springs with good water. Road good.
Takht well	5		40		26	4			
Aji	4		32		21	1 $\frac{3}{4}$			
Chuntuk	4		32		21	1 $\frac{3}{4}$			
Chuntuk	5		40		26	4			
Yár-Aji ¹	2		16		10	4 $\frac{3}{4}$			
Khush-Kuyu	3		24		15	7 $\frac{1}{4}$			
Sardaba	3		24		15	7 $\frac{1}{4}$			
Padaman	4		32		21	1 $\frac{3}{4}$			
Giuk-Tepe	3		24		15	7 $\frac{1}{4}$			
Kára-Yab	5		40		26	4			
Kishman Tower	8		64		42	3			
Marv, town of (Khán-Kechken ³), on the Murgháb	6		48		31	6 $\frac{3}{4}$			
		52		416			275	6	

The route from Kara-Kishlák (near the Amu), Route 154, comes out on this road at the Padaman well.

¹ Compiled on the basis of enquiries made by M. Ibrahimoff from the Teke-Turkmáns. It is necessary to remark that the importance of all the routes given below to Marv is only comparative. The distances, as far as one can judge by the map, are about 1.0 *versts* in excess of what they should be.

² Bukhára *tash* = 8 *versts*, or about 5 $\frac{1}{2}$ mile; Khiva *tash* = 6 *versts*, or about 4 miles.

³ The passage over the Murgháb about 15 *versts* (10 miles about) north of Marv is called Khán-Kechken.

						Number of <i>manzils</i> .	
The high Tower of Kishman	...	...	...	...	...	1	There is no water at the Kishman Tower. At Fort Nagim-Kala there is a small Teke settlement. The fields are irrigated by water brought from the Murgháb, about $\frac{1}{2}$ camel march (20 <i>versts</i> or $13\frac{1}{4}$ miles) from here. From Nagim-Kala the route to Marv lies through continuously cultivated country.
Ruins of the Fort of Nagim-Kala	...	...	...	...	...	1	
					TOTAL	16	

ROUTE 154.

From Kara-Kishlák¹ to Marv, viâ Padaman well.

	From point to point.	Total between chief places.	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
					<i>Tash.</i>	<i>Fur.</i>	<i>Miles.</i>	<i>Fur.</i>	
Kára-Kishlák	...	...	...	...	...	...	...	...
Bal-Kui well	4		32		21	$1\frac{3}{4}$			
Kurruk "	2		16		10	$4\frac{3}{4}$			
Dagjik "	3		24		15	$7\frac{1}{4}$			
Berdjik "	5		40		26	4			
Yár-Aji "	3		24		15	$7\frac{1}{4}$			
Khshaigur well	4		32		21	$1\frac{3}{4}$			
Malia-Khairán-Kuduchi well	3		24		15	$7\frac{1}{4}$			
Padaman well	5		40		26	4			
Marv, town of	22 ²		176		116	$5\frac{1}{2}$			
		51		408			270	$3\frac{1}{2}$	

¹ Kara-Kishlák lies 12 *tash* (96 *versts*, or 63 miles 5 furlongs) up the Amu from Kabakli.
² According to M. Abrahamoff's route.

ROUTE 155.

From the town of Charjui to Marv.

[Charjui lies 8 *versets*, or $5\frac{1}{2}$ miles, from the Amu and 11 *tash* or $56\frac{1}{2}$ miles from Kára-Kishlák up the Amu.]

Charjui, town of	...	...	...	...	...	...	...	...	...	...
Karaul ¹,	...	...	2	16	10	$4\frac{3}{4}$				
Ishak Rabát,	...	...	3	24	15	$7\frac{1}{4}$				
Rapadak,	...	...	5	40	26	4				
Uch Khoja well	...	...	10	80	53	$0\frac{1}{4}$				
Naiza Shakar	...	...	1	8	5	$2\frac{1}{2}$				
Bugur-Deshik-Khilka well	...	...	6	48	31	$6\frac{1}{2}$				
Marv, town of	...	...	12	96	63	$5\frac{1}{4}$				
			39	312	206	$6\frac{1}{2}$				

¹ In the year 1832 Alexander Burnes, returning from Bukhára by the road through Charjui to Mashhad, passed through Karaul. On leaving Charjui, Burnes entered on a bare desert, covered with hills, but not so entirely destitute of vegetation as the steppes on the northern bank of the Oxus. In places he met with clay soil, serving as a subsoil for sand-hills. In the hollows and on the summits of the sand-hills, bushes, in appearance like tamarisk, were met with, called by the natives "kezara."

Grass was also met with, a kind of rush, called "Selyan," and also two thorny bushes, "Kazsan and Karagan," used as food for camels. For the whole extent of this march, up to Karaul, which is a well, surrounded by branches of trees and with saltish water at a depth of 30 feet, neither water nor any habitation is met with.

After Karaul Burnes' caravan left the main road, leading from Charjui to Marv and struck over the steppe westwards by a route little frequented with excessively little water on it and very difficult. Sand-hills reached 60 feet in height. Burnes passed the Bal-Kui wells (the wells were $\frac{1}{2}$ feet in diameter and had water at a depth of $9\frac{1}{2}$ feet); they lie on the road from Kára-Kishlák to Marv (*vide* Route 154); after this by the following wells: Sirak, Uch-Kui (on a branch of the Murgháb, and by the district of Khoja-Avuala² on the Murgháb) to the town of Sarakhs.

² Probably for Khoja-Abdula.

From Bugur-Deshek there is a route from enquiries by M. Khokhryakoff compiled at Petro-Alexandroff.

Bugur-Deshek	The road from Bugur-Deshek is even, and, although sandy, not difficult. At the Kalcha camping ground there are many wells with good water. The depth is 6 fathoms. There is sufficient grazing and fuel. From Kalcha the road is even and firm. The water at the camping ground is from a canal run from the Murgháb; this is the commencement of the Marv oasis. From Irsari-Yab the road is good, and leads through a continuously inhabited tract.
Kalcha wells	...	...	5	40	26	4			
Irsari-Yab canal	...	...	5	40	26	4			
Marv, town of	...	...	5	40	26	4			
			15 ¹	120	79	4				

¹ The amount of the total distance from Bugur-Deshek given by Abrahamoff, 12 *tash*, should be taken as the truer one.

ROUTE 156.

From the village of Tishlan, 9 tash, or about 48 miles from Chárjui, up the Amu to Marv.

	From point to point.	Total between chief places.	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	Tash.	Tash.	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	
Tishlan ... ..	...		...		...	...
Aji well	3		24		15	7 $\frac{1}{4}$			
Shishmia well	4		32		21	13 $\frac{3}{4}$			
Shár-Kuduk ,,	5		40		26	4			
Khush-Kui ,,	3		24		15	7 $\frac{1}{4}$			
Sari-Kuduk ,,	2		16		10	4 $\frac{3}{4}$			
Bugur-Deshik ,,	5		40		26	4			
Marv, town of	12		96		63	5 $\frac{1}{4}$			
		34		272			180	2 $\frac{1}{4}$	

ROUTE 157.

From Khoja-Kunduz, 4 tash (32 versts, or 21 miles $1\frac{3}{4}$ furlongs) from Tishlan up the Amu to Marv.

				Tash.
Khoja-Kunduz	
Kára-Kuduk	well	3
Kushek-Tushti	„	5
Básh-Kuduk	„	}
Sakar-Kuduk	„	...	...
Khoili	„	...	...
Uch-Misir	„	...	...
Sharkhi	„	...	...
Shur-Kuduk	„	...	...
Sharshali-Kuduk	„	...	...
Karkui	„	...	...
Sharoli-Bába	„	...	...
Khuluzli	„	...	...
Nigarali	„	...	...
Ir-Susik	„	...	...
Suji-Kui	„	...	...
Ak-Marzik	„	...	...
Dashli	„	...	...
Shalaba	„	...	...
Jiti-Kui	„	...	...
Afghán-Nar	„	...	...
Jizik	„	...	...
Karatagán	„	...	...
Dali	„	...	...
Nigarali	„	...	...
Sari-Kusu	„	...	...
Malia-Khairan	„	...	...
Bugur-Deshik (or Teshen)	...	...	...
		Total Tash	...	28
		To the town of Marv	...	12
				—
		Total	...	40
				or 320 versts,
				or 212 miles 1 furlong.

With reference to the whole of the distances from the Amu to Marv, it is necessary to state that they are considerably exaggerated, probably caused by the natives, who gave the information, giving round numbers. In any case, the best routes from the side of the Turkistán district are from the Amu-Daria.

The direct route from Khiva to Marv is over a steppe, which is twice as wide as that from Charjui and the other points on the Amu mentioned. Two Englishmen have travelled this route—Abbott and Shakespear. From Marv to Khiva Abbott found only six wells—Ak-Yat, Shurkán, Shakshan, Namakábád, Shagri, and Dari. From Khivan territory to Marv we have the route compiled from enquiries in 1877 at the town of Petro-Alexandroff by M. Khokhryakoff.

ROUTE 158.

From Bish-Arik (in the Khivan oasis) to Marv.

[From enquiries by M. Khokhryakoff.]

	From point to point.				Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	
Bish-Arik			<p>From Bish-Arik there are sands, but not deep. The Saja well is 16 fathoms deep, and the water is fresh; water plentiful; 100 horses can be watered at one time. The well fills rapidly with water. From the Saja well the road also runs over not very deep sands.</p> <p>There are two wells here about 7 fathoms deep. Water plentiful. From Iti-Kulach the sands are also not deep.</p> <p>Chashma is a spot which the River Murgháb used to flow through about 6 years ago (about 1871), but now there is only the dry bed, as the Turkmáns dammed up the river at Marv. In this bed it is easy to dig wells, in which water will show itself at a depth of 2½ feet. Forage and fuel are here supplied in abundance by growing reeds. The Turkmáns feed their flocks along this bed, especially in winter. From Chashma to Marv the road is firm and not sandy; it runs throughout along the old channel, in which many wells are dug.</p> <p>Within 15 <i>versts</i> (9 miles 7½ furlongs) of Marv there is a passage of the Murgháb called Khán-Kichken. Here the elder of the Tekes, Kanshut-Khán, has constructed his ("kurgán") fort capable of containing 40,000 <i>kibitkas</i>. The earthwork is made of sandy earth, the width of the wall being 33 paces; the height from 18 to 23 feet. Kanshut-Khán intended to surround this sandy rampart on the inside and outside with a clay wall. There is a bazar here.</p>
Saja well	150		99	3½			
Iti-Kulach well	250		165	5¾			
Chashma	150		99	3½			
Marv	180	730	119	2½	483	7¼	

(200)

The fortress of Marv is 3 *verst*s (2 miles) in length and 1 *verst* ($\frac{2}{3}$ mile) in width. The thickness of the walls is 12 paces. Within the fortress there are no buildings or inhabitants. The fortress is constructed to shelter the population in the event of an enemy appearing. The locality surrounding the fortress is completely open and even on all sides. The Marv river (Murgháb) flows along the southern and western faces, having a width of 50 paces at this point. The depth in places reaches 23 feet, and in places not only camels but horses can ford across. There are thirty-two cannon in Marv, which are under the charge of the elders, two or three to each. Of these guns, thirty were taken by the Tekes from the Persians and two from the Khivans. The Tekes manufacture powder themselves and obtain lead from the Persians and Afgháns.

The Teke population consists approximately of 40,000 *kibitkas* and is disposed around Marv at a distance of about one day's horse journey. Amongst the Tekes there are also settled other tribes of Turkmáns, *viz.*, Salor, 2,000 *kabitkas*; Khoja, 100 *kabitkas*; Otai-Mujaur, about 200 *kibitkas*. The Sarik tribe live along the Jol-Uten stream to the east of Marv at a distance of one day's horse ride. This tribe numbers approximately 20,000 *kibitkas*.

The whole of the Tekes, Salors, and Sariks can furnish, on the appearance of an enemy, 50,000 fighting men, armed with guns, spears, and mostly with swords.

The prices of produce in Marv are as follows: one *batman* ($1\frac{1}{4}$ *puds* or 45 lbs.) of flour costs 20 *kopeks*, or $7\frac{1}{2}d.$; a *batman* of wheat, 15 *kopeks*, or $5\frac{3}{4}d.$; a *batman* of millet, 15 *kopeks*, or $5\frac{3}{4}d.$; a *batman* of rice, 60 *kopeks*, or 1s. 11d.; a sheep of average size, 4 *roubles*, or 12s. 8d.; a cow, 9 *roubles*, or 28s. 6d.

With regard to the continuation of the Khiva-Marv road to the south towards Herát, the sandy and clayey plain is here much less dangerous than to the north of Marv, and, moreover, the road keeps the whole time not far from the Murgháb.

ROUTE 159.

More to the eastward of Charjui and Khoja-Kunduz a route branches off from the Amu at Kerki (a small town and fortified post of Bukhára on the left bank of the Amu) in the direction of Andkhui and Maimana to Herát. Vambéry went along this route in 1863. The route from Kerki soon enters the Andkhui district and runs over firm and even country. The first night's encampment of the caravan with which Vambéry travelled was at the well of Zenda, 42 *verst*s (27 miles $6\frac{2}{3}$ furlongs) from Kerki. On the following day the route continued south-east over a dry, bare plain, only in places producing something in the nature of a thorn bush, which the camels use for food. Travelling from mid-day to the commencement of the following morning (probably not less than 50 *verst*s (or about 33 miles), the caravan reached Andkhui.

ROUTE 160.

Still further to the east lies the route taken by Burnes from Báلكh to Khoja-Salik. It is described in the following manner:—

At first, for 45 *verst*s (about 30 miles) from the ruins of Báلكh, the road runs through a country intersected by canals, and consequently covered

with fertile vegetation ; beyond this, however, steppe commences, on which water is only met with at the first halting place running from these same canals. Turkmán camps were met with at the points of Salburun, Merdian, and Sardaba, where there are wells. The soil of the steppe is clayey, but covered with sand in places which is carried here by the wind. Through this sand at times half burnt-up grass forces its way. Only at 3 *versts* (2 miles) from the Oxus does the traveller enter on a tract which is cultivated by means of canals cut from the river.

The Bukharian village of Khoja-Salik lies on the left bank of the Amu, which is here about 320 yards wide, 7 feet deep, and has a current of $5\frac{1}{2}$ *versts* ($3\frac{2}{3}$ miles) an hour. The passage, as everywhere else on the Amu, is made on the usual native ferry-boats dragged across by horses swimming.

ROUTE 161.

From Herát to Báلكh.

[This was compiled in 1845 by M. Ferrier, who travelled by the following route *viâ* Maimana and Shiborgan.]

	From point to point	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Herát, town of ... ..	...	...	...	...
Perwánah (village)	18		11	7½			The road is hilly, now over clayey, now over silicious soil. A muddy stream flows near the sarai.
Khushk-Rabát (uninhabited caravan-sarai).	18		11	7½			
Kushk-Sakhíb (a half-ruined tower)	42		27	6¾			A hill road, stony, often intersected by streams. A hill road, in part stony, in part clayey soil. At the camping ground a stream with good water. The road runs over an even clayey tract with the exception of one difficult ascent and descent from a hill. Meadows and wells are found along the road. Encamping ground at an "aul" of the Hazáras.
Chingurak	42		27	6¾			
Tur Shekh (village)	42		27	6¾			
Mingal	24		15	7¼			The road runs over a plain with the exception of one steep hill. Camp at an "aul" of the Hazáras.
River Murgháb	24		15	7¼			The road runs through a fertile valley descending to the River Murgháb, upon which is situated a village of 250 houses (inhabitants Hazáras). From here along the Murgháb low and marshy localities are met with pretty thickly populated, notwithstanding the unhealthiness of the soil.

From Herát to Báلكh—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			Versts.	Fur.	Miles.	Fur.	
Fort Kalah-i-Wali	42		27	6 $\frac{3}{4}$			The route runs along a valley and hills. The camping ground is in the Maimana district. In the post are 230 houses, inhabited by Uzbaks of the Kipchak tribe.
Charshamba (village)	18		11	7 $\frac{1}{4}$			The road runs by excellent meadows. The population of Charshamba consists of Afshars (Turkmáns), Jemshidis, and Kipchaks, inhabiting 390 houses with large gardens.
Kaisar (village)	18		11	7 $\frac{1}{4}$			A village which serves as a centre for Firozkohis and Kipchaks who have separated from their tribes.
Maimana, town of	48		31	6 $\frac{3}{4}$			At the very commencement of the march a pass over the mountains has to be crossed by a difficult road, after which the nomad camp of Nirin is reached, situated along the grassy route and abundantly irrigated by springs. Beyond, after a four hours' ride over these pastures, the village of Elmír is reached, from which a number of other villages are also seen; 18 <i>versts</i> (11 miles 7 $\frac{1}{2}$ furlongs) beyond the mountains is the town of Maimana situated on a plain.
Káfir-Kala (village)	52		34	3 $\frac{3}{4}$			The road is wearisome; the second half is through mountains.
Rabát-i-Abdulla-Khán (ruins of a caravan-saraj),	60		39	6 $\frac{1}{4}$			The first 3 <i>farsangs</i> of the road over a cultivated plain <i>viá</i> the village of Khair Rabát surrounded by an earthen parapet with a ditch. The remainder of the road runs over a waterless steppe, the uniformity of which is only broken by a low ridge of hills.
Shiborgan, town of	18		11	7 $\frac{1}{2}$			The road chiefly runs over steppe, but towards the end of the march through a carefully cultivated locality. Shiborgan contains 12,000 souls, Uzbaks and Fársiwáns,—more than half of

Akcha, town of	...	...	...	30	19	7		
Malik (village)	...	...	...	30	19	7		
Bálkh, town of	...	...	...	42	27	6 $\frac{3}{4}$	376	4
				568				

the former race. The town has a citadel, in which the governor lives. It is surrounded with good gardens and carefully cultivated fields; the climate is healthy, and altogether this is one of the best towns of ancient Bactria. It has, however, one important disadvantage, *viz.*, the dependence for irrigation of its fields on the inhabitants, of the Khanate of Sari-Pul, situated higher up the courses of the streams which irrigate Shiborgan.

The road leads over a cultivated plain extending to the north-west to Andkhui and resembling an unbroken garden. Akcha is a small town of 7,000 to 8,000 inhabitants, surrounded by a wall and ditch, and having a citadel.

The road leads over a marshy plain grown over with bushes and trees, amongst which tamarisk is found of large proportions. This village belongs to the district of Balkh and has 2,500 inhabitants.

The road leads over a plain, intersected by a number of streams often forming marshy plashes.

In travelling from Andkhui to Herát, Vambéry moved partly by this route and partly by its branches. From Andkhui he travelled by this road to Maimana; from the former town the route lies throughout along a stream valley, which irrigates the cultivated lands of both towns, the distance between which does not exceed 90 *versts* (59 miles 5 $\frac{1}{4}$ furlongs). The first night's encampment of the caravan was at Joketum. The stream there flows in a deep ravine, grown over in places with trees. The second night's halt was at Khairábád. At half way from Andkhui the country becomes undulating, and in the river valley marshy places are met with, in which they graze horses. Nearer Maimana the country becomes hilly. Vambéry's route on to Herát, as has already been stated, coincides partly with that of Ferrier, and is described without giving the distances in his first work¹.

¹ Travels in Central Asia—Vambéry, St. Petersburg, 1865, pp. 127 to 134.

ROUTE 162.

From Patta-Kisár, passage of the Amu, viâ Mazár-i-Sharif, Saripul, and Maimana to Herdt.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles	Fur.	Miles.	Fur.	
Patta-Kisár (passage of River Amu).			<p>From the point of passage the road runs for 3 <i>versts</i> (2 miles) through low ground overgrown with reeds and bushes and submerged by inundations from the Amu. Sands then commence, soon turning to sand-hills grown over with tamarisk and "saksaul." The sands extend for a distance of 35 <i>versts</i> (23 miles $1\frac{1}{2}$ furlongs) to the commencement of the ruins of the ancient town of Siáhgird. From here an open even steppe with clayey soil begins up to the present village of Siáhgird (50 houses). From Patta-Kisár to Siáhgird there is no water. For fuel there is "patta" on the bank of the Amu and "saksaul" in the sands. Grazing-reeds also on the Amu-Daria. The road over the sands is very difficult. Water is brought into the village of Siáhgird from a stream flowing from the spurs of the Hindu-Kush.</p> <p>From Siáhgird the road is completely level; soil clayey; 5 <i>versts</i> (3 miles $2\frac{1}{2}$ furlongs) before reaching Mazár excellently cultivated fields commence.</p> <p>Mazár-i-Sharif is the chief town of Afghán-Turkistán and the residence of the Governor General of this province. It has about 25,000 inhabitants (Uzbaks and Afgháns). There are many gardens in the town. Houses are seen of cupola-shaped construction. The tomb of Ali is in the town, and over it is constructed a musjid with four light-blue minarets; 3 <i>versts</i> (2</p>
Siáhgird	50		33	1			
Mazár-i-Sharif	18		11	$7\frac{1}{2}$			

Didadi (village)	10	6	5
Zainal-Abd-ud-din-Beimar ...	38½	25	4½

miles) from the town is the fortress of Takhtapul, in which there is a store for guns and cannon and a manufactory for swords and knives and for making military helmets. From Mazár the road is completely level. It runs to the south of Takhtapul and the village of Shir-Abád, 2 *versts* (1½ miles) from the former and 1 *verst* (¾ mile) from the latter. From Shir-Abád to the road there is a canal, and from here cultivated fields commence, running up to the village of Didadi, having about 200 houses, and inhabited by Uzbaks.

From the village of Didadi the road is quite even. On the left are the spurs of the Hindu-Kush, on the right cultivated fields. At 11½ *versts* (7 miles 5 furlongs) from the camping ground the River Báلكh crosses the road, known to the inhabitants by the name of Band-i-Barbar (the barbarians' dam). The river flows in a rocky ravine with steep banks, the breadth being about 20 *sajens* (46¾ yards). An excellent stone bridge on three piers is thrown across the ravine, called Imam-Mukhri. There is plenty of water in the river (15 *sajens*, or 35 feet broad), and it flows in one channel. Beyond the River Báلكh traces of the ruins of ancient Bactria commence, which extend far to the north and northwest. A canal with plentiful water runs along the road, which the road crosses by bridges several times. At 19 *versts* (12 miles 4¾ furlongs) is the small village of Ogan-Kala, not far to the right of the road.

At 38½ *versts* (25 miles 4 furlongs) is the tomb of Zainal-Abd-ud-din-Beimar, and at it is a sarai. The whole locality is cultivated. For the first 7 *versts* (4 miles 5 furlongs) from the camping ground the road leads over a plain; beyond this there is an ascent on to a small spur and a descent into a valley at the village of Salman. The village has about forty houses; the inhabitants are Uzbaks. From Salman the road, having crossed two small passes, comes out on a valley, from 2 to 3 *versts* (1¾ to 2 miles) in width, surrounded by moderate-sized gentle hills. The length of the valley is 20 *versts* (13 miles 2 furlongs). The road is quite smooth and level. The valley

From Patta-Kissár, passage of the Amu, viâ Mazár-i-Sharif, Saripul, and Maimana to Herát—continued.

			From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	
Salmazar (village)	...	...	51		33		6½		and the slopes of the hills are covered with high grass. At the end of the valley the road rises on to a hill, on the slope of which is a solitary shepherd's house, and a dam constructed by the Moguls to collect the water from two small streams. There is little water. From the Mogul dam the road turns to the south-west and runs for about 1 <i>verst</i> ($\frac{2}{3}$ mile) in this direction, first rising to the summit of the pass and then descending to an elevated valley. Along this valley the road extends in a westerly direction for 14 <i>versts</i> (9 miles 2¼ furlongs). The valley is covered with abundant grass, serving for pasture for the Turkmán herds. Having traversed this elevated valley, the traveller enters the broad Shiborgan plain, watered by the River Saripul. At the descent to the plain for a distance of 3 <i>versts</i> (2 miles), sands run along the road, covered with tamarisk and "saksaul," and beyond this cultivation commences. From the descent to the village of Salmazár it is 10 <i>versts</i> (6 miles 5 furlongs). The village has forty houses; it is situated on both banks of the River Saripul, which is here 8 <i>sajens</i> (18½ feet) wide, and flows between steep banks. The inhabitants are Uzbaks; they live for the most part in "kibitkas" set up in the courts, but there are also houses. From Salmazár the road crosses at $\frac{1}{2}$ <i>verst</i> ($\frac{1}{3}$ mile) to the left bank of the River Saripul. The ford is not deep, bottom sandy. The country is even and beautifully cultivated. At 17½ <i>versts</i> (11 miles 4½ furlongs), at the ruins of Jidailik, the

Saripul, town of

... ..

38

25

1½

road issues on a valley surrounded by low hills. The width of the valley is from $1\frac{1}{2}$ to 3 *versts* (1 to 2 miles). Before reaching Jidailik the road crosses to the right bank of the river and runs along it to the town of Saripul. At $2\frac{1}{2}$ *versts* (1 mile $5\frac{1}{4}$ furlongs) is the small village of Hazrat-Imám (10 houses), and at 5 *versts* (3 miles $2\frac{1}{2}$ furlongs) from the latter the large village of Sayid-Abád (50 houses). From this village to the town the river runs in one channel with sloping banks and overflows greatly in spring. The low, inundated places are overgrown with thick reeds. At Sayid-Abád the road rises on to an eminence on which the village stands, crosses a broad canal by a bridge, and extends along the slope of a hill for 2 *versts* ($1\frac{1}{8}$ miles). Further on the road descends to the bottom of the valley, along which it runs up to the town. At 31 *versts* (20 miles $4\frac{1}{4}$ furlongs) on the road stands Kalkishlák, and to the right the villages of Kur and Bassud, and to the left at the foot of the hills Kallak. At 39 *versts* (24 miles $4\frac{1}{4}$ furlongs) the gardens of Saripul commence, and at 38 *versts* (25 miles $1\frac{1}{2}$ furlongs) is a wooden bridge over the river in the town itself. Throughout the march the soil is clayey. The road is generally fit for wheels. For fuel there is plenty of reed, and it may even serve for food for animals.

The town of Saripul has about 3,000 inhabitants. It is widely scattered along both banks of the river, and surrounded by extensive gardens. In the centre of the town is a small citadel; the inhabitants are Uzbaks.

On issuing from the town the first 3 *versts* (2 miles) are over the plain at the foot of the hills and along the bank of the small river Mirza-Aulang, which flows into the Saripul. After this the road enters a defile, surrounded by low hills, and follows the stream; at 10 *versts* (6 miles 5 furlongs) it rises on to a spur on the left bank of the Mirza-Aulang. At 13 *versts* (8 miles 5 furlongs) the road descends to the stream at the village of Sayid (200 houses). Beyond, the villages of Kur, Gur, and Furgán-Teke are also met with, lying on the left bank of the River Mirza. The road runs by the right bank

From Patta-Kisár, passage of the Amu, viâ Mazár-i-Sharif, Saripul, and Maimana to Herát—continued.

From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
		Versts.	Versts.	Miles.	Fur.	
						<p>of the river along a spur at a height of 10 <i>sajens</i> ($23\frac{1}{3}$ feet, above the bed. The road is hollow and was worked at four years ago (in 1876) for the march of Afghán troops to Maimana. The width of the road is on the average the width of the track of a field gun, so that on meeting a detachment marching, even a single horseman cannot pass; he must descend below and follow the left bank of the river. The hollow road extends for $2\frac{1}{2}$ <i>versts</i> (1 mile $5\frac{1}{4}$ furlongs) to the village of Kur. From here the route descends to the stream, crosses to the left bank, and runs along it throughout. Beyond the village of Furgán-Teke the road enters a rocky defile, which is barred by a small fort made of the local stone. The fortification consists of small walls with batteries across the defile. The walls were constructed by the Maimana troops against the Afgháns. The length of this rocky defile is $12\frac{1}{2}$ <i>versts</i> (8 miles $2\frac{1}{4}$ furlongs). Fir grows on the sides. The road is stony and crosses from one side of the Mirza-Aulang to the other several times. The width of the road permits of artillery passing along it; it would be necessary to clear the road beforehand.</p> <p>At $1\frac{1}{2}$ <i>versts</i> (1 mile) from the wall mentioned, another has been constructed, and beyond it, where the defile somewhat widens out, a four-sided redoubt. At 30 <i>versts</i> (19 miles 7 furlongs) the defile ends, and the road enters a spacious basin surrounded on all sides by high hills. This basin is abundantly covered with grass; from the bottom of the basin an ascent commences to a high ridge forming the watershed between the basins of</p>

Kurcha	54	35	6 $\frac{1}{4}$
Belcherág	32	21	1 $\frac{1}{4}$

the Rivers Saripul and Sangalak. The ascent is at first gentle, but the higher it goes, the steeper and steeper it gets. The length of the ascent to the pass is 4 *versts* (2 $\frac{2}{3}$ miles). Artillery can be taken up with the help of infantry. The descent from the pass is also about 4 *versts* (2 $\frac{2}{3}$ miles) and is very steep. From the foot of the descent commences a very narrow, gloomy, rocky defile; its sides are from 15 to 20 *sajens* (35 feet to 46 $\frac{2}{3}$ feet) high; the width of the defile is from 8 to 10 paces; in one place the edges of the sides approach so closely that one can step across from one side to the other. The sides are grown over with fir. The route along the bottom of the defile is obstructed by round stones; its length is 5 *versts* (3 miles 2 $\frac{1}{2}$ furlongs).

On issuing from the defile, the road enters a broad valley surrounded by high hills. Cultivated fields here commence belonging to the village of Kurcha, which is situated at 6 $\frac{1}{2}$ *versts* from the end of the rocky defile.

The village of Kurcha has 300 houses, the inhabitants being Uzbaks; they live in "kibitkas" placed inside the courts, but a few of them have houses. There is a citadel in the village.

From Kurcha the road runs along an even valley, and for the greater part over soft ground. There is plenty of water, but no wood. In spring there is good grazing. Along the route lie the villages of Archata at 5 *versts* (3 miles 2 $\frac{1}{4}$ furlongs) from Kurcha, Kaulián at 15 *versts* (9 miles 7 $\frac{1}{4}$ furlongs), and Tokhla-Mast at 25 *versts* (16 miles 4 $\frac{1}{2}$ furlongs).

The village of Belcherág lies in an extensive basin; there are about 300 houses (families) in it. The inhabitants are Uzbaks; they live in "kibitkas," and are occupied in horticulture.

From Belcherág at about $\frac{1}{2}$ *verst* ($\frac{1}{2}$ mile) the road enters a rocky defile with precipitous sides. The defile is about $\frac{1}{4}$ to $\frac{1}{2}$ *versts* (292 to 383 yards) wide; it is continuously cultivated and covered with gardens. Along the bottom flows the broad and deep Belcherag stream, across which three excellent stone bridges are thrown. The length of the defile is 12 *versts* (7 miles 7 $\frac{3}{4}$ furlongs). At its termination the road rises on to a

From Patta-Kisár, passage of the Amu, viâ Mazár-i-Sharif, Saripul, and Maimana to Herát—continued.

From point to point.	Total between chief places.		From point to point.		Total between chief places.	
	<i>Versts.</i>	<i>Miles.</i>	<i>Miles.</i>	<i>Fur.</i>	<i>Miles.</i>	<i>Fur.</i>
	40		26	4½		
Maimana, town of	..					

REMARKS.

high spur in order to avoid a narrow and inconvenient part of the route inundated by water. The road is cleared of stones and fenced in by dykes from the overflows of the water. On descending from the spur the road again issues on the Belcherég stream, which from here to the village of Dereche, a distance of 2½ *versts* (1¾ miles), is overgrown with brushwood and thick reeds. From the village of Dereche the road runs throughout near the stream; the locality is billy, but quite easy for movement. At 20 *versts* (13 miles 2 furlongs) is the former fort and village of Katta-Kala. At 23 *versts* (15 miles 2 furlongs) Hazár-Kishlák, and 2½ *versts* (1¾ mile) beyond is Darshui. At 34 *versts* (22 miles 4¼ furlongs) a bridge is thrown over the river. Here the road rises on to a hill. The ascent is very steep and difficult; its length is 3 *versts* (2 miles). Beyond follows a descent into the extensive and well-cultivated valley of Maimana. From the descent to Maimana is 3 *versts* (2 miles). The town of Maimana is surrounded with a wall 21 feet high and a ditch. Within the town is a citadel constructed on an artificial mound; the walls of the citadel are 20 feet high. A large tower serves as a redoubt; it is covered with blue glaze and stands in the centre of the citadel. The town lies in ruins since it was stormed by the Afgháns in 1875. The inhabitants are Uzbaks, in number about two and a half thousand. On issuing from the town the road for the first 3 *versts* (2 miles) runs along the even bottom of the valley; it afterwards enters the mountains and crosses a number of ravines and hollows, so that ascents and descents have constantly to be made. The

Kaisar (village)	44	29	1 $\frac{1}{4}$
Chárshamba (village)	31	20	4 $\frac{1}{4}$

road is very narrow, soil clayey. The route crosses two streams with fresh water; one at 10 *versts* (6 miles 5 furlongs), the other at 15 *versts* (9 miles 7 $\frac{1}{2}$ furlongs), from the town. At 19 $\frac{1}{2}$ *versts* (12 miles 7 $\frac{1}{2}$ furlongs) is the descent into the valley of the River Almár. At 21 *versts* (13 miles 7 $\frac{1}{4}$ furlongs) is the village of Almár (60 houses). The valley of the River Almár has a breadth of 3 *versts* (2 miles). After running along the valley for 3 *versts* (2 miles), the road again rises into the hills and preserves its former character, *i.e.*, over very hilly ground. The soil is clayey. Having traversed 18 *versts* (11 miles 7 $\frac{1}{2}$ furlongs) in this manner, the road descends into the valley of the River Kaisar, and within 2 *versts* reaches the village of that name. The village of Kaisar has 250 enclosed huts; the inhabitants are Uzbaks.

From Kaisar the road runs along a valley for 6 *versts* (3 miles 7 $\frac{3}{4}$ furlongs), after which it enters the mountains, along which it runs for 5 *versts* (3 miles 2 $\frac{1}{2}$ furlongs). From the hills the road issues close to the small village of Chichaktu. At 24 *versts* (15 miles 7 $\frac{1}{4}$ furlongs) is the village of Hazár-Kishlák, and at 30 *versts* (19 miles 7 furlongs) that of Chárshamba. The village of Chárshamba has 400 enclosed huts, and is in the valley of the River Kaisar.

On account of the raids of the Tekes, the route to Herát by the River Kaisar and beyond by the Murgháb and the country of the Firozkohis is deserted by caravans, which travel from the Kaisar *viá* Khajikandu and Kalah-i-Nau by a desert and very difficult hill road.

On issuing from Chárshamba the road turns south, crosses a small range, and at 5 *versts* (3 miles 2 $\frac{1}{2}$ furlongs) reaches the village of Osabi-Naf. For another 5 *versts* the road runs in a defile to the ruins of Fort Takhta-Khatin. From here M. Grodekoff turned over unploughed land, crossing a number of ascents and descents. The route was very difficult. Everywhere were seen traces of abandoned corn-fields.

The defile in which the Togai-Karajangal stream flows is overgrown with reeds.

From Patta-Kisár, passage of the Amu, viâ Macár-i-Sharif, Saripul, and Maimana to Herát—continued.

	From point to chief places.		From point to point.		Total between chief places.		Total between chief places.		REMARKS.
	Versts.	Fur.	Miles.	Fur.	Versts.	Fur.	Miles.	Fur.	
Togai-Kara-Jangal (point) ...	50		33	1					The road at first, for about 2 <i>versts</i> (1½ mile), runs along the Togai-Kára-Jangal stream, and then turns sharply to the south-west, and for a distance of 25 <i>versts</i> (16 miles 4½ furlongs) runs over a very hilly country. It then issues on the valley of the Togai-Kára-Jangal stream, which flows at the foot of the lofty Kára-Jangal range. Along the bank of the stream runs a thieves' path. After moving along this path for 5 <i>versts</i> (3 miles 2½ furlongs) the ascent to the Kára-Jangal mountains commences. The ascent is 4½ <i>versts</i> (3 miles) and very steep, and covered with stones, with fir and pistachio trees. The summit of the range is rocky. The Kára-Jangal range runs in a direction parallel to the main Parapamisán range, and is only little inferior to it in height. The descent from the pass is so steep that it is impossible to ride. The rocky portion of the descent extends for 2 <i>versts</i> (1½ miles). The path then turns to the north-west, and gradually descends to the Murgháb. From here the road runs over a quite even locality for 2 <i>versts</i> (1½ miles), crosses a low spur, and enters a narrow rocky defile extending for 2 <i>versts</i> (1½ miles). At the issue from the defile on both its sides the ruins of the Bála-Murgháb fortified post stands on rocks at a height of 50 <i>sajens</i> (350 feet). Bála-Murgháb is the frontier point between Afghán-Turkistán and the province of Herát. From Bála-Murgháb the path turns sharply to the south and enters the broad even valley of the River Murgháb, fenced in
Bála-Murgháb ...	55		36	3¾					

Darabaum (village)	...	23	15	2
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on the right side by a high rocky precipice and on the left by low mountains with soft outlines. The valley is about 2 or 3 *versts* ($1\frac{1}{2}$ or 2 miles) wide and grown over with reeds and grass breast high. The path being little frequented is overgrown, and the traveller makes his way with great difficulty through the reeds and grass. The River Murgháb flows closer to the left edge of the valley in one channel. The river is only fordable in a few places, and then with great difficulty. The width of the river at the point crossed by Grodekoff was about 35 *sajens* (245 feet). After crossing to the left bank the path follows a stream flowing into the Murgháb. A rocky defile then commences, so overgrown with reeds that it is very difficult to make one's way along the path. The defile is from 20 to 40 *sajens* in width ($46\frac{2}{3}$ to $93\frac{1}{3}$ feet). The path several times crosses the stream, obstructed by large stones. At 12 *versts* (7 miles $7\frac{3}{4}$ furlongs) it comes out on the left bank of the stream and follows a cornice for a distance of 8 *versts* (5 miles $2\frac{1}{2}$ furlongs), after which it turns to the west into a broad valley which runs for 6 *versts* (3 miles $7\frac{1}{4}$ furlongs). From the valley the road issues on an extensive plain covered with fields. There the road turns to the south, and in 2 *versts* ($1\frac{1}{2}$ miles) reaches the village of Darabaum. The inhabitants of this village are Firozkohis, of Persian origin. They live in "kibitkas." There are not more than five houses.

From Darabaum the road rises on to pass not high but steep; the soil is soft. Beyond, the path for 3 *versts* (2 miles) runs along a valley surrounded by low mountains, then again follows an ascent to a pass, another valley and three passes. At 15 *versts* (9 miles $7\frac{1}{2}$ furlongs) the road issues on an extensive glade, Sanja-Tau-Poin, upon which are situated a few score Hazára *kibitkas*. From here a narrow valley commences, $2\frac{1}{2}$ *versts* ($1\frac{3}{4}$ miles) long, and then a second large glade, Sanja-Tau-Bála, also sown with fields and with Hazára *kibitkas* in it. From Sanja-Tau-Bála the road, which is even and good and lies in an elevated valley surrounded by low mountains, leads to Kalah-i-Nau, the chief town of the Hazára race, of Tatar

From Patta-Kisár, passage of the Amu, viâ Mazár-i-Sharif, Saripul and Maimana to Herát—concluded.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			Versts.	Versts.	Miles.	Fur.	
Kalah-i-Nau (fort and town) ...	37		24	4			origin. In Kalah-i-Nau there are two forts, the old and the new, a bazar, and many clay houses; the greater part of the inhabitants, however, live in <i>kibitkas</i> .
Khushk (village)	55		36	3 $\frac{1}{4}$			From Kalah-i-Nau the road within 2 <i>versts</i> (1 $\frac{1}{4}$ miles) enters a pistachio wood. At first it runs over a hilly locality and then along an even valley, crosses three great ascents, one of which is stony, and at 35 <i>versts</i> (23 miles 1 $\frac{1}{2}$ furlongs) enters a broad valley. Throughout this whole distance and for another 10 <i>versts</i> (6 miles 5 furlongs) beyond there is no water at all, but the pasture is excellent. At 45 <i>versts</i> (29 miles 6 $\frac{1}{2}$ furlongs) the pistachio wood ends, and here the road crosses a small saltish stream. From here a steep ascent and descent lead to the basin of the River Khushk. A few villages, having the common name of Khushk, extend for a distance of 5 <i>versts</i> (3 miles 2 $\frac{3}{4}$ furlongs) along the valley of the River Khushk, which flows in several branches. The width of the valley is 4 <i>versts</i> (2 miles 5 $\frac{1}{2}$ furlongs); the bottom is covered with pebbles. The inhabitants are Jemshidi, of Persian extraction, and live for the greater part in houses; there are few <i>kibitkas</i> .
							On issuing from the main village in which are the citadel and Khán's palace, after 2 <i>versts</i> (1 $\frac{1}{2}$ miles) the road passes over a small spur, and then commences to ascend the Parapamisán range. The length of the ascent is 7 <i>versts</i> (4 miles 5 furlongs).

Shirmas (village)	40	26	4 $\frac{1}{4}$	
Herát, town of	18	11	7 $\frac{1}{4}$	
	<hr/> 684 $\frac{1}{2}$	<hr/>	<hr/>	453
				5 $\frac{1}{2}$

The ascent is at first gentle and soft, but towards the summit of the pass becomes steep and rocky. The pass is called Hazrat-i-Bába from a "ziarat" situated at 2 *versts* (1 $\frac{1}{2}$ miles) from its summit. The pass is covered with snow from the middle of December to the middle of April, but communication is not stopped. The summit of the pass and the descent are rocky. The descent is very steep and difficult for movement. On the descent from the pass the rocky path runs along a deep rocky ravine with a stream flowing at the bottom. The path crosses the ravine twice at 25 and 30 *versts* (16 miles 4 $\frac{1}{2}$ and 19 miles 7 furlongs); the passages of the ravine are difficult. At 10 *versts* (6 miles 5 furlongs) from the summit of the pass a defile commences ending at 33 *versts* (21 miles 7 furlongs). Here the path enters an extensive valley, about 5 *versts* (3 miles 2 $\frac{1}{2}$ furlongs) in width. At 40 *versts* is the village of Shirmas, the inhabitants of which are Persians. The village has 30 courts, and is exposed to frequent raids from the Turkméns.

From Shirmas the road at first runs south along a broad valley (2 *versts* or 1 $\frac{1}{3}$ miles), then passes over a small spur of the Parapamisán mountains and enters the wide valley of the River Hari-Rud. At 5 *versts* (3 miles 2 $\frac{1}{2}$ furlongs) are the ruins of Surkh-Rabát, and at 4 *versts* (2 miles 5 $\frac{1}{4}$ furlongs) from them villages commence which extend up to Herát. The road is quite even.

In Herát there are 50,000 inhabitants. The town is surrounded by a stone wall 28 feet high, with towers. In front of the walls is a shallow ditch. The walls have no armament. Herát could not be defended against European troops, as 1 $\frac{1}{2}$ *versts* (1 mile) to the north of the town there are commanding heights from which it could be battered by artillery. In the centre of the town is a citadel constructed on an artificial mound. The walls of the citadel are 28 feet high; in front of the walls is a deep, wet ditch.

In some places the walls are ruined.

The most important strategical and commercial centre for the routes on the left bank of the Amu is the town of Bálkh (in ancient times Umáal-Bilád, or the mother of towns). Through this town, or, more correctly speaking, through Mazár-i-Sharif, which lies a few *versts* to the east of the ruins of Bálkh, also passes the most frequented route from Central Asia to India *viâ* Bámian and Kábul.

We know that this town, or, more correctly, its ruins, are situated at the foot of the northern slopes of the Hindu-Kush, a few *versts* below the issue from the mountains of the River Dehaz, which is split up into eighteen large and a number of small canals. One of these is conducted into the town, the others are directed on either side of it, on the east to Mazár and on the west to Akcha.

Not one of these canals reaches the Oxus, but in places they run down very far to the north over the steppe. On the whole, the surface of the Balkh oasis, *i.e.*, the delta of the Dehaz, is limited to 20 square miles, but, owing to the fruitfulness of the soil, it enables many tens of thousands of settled population to live—Uzbaks, Afgháns, and Tájiks. The Afgháns, however, are not concentrated about Bálkh but in the fort of Taktapul, to the north-east of the Bálkh ruins and 5 *versts* (3 miles 2½ furlongs) west of Mazár-i-Sharif. In the ruins of Bálkh, notwithstanding the unhealthiness of the climate, a population of several hundreds, perhaps 1,000 families, maintain themselves; these are chiefly Tájiks.

The unhealthiness of the climate was the cause of changing the residence of the present rulers of Afghán-Turkistán from Bálkh to Mazár-i-Sharif, which lies 22 *versts* (14 miles 4½ furlongs) east of Balkh. This point has only acquired political importance in latter years; up to that time it only had a religious importance owing to its containing the tomb of the prophet's son-in-law Ali (called by Musalmáns Sháh-i-Mardán, or the king of men ¹).

Kbulm (Khulum) or Tásh-Kurgán lies 62 *versts* (40 miles 0¾ furlong) to the east of Mazár-i-Sharif. This town contains from 8,000 to 10,000 inhabitants, and is surrounded by extensive gardens. The road from Bálkh to Mazár and somewhat further east runs through continuously cultivated country; but after this the character of the locality changes, the population becomes more scanty, and hill spurs, forming the lowest slopes of the Hindu-Kush, and remarkable for their sterility, cross the road.

As the River Ab-i-Khulm, on which the town of Tásh-Kurgán is situated, does not flow from the chief range but from a secondary, though yet lofty ridge, the oasis watered by it is not large. This does not, however, prevent Tásh-Kurgán having great strategical importance, for from it turns off the most suitable road from the basin of the Oxus to Kábul.

Still further to the east, on the foreland of the Hindu-Kush, lies Kunduz, which not so long ago was the centre of a separate Khanate, but since 1859 has been subject to the Afgháns. This town is known for the unhealthiness of its climate, so that the inhabitants of the neighbouring countries say, "If you wish to die, go to Kunduz." In consequence of this its whole population does not exceed 2,000 souls living in 500 huts. The inhabitant are Uzbaks, occupied in agriculture and

¹ Mazár-i-Sharif itself means the holy or literally the noble shrine.

horticulture. The walls round the town are in ruins, and the citadel at the north-east angle alone is in better repair. The Kunduz plain is bounded on the west and north-east by the Rivers Ak-Sarai and Khán-ábád, which, when the snows melt in the mountains, are unfordable. Along their banks are corn-fields and gardens. Besides the settled population in the Kunduz plain, there are, however, also many nomads Uzbaks. The lower portions of the land along the river banks are, however, covered with reeds, and, in consequence, only inhabited by wild boars and a multitude of insects. Notwithstanding its disadvantages of climate, Kunduz is important from a strategical point of view as the focus of the routes leading from the Oxus steppes to the mountainous country at the sources of the Amu and beyond the Hindu-Kush. One of these latter roads which leads *viâ* Gori and the Hijak¹ pass (14,000 feet) is the shortest of all towards Kábul.

The oases of Báلكh, Khulm, and Kunduz generally are of importance as the bases of armies which it might be decided to push beyond the Hindu-Kush; consequently it would be opportune to glance generally at all the roads across this range leading to the basin of the Kábul River. There are a considerable number of them, but we will only draw attention to those concerning which there is sufficiently detailed information from European travellers. In order, then, to make ourselves acquainted with the country along the northern slopes of the Hindu-Kush, we will enumerate the mountain passes leading to Kábul-Afghánistán. According to Yule², there are nineteen over a space of 230 *versts* (152½ miles) from the sources of the Panj-Shir to those of the Ghorband, *viz.* :—

(a) *The Upper Panj-Shir passes.*—(1) *Anjumán*, by the route from Parian³ on the south side, into the mountain district of Anjumán (in Badakhshán). (2) *Khawak*, between the sources of the Panj-Shir and Anderáb at a height of 13,200 feet. Wood crossed this pass in 1837. (3) *Tul* (or Tal) near the Khawak; the roads unite at Siráb on the descent to the Anderáb. (4) *Zariya*, the ascent to which from the south is from Safid-Shir⁴, is a few miles west of the Tal pass; beyond the pass, on the north, the roads diverge at Siráb.

(b) *The Lower Panj-Shir passes.*—(5) *Shiva*, (6) *Urza*, and (7) *Ura-Timak*,—three bad passes, especially the two latter, leading across snowy mountains. (8) *Bazarak*, south of Anderáb. (9) *Shatpal*, the northern descent from which leads almost to the very same point in the Anderáb valley as that from the Bazarak.

(c) *The Perwan passes.*—(10) (*Perwan*) between the small town of that name and Bagdi on the Anderáb, is a very difficult pass, in which, in addition to the main range, you have to cross seven secondary ranges. (11) *Sirilun* (Sar-Olan or Sir-Ulang). On the route from Charikar to Khinján is another difficult pass, by which Wood and Lord in vain attempted to make their way from the south.

(d) *The Ghorband passes.*—(12) *Kushan* and *Girjan*, directly south of Khinjan at the foot of a mountain 18,000 feet high, called in particular

¹ No such pass; probably Haji-Khak. *Sic.* in original.—*Trans.*

² Outlines of the Geography and History of the Highlands of the Amu-Daria, St. Petersburg, 1873, pp. 21-23.

³ Not on Russian or English map. The pass is shown on Kostenko's map, not on English one.—*Trans.*

⁴ Probably Safed-Chib of English map.

Hindu-Kush. (13) *Gwalián*, 15 *versts* (10 miles) to the west, but also leading into the valley of the *Anderáb*, as does also the next, No. 14, *Gwaztar*¹, the descent from which is to the west of *Khinjan* towards *Gori*. (15) *Char-Daria*. This leads from the *Ghorband* valley into that of the *Surkháb* or *Ak-Sarai*, which flows south-west from *Bámian*. (16) *Shibertu* or *Shabar*, at the end of the *Ghorband* valley, from which it leads on to the *Surkháb* at the ruins of *Zohak*. *Tamerlane* went by this route on his return from *India*.

(e) *The Haji-Khak passes*, through which run the most frequented routes from *Tásh-Kurgán* (*Khulm*) to *Kábul*: there are three—(17) *Irak*, (18) *Haji-Khak*, and (19) *Pusht-i-Haji-Khak*. The Russian Imperial Mission to *Kábul* in 1878 travelled by the *Irak* and *Haji-Khak* passes. (For Route see No. 163.)

This summary of the passes proves that the *Hindu-Kush* divides the basins of the *Oxus* and the *Indus* as the *Alps* do *Germany* and *Italy*, with this difference that many of the saddles in this range lie higher than the most lofty *Alpine* peaks. There is not, however, complete isolation between the countries to the north and south of the *Hindu-Kush*, and the following are the details of the routes across it which are best known. From *Bálkh* one may go up the *Dehaz* to its very sources in the *Koh-i-Bába* range to the west of *Bámian*. It is only at one spot about 100 *versts* (66 miles) from *Bálkh* that one has to leave the river and travel by the parallel valley of one of its affluents for about 50 *versts* (33 miles), after which the road, crossing a pass, again strikes the *Dehaz* at *Khowali-Siakhak*. Beyond *Band-i-Barbar*, almost at the source of the *Dehaz*, the ascent to the watershed between the basins of the *Dehaz* and *Ak-Sarai* (*Surkháb*) commences, the highest point of the pass reaching 9,830 feet. Then travelling *viá* *Shibertu* to *Bámian* some spurs of the *Káh-i-Bába* range have to be traversed, which extends southward parallel to the road; beyond these *Bámian* is reached, which lies in a valley in the midst of mountains at a height of 8,000 feet. Here the *Bálkh* road meets that from *Khulm* (*Tásh-Kurgán*) from the north, and then they both continue on *viá* *Háji-Khak* to *Kábul*. The length of the route from *Bálkh* to *Bámian* is 420 *versts* (278½ miles), and consequently this road is more circuitous compared with the route to *Bámian* from *Khulm* (*Tásh-Kurgán*). In addition to this there is hardly any population along the former route except the nomad and semi-nomad *Hazáras*, who not rarely employ themselves in robbing; on the other hand, the *Khulm Bámian* road runs through a country in which settled life has long existed.

¹ *Gwazgari*.

ROUTE 163.

From Mazár-i-Sharif viâ Tásh-Kurgán and Eámian to Kábul.

Traversed by the Russian Mission under the command of General Stolaitoff in 1878 and taken semi-instrumentally by the Topographer Benderski; the route was also compiled and described by him, the following being an extract therefrom.]

	From point to point.			Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.		Fur.
Mazár-i-Sharif ... ..	...		...	...		From Mazár-i-Sharif the road at first lies in a cultivated locality, but after 8 <i>versts</i> (5 miles $2\frac{1}{4}$ furlongs) steppe commences covered with pebbles. To the right of the road extend the rocky spurs of mountains, which gradually approach the road. A good wheel route.
Garemir Fort	16		10	$4\frac{3}{4}$		From Garemir the road is throughout fit for wheels, and runs over stony soil. On the right extend rocky hills. The mountain spring, which supplies the village of Naib-Abád with water, flows at 1 <i>verst</i> ($\frac{2}{3}$ mile) from it. The water has a sulphurous taste, in consequence of which it has to be boiled in order to use it for drinking. There is no fuel along the road.
Naib-Abád (village)	21		13	$7\frac{1}{2}$		From Naib-Abád the road is fit for wheels; it lies over soft ground throughout, and the soil only becomes stony at the entrance to the town of Tásh-Kurgán. The rocky hills running alongside the road came right up to it in the town.
Tásh-Kurgán, town of	25		16	$4\frac{1}{2}$		The citadel of Tásh-Kurgán (Khulm) is situated on a large hillock at the entrance to the defile of the River Khulm. The gardens and buildings of the town are scattered over a considerable space. From Tásh-Kurgán the road turns sharply to the south, and

From Mazár-i-Sharif viâ Tâsh-Kurgán and Bámián to Kábul—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	
Sayid (village)	15	...	9	7½			<p>at first lies in the narrow defile of the River Khulm, crossing from one bank to another, and afterwards issues on to a wide basin (hollow) in which is situated the village of Sayid. Up to 9 <i>versts</i> (4 miles 5 furlongs) the road is very stony, but beyond this up to a village which is 9 <i>versts</i> (5 miles 7¾ furlongs) from the camping ground, there are no stones; here they again appear and run right up to the village of Sayid. The road is fit for wheels.</p> <p>From the village of Sayid the road issues from the basin and bending round rocks runs along the left bank of the River Khulm. Beyond, the defile widens, and the road recedes from the bed of the river. Up to 11 <i>versts</i> (7 miles 2¼ furlongs) the road passes through the fields of Gaznikak, crossing several canals watering the valley. At 6 <i>versts</i> (3 miles 7¾ furlongs) to the left of the road is situated the village of Gaznikak. From 11 <i>versts</i> the road rises on to a table-land and runs over gently undulating ground. At 13 <i>versts</i> (8 miles 5 furlongs) the road to the village of Hazrat-Sultán branches off to the left. On the right side of the road extends the dry bed of a stream, which becomes filled with water at the time of the melting of the snows in the neighbouring mountains. This river bed crosses the road in two places. Beyond, the road gradually rises up a hill, and at 18 <i>versts</i> (11 miles 7½ furlongs) reaches the crest of a pass. A long and steep descent from the pass again leads to the valley of the River Khulm. Below,</p>

Bade-Siyáb (village)

...

26

17

2

under the hill to the left of the road is seen the village of Hazrat-Sultán surrounded with gardens. The valley close to the road is continuously cultivated. At 20 *versts* (13 miles 2 furlongs) a canal approaches the road on the left, run from the River Khulm to irrigate the fields, and throughout runs parallel to it up to the village of Bade-Siyáb. The road crosses this canal at the very entrance to the village.

The road is fit for wheels throughout; stony places are met with only about Sayid and from the point of bifurcation of the road to the descent from the pass.

From Bade-Siyáb the road crosses to the right bank of the River Khulm by a ford, and runs along its valley. At 3 *versts* (2 miles) it rises on to a small eminence. At 5 *versts* (3 miles $2\frac{1}{2}$ furlongs) to the left of the road, a mill is situated on a canal with a planted group of trees. At 6 *versts* (3 miles $7\frac{3}{4}$ furlongs) to the right of the road there extends a large village surrounded by gardens; at 9 *versts* (5 miles $7\frac{3}{4}$ furlongs) the road crosses a canal; at 12 *versts* (7 miles $7\frac{3}{4}$ furlongs) it reaches a dry canal, whence turning to the east it comes out on the great road from Hazrat-Sultán to Heibak. Beyond this the road, after crossing several small ridges, issues on the borders of a large village, whose gardens extend along the valley right up to Heibak. At 18 and 19 *versts* (11 miles $7\frac{1}{2}$ furlongs and 12 miles $4\frac{3}{4}$ furlongs) wooden bridges cross canals, and at 21 *versts* (13 miles $7\frac{1}{4}$ furlongs) there is a stone bridge across the River Khulm. Beyond this last bridge the gardens of Heibak commence. The fort of Heibak is constructed on a detached steep hill, from which all the outlying portions of the town are seen. Bending round the hill the road crosses a deep ravine, with water in it by a bridge. Under the hill large chinár (plane) trees have grown. This place is suitable for camping.

From Bade-Siyáb up to 12 *versts* (7 miles $7\frac{3}{4}$ furlongs) the road is not fit for wheel traffic, but beyond, although exclusively stony, *arabas* can go over it. The valley of Heibak is broad, entirely cultivated and populous.

From Mazdr-i-Sharif viâ Tâsh-Kurgán and Bámin to Kábul—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Heibak (village)	25		16	4 $\frac{1}{3}$			<p>At Heibak the road crosses to the right bank of the River Khulm, and turning east passes north of the village of Akam. After passing the latter village at 5 <i>versts</i> (3 miles 2$\frac{1}{2}$ furlongs), it turns sharply to the south, crosses to the right bank of the River Khulm by a stone bridge, and then runs over an excessively hilly country. From time to time cornices are met with hanging high above the river. At 6 <i>versts</i> (3 miles 7$\frac{1}{4}$ furlongs) to the right of the road lies the village of Nazu. At 7 <i>versts</i> (4 miles 5 furlongs) the road passes through a village and then turns into a narrow path winding through undulating country. At 12 <i>versts</i> (7 miles 7$\frac{3}{4}$ furlongs) is a stone bridge over the River Khulm. At 23 <i>versts</i> (15 miles 2 furlongs) is the village of Kanda surrounded by gardens. At 26 <i>versts</i> (17 miles 2 furlongs) the gardens of the village of Sar-Bágh commence, which are spread along the valley for a distance of 5 <i>versts</i> (3 miles 2$\frac{1}{2}$ furlongs). At 27 <i>versts</i> (17 miles 7$\frac{1}{4}$ furlongs) the road passes over a high rocky spur which runs into the village itself.</p> <p>The road from the camping ground lies in the narrow defile of the River Khulm, between lofty precipitous rocks overhanging the river. The road is obstructed with pebbles and stones; in places the defile is not more than 50 paces wide, in consequence of which movement is difficult for wheel traffic. Along the valley about the villages of Akam, Nazu, Kanda, Zindán, and Sar-Bágh, cultivated fields are scattered.</p>

Sar-Bágh (village)	...	...	30	19	7
Khurram (village)	...	...	13	8	5
Fort Rui	...	...	26	17	2

At 2 *versts* ($1\frac{1}{2}$ miles) from Sar-Bágh a stone bridge is constructed over the River Khulm. Beyond this the path, winding sharply, leads to the large village of Gházi-Mazár at 4 *versts* ($2\frac{2}{3}$ miles) from the camping ground. On issuing from this village there is a stone bridge. The path then rises on to a hill, and on descending from it turns westward to the gardens of the village of Khurram. The road from Sar-Bágh, as well as that from Heibak, runs in the narrow defile of the River Khulm. It is excessively stony, and wheel traffic would be difficult.

On issuing from the gardens of Khurram the path running by the left bank of the River Khulm and winding sharply reaches the village of Pul-i-Ab-Jili surrounded by gardens. At 6 *versts* (3 miles $7\frac{1}{2}$ furlongs) there is a stone bridge over the River Khulm. From here the road soon issues from the defiles and gradually rises to the Chambarak pass, the ascent of which is difficult. A steep descent from the pass leads to a defile which ends at 13 *versts* (8 miles 5 furlongs). The ascent to the second Chambarak pass then commences; this is even more difficult than the first. The descent, however, is more gentle, though longer. It extends for 8 *versts* (5 miles $2\frac{1}{2}$ furlongs). At 20 *versts* (13 miles 2 furlongs) from the camping ground the road turns sharply to the west to the River Khulm. At 25 *versts* (16 miles $4\frac{1}{2}$ furlongs) the descent from the second Chambarak pass ends, and the road crosses to the left bank of the River Khulm by a stone bridge from which to Fort Rui is only $1\frac{1}{2}$ *versts* (1 mile). The Rui valley is very wide, thickly populated, and well cultivated. There is, however, no fuel or food for horses at the Rui camping ground. The road up to 20 *versts* (13 miles 2 furlongs), although excessively stony, is passable for wheel traffic.

At Rui the road leaves the River Khulm, and the path winds along the Rui stream crossing it eight times in a distance of 200 *sajens* (466 yards). The passage by fording is not difficult, as there is not much water in the stream. At 2 *versts* ($1\frac{1}{3}$ miles) the path enters a defile about 100 *sajens* (233 yards) long.

From Mazár-i-Sharif viâ Tásh-Kurgán and Bámián to Kábul—continued.

REMARKS.

From point to point.	Total between chief places.		From point to point.		Total between chief places.	
	<i>Versts.</i>	<i>Miles.</i>	<i>Miles.</i>	<i>Fur.</i>	<i>Miles.</i>	<i>Fur.</i>

The defile then widens out, but soon narrows again. The length of this second defile is about 150 *sajens* (350 yards). At 5 *versts* (3 miles $2\frac{1}{2}$ furlongs) the road bifurcates,—one branch leads to the right over a hill by a circuit; the other enters a very narrow defile formed by high vertical rocks. This defile is so narrow that a horseman can with difficulty make his way through it. At 8 *versts* (5 miles $8\frac{1}{2}$ furlongs) both branches again unite, and the path lies in a valley bordered by the lofty, but not steep, slopes of hills. At 9 *versts* (5 miles $7\frac{3}{4}$ furlongs) is a very steep but not long ascent to a pass. The descent from the pass, a distance of 4 *versts* ($2\frac{3}{4}$ miles), leads to the narrow defile of the River Khulm in which the very winding path crosses the river by small wooden bridges at 15, 16, and 17 *versts* (9 miles $7\frac{1}{2}$ furlongs, 10 miles $4\frac{3}{4}$ furlongs, and 11 miles $2\frac{1}{4}$ furlongs). At 18 *versts* (11 miles $7\frac{1}{2}$ furlongs) the road crosses a high rocky spur and afterwards another considerably smaller one. At 21 *versts* (13 miles $7\frac{1}{4}$ furlongs) is a wooden bridge over the River Khulm. Beyond the bridge the valley widens out and becomes cultivated. At the Duáb Fort the Khulm stream is formed by the confluence of two brooks, one of which, the Ab-i-Akhurek, flows from the rocky locality to the south and the south-east from springs. From Fort Rui the road is very stony and excessively difficult for *araba* traffic. There is no fuel at the Duáb encamping ground, and it is difficult to procure food for horses.

Fort Duáb	...	...	...	27	17	7
Madár (village)	...	...	...	26	17	2

From Duáb the road, having crossed the Ab-i-Akhurek stream, runs in a south-west direction. At 4 *versts* (2 $\frac{1}{4}$ miles) it turns south and rises by a winding path to the Kizil-Kotal pass. The ascent and descent are very difficult. The descent is shorter than the ascent but steeper. Beyond, the road leads into a marshy valley, through which a stream flows. At 13 *versts* (8 miles 5 furlongs) from Duáb a winding path leads to the summit of the Kára-Kotal pass. The descent from the pass lies over a gentle slope and ends at 16 *versts* (10 miles 4 $\frac{1}{2}$ furlongs) from the camping ground. Here there is a fort and a spring on the right of the road. Beyond the fort a very narrow and winding path descends steeply between two precipitous rocks hanging over one's head and threatening to fall over. At the foot of this descent travellers are obliged to rest, it being equally necessary for horses and baggage animals.

From the foot of the pass the path runs in a ravine. At 19 *versts* (12 miles 4 $\frac{1}{2}$ furlongs) it rises on to a mountain spur, and crossing an undulating locality for about 2 *versts* (1 $\frac{1}{3}$ miles) again descends into the ravine, out of which runs a roaring stream. At 23 *versts* (15 miles 2 furlongs) the road descends into the valley of the River Madár, crossing this stream to the right bank by a bridge. The valley of the Madár is broad and cultivated throughout. On the left of the road on a spur of the mountains are seen traces of extensive buildings; these are the ruins of the ancient town of Madár. The road from Duáb to Madár is excessively stony. This portion is almost the most difficult on the whole route to Kábul. For wheeled vehicles the descent from the Kára-Kotal pass is positively impossible. There is no fuel at the Madár encamping ground, and it is difficult to procure forage for horses.

From Madár the road, as before, runs south along the valley of the River Madár. At 7 *versts* (4 miles 5 furlongs) it crosses the river by a bridge and enters a narrow defile formed by two overhanging rocks approaching each other. The defile at the opposite end is closed by the castle (tower) of Bajgah which commands the Kamard valley.

From Mazār-i-Sharif viâ Tâsh-Kurgân and Bâmian to Kâbul—continued.

	From point to point.		Total between chief places.		From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	Miles.	Fur.	
Shast-Burj	<p>To the left of the castle a large fruit garden is seen. From the castle the road runs sharply to the west along the Kamard valley, and runs along the left bank of the River Kamard. The valley is wide, and bordered on each side by high precipitous rocks. The road here runs through a populated locality, and at 21 <i>versts</i> (13 miles 7½ furlongs) enters the gardens of the village of Kamard, through which it runs for a distance of 3 <i>versts</i> (2 miles). Beyond this turning south the road leads to the castle and village of Païn-Bak. Near the castle is a bridge over the River Kamard, and beyond the bridge a small pass across a mountain spur. Encamping ground in a garden at the foot of the Dandan-Shikan pass. The valley bears the name of Shast-Burj from six isolated towers (castles) situated in it. The road is throughout stony. Passage is possible for vehicles. There is food for animals, and fuel.</p> <p>From the Bajgah tower the valley is sown with rice. Opposite the spot for camping, in the centre of the valley, there is a detached tower.</p> <p>From Shast-Burj a narrow winding path leads to the Dandan-Shikan (tooth-breaker) pass, to the summit of which is 4½ <i>versts</i> (3 miles); this ascent is very steep and slippery, in consequence of which baggage animals frequently fall. Here it is more judicious for the rider to alight and lead his horse. Halts for rest have to be made often. Dandan-Shikan means "tooth-breaker," and this appellation is owing to the fact that</p>

Saigán (village)	24	15	7½
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from the slipperiness of the path travellers often fall and receive very severe contusions. The height of the pass is 3,600 feet.

Beyond, the road by a gentle descent issues on to the Dasht-i-Khashak steppe; at 8 *versts* (5 miles 2½ furlongs) is an easy and short ascent, and afterwards a steep, but not long, descent.

At 12 *versts* (7 miles 7¼ furlongs) the road reaches the steep descent of Saigán; this descent is shorter and easier than the ascent to the Dandan-Shikan; the path along this descent is almost hanging over a ravine, lying along the left of the road. At 15 *versts* (9 miles 7½ furlongs) the road enters a broad defile, which soon (at 18 *versts* or 11 miles 7½ furlongs) enters the valley of the River Saigán, cultivated and inhabited. At the entrance to the valley is the village of Deh-Imám. At 20 *versts* (13 miles 2 furlongs) the valley widens out, and in the centre of it is situated the large village of Karannah. At 21 *versts* (13 miles 7¼ furlongs) the road turns east and the valley somewhat narrows. At 25 *versts* (16 miles 4½ furlongs) lies the village of Saigán with beautiful gardens. This road too is generally stony. The ascent of the Dandan-Shikan and the descent to the Saigán valley is impracticable for *arabas*; the whole of the rest of the road is fit for wheels. Forage for horses and fuel can be procured.

Having crossed the river by a bridge the road enters a defile, at the bottom of which flows a mountain stream. The defile is bordered on either side by high rocky hills, and is extremely narrow, so that the road often crosses from one bank of the stream to the other. At 2 *versts* (1½ miles) the defile widens out, and the road runs through cultivated fields. At 4 *versts* (2¾ miles) on the right of the road lies the village of Káfir-Kot; at 6 *versts* (3 miles 7¼ furlongs) the defile narrows, and at 7 *versts* (4 miles furlongs) widens again; the road runs along the right bank of the river. To the left of the road extends a ravine, with some mud huts in it.

From Mazār-i-Sharif viâ Tâsh-Kurgân and Bâmian to Kâbul—continued.

	From point to point.		Total between chief places.		From point to point.		Total between chief places.	
	Versts.	Miles.	Versts.	Miles.	Miles.	Fur.	Miles.	Fur.
Reg-i-Nuh (point) ...	22	14				4½		
...	...							
...								

Ravines.

Having crossed a small hill ravine the road again enters a narrow defile, which widening out turns into a well-cultivated valley. At 12 *versts* (7 miles 7¾ furlongs) the path again winds through a narrow defile crossing from one side of the stream to the other. At 18 *versts* (11 miles 7½ furlongs) to the left of the road extends a steep ravine, from which a stream flows. Having crossed this brook a moderate spur has to be passed. The point of Reg-i-Nuh (nine sands) has many subterranean springs, lying close to the surface, and consequently the ground here is very wet and swampy. Round this spot are sands. The road from Saigán is obstructed with pebbles and schist; consequently travelling is slow and the points at which the defile narrows are especially difficult. Traffic for *arabas* is possible. At the camping ground food for horses is nowhere to be had; there is no fuel. Near the sarai of Sokhta-Chinar at 9 *versts* (5 miles 7¾ furlongs) from Saigán the valley is sown with wheat, clover, and beans. From Reg-i-Nuh the road runs along the right bank of the stream, which flows from the foot of the Ak-Rabát pass. At 5 *versts* (3 miles 2½ furlongs) the ascent to the pass commences; the ascent is steep, but not long; the road is very broad and even. At 7 *versts* (4 miles 5 furlongs) is the descent from this pass. Here a very well beaten road runs along the steep slope of the hill. At 8 *versts* (5 miles 2½ furlongs) the road enters a

narrow defile, and the path winds along to the foot of the Ak-Rabát pass (9 *versts* from the camping ground). At the foot of the pass is a ravine, out of which a stream flows, irrigating the Ak-Rabát valley, which is extremely fruitful and sown continuously with wheat and clover. At 11 *versts* (7 miles $2\frac{1}{2}$ furlongs) to the right of the road is the Fort of Ak-Rabát (at 10,200 feet), and a little further on another small sarai. At 12 *versts* (7 miles $7\frac{3}{4}$ furlongs) the valley contracts and becomes a narrow gorge. From here the road after crossing the Ak-Rabát stream rises to the Pálu pass. The ascent and descent are steep, but not long; the road is well-beaten and broad. At 15 *versts* (9 miles $7\frac{1}{2}$ furlongs) the road enters a hollow formed by high hills. At 18 *versts* (11 miles $7\frac{1}{2}$ furlongs) the road bifurcates; one branch leads to the right by a defile into the Bámian valley, and the other to the left by a very steep ascent to the Chashmah-i-Pálu pass. The Russian Mission took the latter branch, as it was impossible to pass through the defile owing to the late heavy rains which had washed away the road.

After rising to the Chashmah-i-Pálu pass the road runs through a very undulating locality with steep ascents and descents. At 24 *versts* (15 miles $7\frac{1}{4}$ furlongs) on the left of the road is a spring. Beyond, the route, by a narrow winding path on an excessively steep descent, enters the valley of the River Bámian, where it follows the left bank of the river over gently undulating ground. At 27 *versts* (17 miles $7\frac{1}{4}$ furlongs) the valley widens out and the road bifurcates; one branch to the right passing through the very centre of the valley¹. At 28 and 30 *versts* (18 miles $4\frac{1}{2}$ furlongs and 19 miles 7 furlongs) on the left of the road are ravines; from the latter a stream flows running into the River Bámian. Bámian is a considerable village, in which supplies of barley and clover are to be found. The Bámian valley is very fruitful and well cultivated; along the valley are scattered many isolated towers.

¹ At 28 *versts* (18 miles $4\frac{1}{2}$ furlongs) on the left branch and to the left of the road an earthen tower is to be seen dug out of a vertical precipice.

From Mazár-i-Sharif viâ Tâsh-Kurgán and Bámián to Kábul—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	Versts.	Versts	Miles.	Fur.	Miles.	Fur.	
Bámián, town of	34	356	22	4 $\frac{1}{4}$	235	7 $\frac{3}{4}$	<p>The road from Reg-i-Nuh is stony, but fit for wheel traffic both food for horses and fuel are to be obtained. On issuing from Bámián the road turns east, and at 3 <i>versts</i> (2 miles) on the left of the road gigantic idols are seen, cut out of the rock and a number of caverns. In these latter the inhabitants of Bámián live. At the turn of the road a valley is seen in a south-westerly direction, out of which a stream flows running into the Bámián-Daria. All around on the hills are seen the traces of ancient ruined buildings. On the opposite side of the valley on a high hill are seen the ruins of the ancient town of Gulgal. The road passes under a rock with idols on it, and along the outer edge of the Bámián valley which spreads out to the right. At 6 <i>versts</i> (3 miles 7$\frac{3}{4}$ furlongs) the road crosses a stream. At 8 <i>versts</i> (5 miles 2$\frac{1}{2}$ furlongs) it enters the defile of the River Bámián by a narrow path and crosses a small rocky spur. Similar spurs are met with at the 10th and 11th <i>versts</i> (6 miles 5 furlongs and 7 miles 2$\frac{1}{4}$ furlongs). At 14 <i>versts</i> (9 miles 2$\frac{1}{4}$ furlongs) is a ravine and stream. At 15 and 16 <i>versts</i> (9 miles 7$\frac{1}{2}$ furlongs and 10 miles 4$\frac{3}{4}$ furlongs) the road again crosses two rocky spurs. On ascending from the latter the ravine and point of Aban-Gir (the blacksmith) are seen. At 18 <i>versts</i> (11 miles 7$\frac{1}{2}$ furlongs) is the tower of Muhammad-Topchi with a group of trees, and opposite the tower a ravine with a stream in it; by this ravine the Kábul road leads to the Panj-Palang (Five Elephants' pass).</p> <p>The road from Bámián is very stony and almost impossible for the passage of carts. Fuel is difficult to obtain, but there</p>

Muhammad Topchi Tower	...	18	11	$7\frac{1}{3}$
Irak (valley)	... ..	16	10	5

is plenty of forage for horses. The whole valley is excellently cultivated. Commencing at Bámian the valley gradually narrows, being hemmed in by vertical cliffs.

From the tower of Muhammad Topchi the road first crosses three ravines with steep ascents and descents. At 5 *versts* (3 miles $2\frac{1}{2}$ furlongs) on the right of the road a hut is to be seen, opposite to which runs the Zohak ravine; beyond this the road turns south, and crossing the River Bámian by a ford passes under the Zohak mountain; it then crosses by a ford the River Kalu, which flows into the River Bámian. Further on the road again inclines to the east and rises up a slope, neither long, nor steep. At the crossing over the River Kalu on a steep rock are to be seen the ruins of an ancient town, surrounded by a stone wall, known by the name of the site of the town of Zohak. At 8 *versts* (5 miles $2\frac{1}{2}$ furlongs) the road enters a defile and runs in the dry bed of a river. Gradually rising up the ravine the road reaches the foot of the Little Irak pass. At 12 *versts* (7 miles $7\frac{3}{4}$ furlongs) is a steep but not long pass. At 14 *versts* (9 miles $2\frac{1}{4}$ furlongs) the road to the Shabar pass branches off. From here a narrow and excessively winding path soon descends steeply into the Irak valley. The valley is very fruitful, well cultivated, and thickly populated. The road from the tower of Muhammad Topchi is stony but not difficult for wheel traffic, with the exception of the descent into the Irak valley, where the path winds very steeply over rock.

From the camping ground in the Irak valley the road quickly descends into a contracted valley. Having crossed the Irak stream the route runs along its right bank by a very narrow path. At 3 *versts* (2 miles) two towers are erected on the left bank of the river. At 6 *versts* (3 miles $7\frac{3}{4}$ furlongs) the valley is blocked by the ruined fort of Káfir-Kala. Further on the valley widens out and again contracts at 8 *versts* (5 miles $2\frac{1}{2}$ furlongs). At 14 *versts* (9 miles $2\frac{1}{4}$ furlongs) there are iron springs on both sides of the river. At 18 *versts* (11 miles

¹ *Sic.* in original; properly, five Leopards; generally called the Panj Fil Pass, which means five elephants.

From Mazár-i-Sharif viâ Tásh-Kurgán and Bámian to Kábul—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			Versts.	Fur.	Miles.	Fur.	
Fort Kala-Karzar	...	35	23	1½			<p>7½ furlongs) when the Mission passed through (in July), the valley was obstructed with snow. At 20 <i>versts</i> (13 miles 2 furlongs) the road reaches the foot of the Great Irak pass. The ascent to the pass is very steep, but the road is broad and well beaten. At 25 <i>versts</i> (16 miles 4½ furlongs) the road descends from the pass by a steep descent and then soon enters a narrow defile. Out of this defile at the bottom of the descent flows a stream (at 30 <i>versts</i>, or 19 miles 7 furlongs). Further on, the road turns to the south and south-east and soon reaches Fort Kala-Karzar.</p> <p>From the Irak valley to the Great Irak pass the road runs in a narrow defile much blocked with schist, but beyond the pass it becomes less stony and is well beaten; in consequence of this it becomes fit for wheel traffic. It is impossible to obtain forage for horses; there is also no fuel.</p> <p>At Fort Kala-Karzar the road joins another, running from the Kalu pass along the River Giljatai. Turning south the road crosses the River Giljatai, and immediately afterwards a small spur; at 2 <i>versts</i> (1½ miles) is a ravine. Further on, the road keeping its former direction runs above the channel of the Giljatai stream, which flows in a very narrow defile. At 4 <i>versts</i> (2½ miles) a group of huts is seen on the right of the road, and a little further on is a ravine with a stream flowing along the bottom. Besides this ravine up to 7 <i>versts</i> (4 miles 5 furlongs) the road crosses six others with water in them, the last of which has steep banks; detached towers are seen on the right and left of the road.</p>

Fort Gardan-Diwár	21	13	7 $\frac{1}{4}$
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At 10 *versts* from the camping ground a steep descent leads into the valley of the River Giljatai, and the road following its right bank leads to Gardan-Diwár. At 20 *versts* (13 miles 2 furlongs) the road passes through a very narrow defile, hemmed in by high precipitous rocks. At 21 *versts* (13 miles 7 $\frac{1}{4}$ furlongs) there is a ford, but not deep. A few yards below the ford the river runs into the Helmand.

The River Helmand runs south-west in a narrow valley. The road from Kala-Karzar as far as the descent into the valley is slightly stony; at first it lies over undulating country, and beyond in a very narrow defile. Passage is possible for *arabas*. There is no forage for horses or fuel.

From Gardan-Diwár the road, after crossing the River Helmand by a ford, lies along an overhanging cornice, and at 2 *versts* (1 $\frac{1}{3}$ miles) from the camping ground turns south entering a narrow defile, in the bottom of which flows a stream running into the Helmand. The road then again changes its direction to the south-east. At 9 *versts* (5 miles 7 $\frac{3}{4}$ furlongs) from the camping ground the ascent of a hill commences, and immediately afterwards a steep descent into a ravine, in the bottom of which runs a stream. Soon, however, the road rises on to high ground by a steep ascent, and at 13 *versts* (8 miles 5 furlongs) crosses a steep banked ravine with water in it. The road issues from the ravine on to the Urd plain, and avoiding the village of Urd, lying 1 $\frac{1}{2}$ *versts* (1 mile) to the right of the road, gradually rises up to 18 *versts* (11 miles 7 $\frac{1}{2}$ furlongs). Further on, after descending steeply into the deep bed of a mountain stream, the road rises to the Unnai pass at 19 *versts* (12 miles 4 $\frac{3}{4}$ furlongs). The ascent is very steep, and snow is seen on the neighbouring heights. The steep descent from the pass leads to a wild and narrow defile in which the road runs along a cornice on the left side of the stream. At 22 *versts* (14 miles 4 $\frac{3}{4}$ furlongs) the defile opens out. At 27 *versts* (17 miles 7 $\frac{1}{4}$ furlongs) on the left of the road is erected the excellent castle (tower) of Unnai; from here the road turns south-west and after $\frac{1}{2}$ *verst* ($\frac{1}{3}$ mile) again changes its direc-

From Mazár-i-Sharif viâ Tásh-Kurgán and Bámián to Kábul—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Sar-i-Chashma (village)	36		23	7			<p>tion to south-east; beyond this the road crosses by a wooden bridge to the right bank; here on the left of the road a large garden flourishes, and to the right, scattered on a hill, is a village with two towers. At 36 <i>versts</i> (23 miles 7 furlongs) there are a number of springs in the valley, which, running into one stream, form the source of the Kábul River. The road from Gardan-Diwár is only slightly stony; as far as the Unnai pass it lies over undulating country and then in a deep defile. Passage is possible for wheeled vehicles. Forage can be obtained for horses, and also fuel.</p> <p>The road runs east by the right bank of the Kábul-Daria, and at 3 <i>versts</i> (2 miles) enters the street of the village of Takin. On issuing from the village, at 5 <i>versts</i> (3 miles 2½ furlongs), the road makes a sharp turn. Further on it enters a narrow defile, where it crosses from one bank to the other twice by wooden bridges; the defile then widens, and the road, turning in a south-easterly direction, reaches the Kábul River, which it crosses by a wooden bridge to the left bank at 9 <i>versts</i> (5 miles 7¾ furlongs). On the right of the bridge is the village of Jatram. Beyond, the route runs as a path along a cornice in an easterly direction, and soon again enters a valley crossing a stream at 11 <i>versts</i> (7 miles 2¼ furlongs). At 12 <i>versts</i> (7 miles 7¾ furlongs) a wooden bridge is thrown over a considerable river, an affluent of the Kábul-Daria. On the left the extensive valley of this river opens out, thickly populated, and excellently cultivated. At 13 <i>versts</i> (8 miles 5 furlongs) is the village of Jalriz; at 16 <i>versts</i> (10 miles 4¾ furlongs) to the right of</p>

Katta-Ashraf (village)	30	19	7
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the road is the village of Zaminakh, from which the road runs on up a gentle slope; at 18 *versts* (11 miles $7\frac{1}{2}$ furlongs) is the village of Zabudak, and at 23 *versts* (16 miles 2 furlongs) is a valley, that of Rustam-Khel. At 25 *versts* (16 miles $4\frac{1}{2}$ furlongs) the road crosses two streams flowing from the north. At 30 *versts* (19 miles 7 furlongs) is the village of Katta-Ashraf, on issuing from which a stream is crossed flowing from the north-east into the Kábul River. The road from Sar-i-Chashma is fit for the passage of wheeled vehicles; there are few stony places. The valley of the Kábul-Daria is all well cultivated and almost covered all over with gardens. Forage and fuel are obtainable.

At the village of Katta-Ashraf the road leaves the Kábul River on the right and runs east. At 3 and 4 *versts* (2 and $2\frac{3}{4}$ miles) the road crosses two hollows with streams. Beyond, the road gradually rises on to a hill, up which the further one goes the steeper it becomes. At 6 *versts* (3 miles $7\frac{3}{4}$ furlongs) the road crosses a stream; at 8 *versts* (5 miles $2\frac{1}{2}$ furlongs) is a steep ascent by a winding path; at 9 *versts* (5 miles $7\frac{3}{4}$ furlongs) from the camping ground the locality becomes undulating; and at 11 *versts* (7 miles $2\frac{1}{4}$ furlongs) crosses the Safed-Khak pass (white earth). The descent is at first gentle and easy, but soon (at 13 *versts* or 8 miles 5 furlongs) the narrow path leads steeply down into the valley of Urgandi, which widens out to 4 *versts* ($2\frac{3}{4}$ miles), and is excellently cultivated and well populated. At 15 *versts* (9 miles $7\frac{1}{2}$ furlongs) the road crosses the dry bed of a river. At 16 *versts* (10 miles $4\frac{3}{4}$ furlongs) on the left of the road is situated the village of Urgandi; from here a road diverges to the south-west to the town of Ghazni. At 17 *versts* (11 miles $2\frac{1}{4}$ furlongs) the road crosses a river flowing from the north, *i.e.*, from the upper part of the Urgandi valley. At 19 *versts* (12 miles $4\frac{3}{4}$ furlongs) there is a passage of a stream by a ford and an ascent of a projecting hill; here, on the left of the road, a large plain extends, excellently cultivated and thickly populated. At 21 *versts* (13 miles $7\frac{1}{4}$ furlongs) a branch road turns off to the left to a fine tower,

From Mazár-i-Sharif viâ Tásh-Kurgán and Báman to Kábul—concluded.

				From point to point.	Total between chief places.	REMARKS.		
				Miles.	Fur.	Miles.	Fur.	
				Versts.	Versts.	Miles.	Fur.	
Kalah-i-Kázi	26	17	2		behind which is situated the village of Khub-Khak (good earth); further on, the valley narrows and the road passes into another well-cultivated plain. At 26 <i>versts</i> (17 miles 2 furlongs) on the right of the road is the village of Kalah-i-Kázi.
								The road from Katta-Ashraf, although stony, is fit for wheels. Forage and fuel are procurable.
								From Kalah-i-Kázi the road runs east through the excellently cultivated and thickly inhabited valley of Chungardi. At 4 <i>versts</i> (2½ miles) the road crosses a canal, and at 6 <i>versts</i> (3 miles 7¼ furlongs) enters gardens which run right up to Kábul. At 10 <i>versts</i> (6 miles 5 furlongs) is the passage by a ford of a rather wide river flowing from the north-east from the upper part of the Chungardi valley; further on, the road runs through a bazar from which it enters the city gates. At 13 <i>versts</i> (8 miles 5 furlongs) the road passes through the streets of the city bazar; at 15 <i>versts</i> (9 miles 7½ furlongs) it crosses the Kábul River by a ford; beyond this, running through avenues with trees planted alongside, it reaches the south-west extremity of the town, where the citadel of Bála-Hisár is situated on a steep hill. To the south-east of the Bála-Hisár lies extensive low ground inundated with water which does not dry up throughout the whole year, and consequently produces miasmas productive of fever.
Kábul, town of	15	9	7¼		
							130	4¾
				197				
							366	4½
TOTAL	553				

(238)

NOTE.—In moving from the basin of the Amu into the Kábul valley by the Bámian route, the passage of the Hindu-Kush is made by one of two passes quite close together (about 4 miles apart), *viz.*, the Irak or the Háji-Khak. Coming from Tásh-Kurgán the Bámian route divides into two branches in the valley of the River Bámian at the tower of Muhammad Topchi; these re-unite on the other side of the Hindu-Kush at the village of Kala-Karzar. The left branch first leads to the Little Irak pass over a secondary range and then to the Great Irak pass (over the main range); the right branch, known by the name of the Kalu route, first leads to the Panj-Fil or Panj-Palang pass in the secondary range and then to the Háji-Khak pass over the main range. The distance by both the branches is the same, and they are both equally accessible for wheeled traffic.

Nevertheless, the Kalu branch is preferable to the Irak one, because it is open for communication the whole year round, except in very snowy winters when traffic may cease for two or three weeks; whereas the Irak branch, in consequence of the northern slopes of the Great Irak pass, which are rich in water becoming covered with ice, becomes impassable from the end of October until the spring. On the Kalu route the Panj-Fil pass is much higher than the Háji-Khak pass over the main range, but it has been carefully made and does not in any way impede communication. By this route the Afgháns crossed from the Kábul valley into the basin of the Oxus with elephants and artillery. The Russian Mission in 1878 in going to Kábul travelled by the Irak branch (in the month of July), and on their return journey (in December) from Kábul by the Kalu route.

According to the Chief of the Mission, General Razgonoff, the whole of the Bámian route, generally from Tásh-Kurgán to Kábul, not only presents no serious impediment for the movement of baggage animals, but even for wheel traffic.

Having acquainted ourselves in detail with the Bámian route, we shall have to glance but briefly at the remaining roads across the Hindu-Kush, leading from the north into the Ghurband and Panj-Shir valleys. The reason for this is that these routes for the greater part have not been visited by Europeans. Wood, Lord, and Leach, who were in those localities, only succeeded in acquainting themselves with the two roads over Sarilang and Khawak, and to the first pass Wood and Lord only ascended from the south to half the height, the ridge and its northern slopes remaining unexplored. From information obtained by enquiry, we may, however, state that in the whole extent from the Háji-Khak to the Khawak pass there is not one suitable pass over the Hindu-Kush, and on all those enumerated above only horses and *yáks* can be used for the passage, but not camels. With regard to the Khawak pass, it is on the contrary the most suitable of all those known over the Hindu-Kush range, although it is higher than the Háji-Khak. The road to it from the north leads from Kunduz *viá* Nárin, where there is a small valley, and then *viá* Anderáb, a small town, inhabited by Tájiks. The Anderáb valley runs along the Hindu-Kush at the very foot of the main range, which falls steeply on the north side. The ascent to Khawak is made from the very sources of the Anderáb stream, and leads gradually on to the mountain; and the descent into the Panj-Shir valley is also gradual. This latter

is thickly inhabited by men disposed to plundering; consequently caravans rarely select this route. Solitary horsemen and small military detachments, however, go to Khawak, and even direct to Kunduz *viâ* Gori and Baghlan.

From Gori to Kunduz the route is described by Wood, but so briefly that it is impossible to say anything certain of its characteristics, except that it leads by the right bank of the Ak-Sarai.

It is probable, however, that there are no great difficulties, as the whole distance of 85 *verst*s (56 miles $4\frac{3}{4}$ furlongs) was accomplished in two days. Further to the east there are many passes leading from the basin of the Oxus across the Hindu-Kush, the importance of which is less than of those enumerated above. By these passes run the routes from Badakhshán, Wakhán, and Pámir into the valleys of Chitrál and Mastuj and of Yassin and Gilghit.

The most western of these passes lies to the east of the Anjumán pass above mentioned (p. 219). It leads from the Badakhshán province of Min-Dinan into the valley of the lower course of the River Kame (Kunar), an affluent of the Kábul River.

The next important pass is that of Zakh-Dara¹ (or Eagle Pass), which leads from the sources of the Varduj River to Chitrál; beyond the pass the route runs down the Latka River, flowing into the Kunar, a few *verst*s above Chitrál.

More to the east follow three passes, *viz.*, Agram, Kharteza, and Nuk-sán²; these lie close together and also lead from the sources of the River Varduj to Chitrál down the Ishu stream. Two passes lead from Wakhán into the Kame (Kunar) valley: (1) Sari-Ishtarak³, so named from the village³ of the same name on the River Ab-i-Panjah, from which the route branches off up a small river and runs south-east for a distance of about 80 *verst*s (52½ miles) up to the summit of the pass, where it turns south down the River Kot, which flows into the River Kunar at the village of Buni-Akhva. (2) The Barojhil or Baroghil pass leading from the source of the Sarhad to that of the River Kame at Mastuj.

In order to reach this pass from the Sarhad valley, it is first necessary to cross the Ish-Kaman pass over a spur, dividing Sarhad from the Kaman-Kichu. Both these passes were explored by one of the members of the Forsyth Mission (Captain Biddulph) in 1874. Biddulph found them both practicable the whole year round, except for a few weeks in spring, when the snow melts and the streams are much in flood.

Still further to the east the Darkot pass leads from the Pámir into the Yassin valley. This pass is not a suitable one, being blocked with snow for six months in the year, and is then quite impracticable for horses.

The Baroghil and Darkot passes possess great importance for the Russians, because they are quite close to the southern limit of the frontier of the province of Fargána. Thus, from the Tuyuk pass, south of Kára-Kul to the Baroghil pass in a direct line is only 200 *verst*s (132½

¹ This must be the Dora Pass, believed to be also called the Dozakh pass, or pass of hell.

² The Dora and Nuk-sán passes were explored by a British Agent, known by the name of the Sapper and also of the Havildar. For the description of the Sapper's route see below, Route No. 173.

³ Not on English Map.

miles), and from the same point to the Darkot pass about 225 *versta* (149 miles).

The extent of country between the most southern portion of the province of Fargána and the pass mentioned above lies in the Pámirs and belongs to no one.

Kirghiz occasionally migrate here from the neighbouring countries to the east and west, *viz.*, Káshgár, Darwáz, Shignán, and Wakhán. This belt of no man's land must probably, sooner or later, be included in Russian dominions, which will thus be in immediate contact with the range forming the water parting from the Indus.

The following is the route from the province of Fargána to the borders of Chitrál and Yassin.

ROUTE 164.

From the town of Osh to the Tuyuk pass on the Pámir.

[Traversed and measured by Colonel Kostenko in 1876.]

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	
Osh (Ush), town of			<p>For detailed description of this route to the Alai, as well as of other routes leading through the Alai range, <i>vide</i> volume (1), pages 101 <i>et seq.</i></p> <p>The lofty basin of Alai is covered with excellent grass and well watered. From the entrance to the Kizil-Art defile good forage ceases. The road becomes stony, especially before the pass of the same name, where the path runs amongst masses of sharp stones thrown down in disorder. Grass throughout the whole route from Kizil-Art to the Tuyuk pass is only met with in places, sometimes more than 10 <i>versts</i> apart; moreover, these spots are not large, so that moving with horses here it is absolutely necessary to carry barley. The Kizil-Art pass (14,000 feet) is suitable for passage. Beyond the pass the road offers no obstacles except the want of forage and fuel (dung).</p> <p>The defile of the Little Chon-Su is broad, and the road might easily be made for wheels. At the junction of the Chon-Su and the Uzbél-Su grazing ground is found. From here the whole valley of the upper Chon-Su is seen as plainly as the palm of one's hand.</p>
Langar	30		19	7			
Gulcha (fortified post)	44½		29	4			
Fort Kizil-Kurgán (ruins)	18		11	7			
Yangi-Arik (point)	8		5	2½			
Fort Sufi-Kurgán (ruins)	13		8	4¾			
Kizil-Jár (point)	22		14	4¾			
Kojjol-Daván pass	16		10	5			
Katin-Art "	8		5	2¼			
Northern edge of the Alai valley	6		3	7¾			
Mouth of the Kizil-Art defile ...	17		11	2¼			
Summit of the Kizil-Art pass ...	25		16	4½			
Summit of the pass into the basin of Lake Kára-Kul (Kichkine-Kizil-Art pass).	30		19	7			
Spot near where the River Vasili-Yevka flows into Lake Kára-Kul.	12		7	7¾			
Entrance to the defile of the Little Chon-Su.	29		19	1¾			
Junction of the Rivers Chon-Su and Uzbél-Su.	9		5	7¾			
Tuyuk pass	20		13	2			
		307½			203	6	

From the Tuyuk pass M. Severtsoff went in a southern direction to Lake Yashil-Kul in the year 1878. According to the reconnaissance of Severtsoff the continuation of the route south from the sources of the Chon-Su is as follows ;

ROUTE 165.

From the Tuyuk pass across the Alichur Pámir to Kala-Panjah.

(According to Severtsoff, who travelled by this route in 1878.)

From the sources of the Chon-Su (Suok-Chubir) the road rises to the Tuyuk pass. The ascent is for 8 *versts* (5 miles $2\frac{1}{2}$ furlongs), but only the first $\frac{1}{2}$ *verst* ($\frac{1}{3}$ mile) is steep; the soil of the ascent is, however, soft, and it would be easy to make a road with gentle zig-zags; beyond, up to the summit of the pass, the ascent is extremely gentle. The descent to the Murgháb is steeper, but very short. The efflorescent nature of the soil makes it suitable for working a road in. The commencement of the ascent to the Tuyuk pass is at a height of about 14,000 feet; the summit of the ascent being about 14,400 feet. The summit of the pass before the descent is little under 15,000 feet. The foot of the pass in the Murgháb valley is about 14,600 feet. One may presume that the pass is open for about half the year, from June to December. On descending from the pass the road runs along the River Murgháb as far as the River Ak-Su.

It is almost completely even, only at first for 20 *versts* (13 miles 2 furlongs) stony, passing over fine pebbles. Then for another 25 *versts* (16 miles $4\frac{1}{2}$ furlongs) small, gentle, and soft hillocks follow, with cobblestones scattered over them; beyond, as far as the Ak-Su, the road is quite even and only in places covered with fine pebbles; it is gravelly for the greater part, and resembles a natural *chaussée* running through a broad valley. The passage of the Ak-Su is by a ford¹. Beyond the passage of the river, the road, which had a south-east direction throughout along the Murgháb, changes to south-west along the Ak-Su up to the pass forming the water-shed between two sources, *viz.*,—(1) of the Amu, (2) of the Ak-Su and Alichur. This pass attains a height of 14,000 feet, but the ascent is generally imperceptible, being spread evenly over 45 *versts* ($29\frac{3}{4}$ miles).

Only in the first 12 *versts* (7 miles $7\frac{3}{4}$ furlongs) at the Yaman-Tal stream are there perceptible, but not particularly difficult, ascents and descents. The very summit of the pass is a completely even, open space, on which four valleys from the surrounding mountains meet, *i.e.*, two run down on to it opposite each other without roads, and two run out from it on opposite sides of the pass to Kára-Su and Alichur in a line north-east and south-west.

An even and good road with an imperceptible descent runs over the Alichur-Pámir along the river of the same name. At the point of Buzula-Yár the road divides,—one path runs past Lake Yashil-Kul into Shignán and is difficult along the rocky shores of the lake and also again below in the defiles; the other, the Wakhán branch, runs past Lakes Sari-Kul, Tuz-Kul, and Bulun-Kul over soft earthen hills—the *moraines*

¹ The current of the river is not particularly swift. The river runs in pools separated by shallow rapids. At the space below the mouth of the Murgháb at 15 *versts* (9 miles $7\frac{3}{4}$ furlongs) M. Severtsoff found out three fords, over two of which he passed. In the beginning of August these fords are only suitable in the early morning, as water comes down by midday; the depth then reaches 2½ feet. In the end of the month at all hours of the day and night, it is not more than 1½ feet deep. In the intervals between the fords the depth reaches 7 feet. The height of the Ak-Su at the passage is about 12,000 feet.

of old glaciers—to Wakhán, on which it issues at the village of Liangar-Kish on the Ab-i-Panjah, about 12 *versts* above the chief town of Wakhán, Kala-Panjah. Beyond Lake Bulun-Kul the road enters a mountain valley; but nevertheless, judging from reports, it is suitable for traffic, and the pass between the Rivers Alichur and Ab-i-Panjah is not more difficult than the Tuyuk pass; the distance from Bulun-Kul to Liangar is three marches, or about 100 *versts* (66 miles). Beyond Kala-Panjah the roads are known from English sources. To Chitrál the road runs along the southern source of the Ab-i-Panjah by an even gentle ascent, in a broad valley over the Pámir-i-Khurd (Little Pamir). This ascent is easier than that which leads over the Pámir-i-Kalan to Lake Victoria. From Pámir-i-Khurd to Chitrál a flat pass leads to the Dasht-i-Baroghil (Baroghil steppe), which has been already mentioned above.

The routes generally across the Pámir are not difficult in topographical respects. There are here no dangerous cornices; the soil is soft and friable; the passes are comparatively low, and there is ample water; there is even some sort of forage. But with all this the locality is remarkable for its wildness and sterility. Nomad population is very rarely found here. The cause of its being little inhabited is the austerity of the climate, caused by the great elevation of the country above the sea.

This country is only fit for travelling in during the two or three summer months. In winter deep snow falls here and terrible snow-storms rage.

The changes in temperature are very sharp. Even in the months of July and August, the most suitable for travelling on the Pámir, the thermometer at night falls below 0° Réaumur (32° F), and the water in the rivers freezes.

From Osh and Kára-Kul a most suitable route runs to Bar-Panjah, the capital of Shignán, and then on to Faizábád, the capital of Badakhshán.

ROUTE 166.

From Lake Kára-Kul to Bar-Panjah.

[From enquiries.]

	From point to point.		Total between chief places.		From point to point.		Total between chief places.		REMARKS.
	Versts.	Versts	Miles.	Fur.	Miles.	Fur.	Miles.	Fur.	
Lake Kára-Kul (at the mouth of the River Vasiliyevka).					<p>From Kára-Kul the road runs through Russian possessions, first along the eastern portions of the lake, and then enters a defile joining the basin of Lake Kára-Kul with the River Panjah; it then runs along the river which forms a continuation of the Chon-Su.</p> <p>Shignán territory here commences. Having passed the points of Kizil-Tugai and Passar the road leads to the fort of Tásh-Kurgán, the first point of settled habitation in Shignán lying at the junction of the Chon-Su and Ak-Su. From here the road runs down the River Ak-Su by the left bank to the village of Shugda crossing several low ridges. From the village of Shugda the road runs south-west to the Rivers Sháh-Dara and Zuchán, the banks of which are dotted with points of settled life and cultivation.</p>
River Chon-Su	35		23	1½					
Kizil-Tugai (point)	62		41	0¾					
Passar "	26		17	2					
Fort Tásh-Kurgán	21		13	7¼					
Rosharb (village)	20		13	2¼					
Bassit "	14		9	2½					
Ak-Kurgán "	21		13	7¼					
Shugla "	20		13	2					
Ims "	22		14	4¾					
Bartal "	16		10	4¾					
Yamich "	17		11	2¼					
Bar-Panjah, town of	11		7	2¼					
		285			188		7¼		

ROUTE 167.
From Bar-Panjah to Faizábád (in Badakhshán).

[From enquiries.]

	From point to point.			Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.		Fur.
Bar-Panjah ... ..	...	...	...	...
Garjiwán (village)... ..	9		5	7 $\frac{3}{4}$		The town of Bar-Panjah ¹ lies on the left bank of the Ab-i-Panjah. From Bar-Panjah the road turns south up a stream flowing into the Ab-i-Panjah. From the village of Garjiwán the route soon enters Badakhshán territory over the elevated table-land or Pámir of Shiwa. After crossing Shiwa the road crosses the Guriel pass, whence it turns south and runs down another stream flowing into the Kukcha on the right. This stream is thickly studded with settlement, especially between the villages Ura-Shar and Gazan.
Guriel pass	60		39	6		
Ura-Shár (village)... ..	22		14	4 $\frac{3}{4}$		
Gazan "	25		16	4 $\frac{3}{4}$		
Faizábád, town of... ..	10		6	5		
		126			83	4 $\frac{1}{4}$
From Lake Kára-Kul to Faizábád viá Bar-Panjah.		411			272	3 $\frac{1}{2}$

¹ According to an explorer sent there by Gordon in 1874, there are 1,500 houses in Bar-Panjah, but this is scarcely credible.—*Author.*

ROUTE 168.
From Lake Kára-Kul to Kalah-i-Khum (the chief town of Darwáz).

[From enquiries.]

This route at first coincides with that to Bar-Panjah (Route 166), and diverges from it at the village of Shugda, running down the course of the Ak-Su as under.

From Lake Kára-Kul to the village of Shugda.	219		145	1 $\frac{1}{4}$		From the village of Shugda the route runs along the lower Ak-Su through the district of Rushán, subject to Shignán:
Fort Wamar	70		46	3 $\frac{1}{4}$		

Fort Kala-Ban	20	13	2		
„ Jamar	15	9	7 $\frac{3}{4}$		
Weid (village)	10	6	5		
Karzavan „	8	5	2 $\frac{1}{4}$		
Jerb „	18	11	7		
Zibbak „	10	6	5		
Kalah-i-Khum, town of	10	6	5		
	380			251	7

Fort Wamar, at the junction of the Ak-Su and Ab-i-Panjah, is the chief town of the province of Rusbán. From here the route runs to Fort Kalaban, lying on the lower Vánch near the point at which it flows into the Oxus. Beyond this the route runs down the Vánch, and by a series of inhabited points along the right bank of the Oxus leads to Kalah-i-Khum, the chief town of Darwáz.

ROUTE 169.

From Faizábád (in Hisár) to Little Káramuk.

[According to Oshánin, who travelled this route in 1878.]*

Faizábád, town of ... ..	...	...	...	...	...
Kalah-i-Dasht village ... ..	...	...	23	15	2

The road runs throughout up the River Iliak. For the first 10 *versts* (6 miles 5 furlongs) the valley is wide, cultivated, and inhabited. It then contracts into a defile. An ascent commences, which, however, is not difficult, and continues for 4 *versts* (2 $\frac{3}{4}$ miles). At 16 *versts* (10 miles 4 $\frac{3}{4}$ furlongs) the road comes out on the widened upper portion of the Iliak valley, bearing the name of Dasht-i-Bidán. This locality is even, with many fields. Kalah-i-Dasht is a small village of about 50 families. Generally throughout the whole Iliak valley there are a number of villages, but they are nearly all situated to one side of the road and not very important, often consisting of only three or four houses.

* There is water in abundance along the whole route, also sufficient grazing; often too lucerne grass is procurable, but not for a large detachment. Barley is sown by the inhabitants, but not in great quantity; they often bring barley mixed with wheat. Plenty of fuel everywhere. In lower and upper Karátegin (*i.e.*, between Kalah-i-Dasht and the mouth of the Surbukh and between Zanka and Little Káramuk) the wild growing trees and bushes can be used for this purpose; but in Central Karátegin (between the mouths of the Surbukh and Zanka) it is necessary to buy trees from the gardens for fuel, for tree and bush vegetation is everywhere quite destroyed close to the road.

From Faizábád (in Hisár) to Little Káramuk—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.		
			Versts.	Versts.	Miles.	Fur.		Miles.	Fur.
Ab-i-Garm (village)	24		15	7 $\frac{1}{4}$			<p>The cultivated and inhabited portion of the valley extends for about 2 <i>versts</i> (1$\frac{1}{2}$ miles). Then for 10 <i>versts</i> the even and broad portion (1 to 2 <i>versts</i> in width) of the valley, the Dasht-i-Bidán, is continued but occupied by the summer camps of the Kulluk Uzbaks; the Karátégín frontier runs across it, and in it are also found the sources of the Iliak and the right source of the Ab-i-Garm-Daria flowing in the opposite direction; then the road crosses to its left source (the descent is not steep to it); the passage of the stream is by a ford; there is a bridge, but a very poor one. One then rides along the left bank of the left source until its junction with the right and then by the left bank of the Ab-i-Garm-Daria. The road almost throughout is along the hill slopes, sometimes at a great height above the stream, but the soil is soft, and there are no difficulties; small villages of three or four huts are seen here and there to the side of the road. Ab-i-Garm, of about forty houses, is surrounded by a wall; there is also a citadel. From Ab-i-Garm the road descends to the river, crosses it by a ford (there is a bridge), and then rises up a spur separating the Ab-i-Garm-Daria from the Surkháb. The descent to the latter is very steep. It then runs up the right bank of the Surkháb and crosses the Ab-i-Garm-Daria by a bridge at its mouth. From this spot to Ali-Galaban the valley of the Surkháb twice narrows to a defile, and at these points the</p>		

road runs by cornices lying very high above the river; the ascents to these are very steep. The cornices themselves are well constructed; they are stony. It is very easy to destroy the road here, as there are a good number of balconies. Passage of a small stream by a bridge. On the road there is one village, and to the side of it there are many, but all very small. Ali-Galaban is also a small village on the stream of the same name.

From Ali-Galaban an ascent commences on to a spur, running down to the Surkháb, it is not high (200 feet to 300 feet above the village) but steep. Then by the expanded portion of the valley of the Surkháb, at the end of which is the mouth of the Hákimí; passage by a ford; the water is up to the knees, but the current is swift. Beyond, the road turns to the left and runs along the eastern slope of a spur, which divides the Khakime from the Muju-Harf-Daria. As it runs along the spur it passes the village of Muju-Harf and then descends to the Muju-Harf-Daria and crosses it by a bridge (there is also a ford) about 1½ *versets* (1 mile) below the village of the same name. The village was formerly surrounded by a wall, but the Bukháriots have now destroyed it. Beyond the bridge is an ascent on to a spur separating the valleys of the Muju-Harf-Daria and the Surkháb. The ascent is very steep in places running over soft ground. This pass is called the Múguk; it rises to at least 1,000 feet or 1,500 feet above the river. The descent into the valley of the Surkháb is tolerably gentle. Several villages are scattered over the slope. Beyond the descent a new opening out of the Surkháb valley commences, in the centre of which stands the village of Chinár and at its eastern, end that of Pombáshi.

The road on this part is tolerably good; there are three ascents, in places very steep, but not dangerous. On the road are two villages, Liangar and Pandochi. Sam-Salkon is a group of four villages situated at a distance from the Surkháb.

Ali-Galaban' (")	...	16	10	4½
Pombáshi (")	...	14	9	2½

* See, in original; possibly Ab-i-Galaban. Rev.

From Faizábád (in Hisár) to Little Káramuk—continued.

	From point to point.		Total between chief places.		From point to point.		Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	Miles.	Fur.	
Sam-Salkon (village)	12	.	7	7 $\frac{3}{4}$					Part of the road from Sam-Salkon to the mouth of the Sorbukh consists of a series of ascents and descents, and almost throughout runs at a distance from the river. The locality is inhabited. Passage of the Ab-i-Dasht-i-Siyah; the water, where the river flows in one channel, is up to a horse's belly; below, however, at $\frac{1}{2}$ <i>verst</i> ($\frac{1}{3}$ mile) from the mouth it splits up into branches, and there the water is much less. The road then turns to the left and for $1\frac{1}{2}$ <i>versts</i> (1 mile) rises up the Surkháb valley. The stream is crossed by a bridge (a very bad one) at the village of Pozji. A ford also exists at the very mouth of the Sorbukh, where it divides into branches, but the ford is very difficult. Beyond the bridge the road first runs down the left bank of the Sorbukh and comes out at another considerable opening of the Surkháb valley. This part is thickly inhabited and well cultivated. About 5 <i>versts</i> (3 miles $2\frac{1}{2}$ furlongs) from Garm the valley contracts, and the road runs round three projections resting on the river on cornices and balconies, very strong, and though wide enough, somewhat dangerous. Near the second projection is a bridge across the Surkháb, the first in Karstegin, and on the opposite bank is the village of Sar-i-Pul. Garm is situated on the right bank of the Surkháb; there are 200 to 300 houses in it. There is no town wall, but a fortification is constructed on the bank of the river. This is in good condition, but not large, and the greater part of the village commands it.

Garm, town of	38 $\frac{1}{2}$	25	4
Namaki-Bolo (village)	27 $\frac{1}{3}$	18	2

From Garm for the first 10 *versts* (6 miles 5 furlongs) the road runs over a tolerably even locality; although cornices are met with they are not dangerous. Further on the hills come right down to the Surkháb, and consequently the road sometimes runs over the shingle along the bank, crossing the same branch several times by a ford (the depth of the water is up to a horse's belly), and sometimes rises on to rather bad cornices, which it would be necessary to put in order.

Namaki-Bolo is a small village lying 1 or 2 *versts* ($\frac{2}{3}$ to 1 $\frac{1}{2}$ miles) from the Surkháb at the foot of the ridge separating the valley of this river from that of the Ab-i-Yasmán. The hills contract the course of the Surkháb to such a degree that the route along the river is only practicable in winter at the season of very low water; in summer the road runs over the spur above mentioned by the Turpa pass.

The ascent to the Turpa pass commences direct from Namaki-Bolo; it is steep and in places very stony; it rises to 2,500 to 3,000 feet above the village. This part of the route is hard. The descent is tolerably easy; it runs over soft ground, and is only steep in one place. On descending from the pass the road enters the valley of the Ab-i-Yasmán flowing parallel to the Surkháb, but in the opposite direction (*i.e.*, from west to east), and running into the Ab-i-Kabud. This valley is the most thickly inhabited part of Karátégín; it runs by villages almost throughout. Having traversed the valley, the Ab-i-Kabud is approached and crossed by a ford. The river is here split into three branches; the ford is not easy, as the current is very swift and the depth above a horse's belly. Formerly there was a bridge over the Ab-i-Kabud above Khait, but it was carried away by a heavy flood in 1878. The village of Khait lies on the left bank of the Ab-i-Kabud, about 2 *versts* (1 $\frac{3}{4}$ miles) from its mouth on the Surkháb. This village has about 150 houses. On the left bank of the Surkháb opposite the mouth of the Ab-i-Kabud stands the fortified post of Kalah-Lab-i-Ab.

Faizábád (in Hisár) to Little Káramuk—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			Versts.	Miles.	Fur.	Miles.		Fur.
Khait (village)	25		16		4½		The road at first runs along the left bank of the Ab-i-Kabud and then again turns up the Surkháb. There a cornice begins running in zigzags, in places very steep, and rising to 100 <i>sajens</i> (700 feet) above the river. The whole length of the cornice is about 2½ <i>versts</i> (1¾ miles). Repairs are necessary on it. From it one descends to the village of Sarian, the last important Tájik settlement. Beyond it the road is good right up to Pildán. Pildán is an isolated garden lying on the bank of the Surkháb.
Pildán	16½		10		7½		From Pildán the road only runs over even ground for 3 <i>versts</i> (2 miles); spurs then come right down to the river, and the road now runs on a cornice and now descends to the stream and lies over the shingle along its edge. There are several crossings by ford over a branch of the Surkháb. At the season of high water the whole road is by cornices; in places these are bad. The last one leading out to Zanku is particularly bad and stony. This part of the road requires putting in order in many places. Zanku is a wintering place lying in the valley of the river of the same name and 2½ <i>versts</i> (1¾ miles) from it.
Zanku	15		9		7½		The River Zanku is crossed by a ford; it runs here in two or three branches. The water is up to a horse's belly, and the current swift. The ford is generally not easy. One then enters a lateral valley in which is the wintering hut of Jul Terek. This valley gradually rises from west to east and leads imperceptibly to the Jul-Terek pass, from which it descends steeply to the Surkháb.

Jailgan	43		28	4	
Kichik-Káramuk (Little Káramuk)	26	280½	17	2	185

At the end of the descent is the Muinak wintering place. Beyond it there is a fresh ascent on to a spur running down to the Surkháb. This ascent is very steep and over soft ground; the descent, however, is not difficult. Further on, the road is good, although hills almost come down to the river; space enough is, however, left, and the road does not run by cornices. About 1 *verst* ($\frac{3}{4}$ mile) above the junction of the Muk-Su with the Surkháb is the wintering hut of Dumbrachi (very little known), and near it a bridge across the Surkháb. By this bridge the road crosses to the left bank of the river; it is not possible to go on by the right bank. From the bridge it enters on a hillocky open space, on which, in the angle formed by the Surkháb and Muk-Su, is the tolerably large wintering place of Jailgan.

The road from Jailgan again turns towards the Surkháb and crosses to its right bank by a bridge (rather unsafe). Beyond the bridge is the wintering hut of Diwána. One then travels along the bank of the Surkháb by a very bad path for 5 *versts* (3 miles $2\frac{1}{2}$ furlongs) running over heaped-up fallen rocks. It now ascends and now descends amongst large stones, and is very hard and not without danger for baggage animals. The road then comes out on a small opening, on which stands the wintering place of Achik-Alma. From this point two roads run to Little Káramuk: one by the bank of the Surkháb consists of a succession of very bad cornices; it is only used in the winter season. The other rises direct from Achik-Alma to the Kashka-Shiriak pass. The ascent is steep in places, but it runs over soft ground. The road then keeps almost at the same height; it lies along a slope, but is not bad. It then passes the wintering place of Sar-i-Jui lying at a considerable height above the Surkháb.

Having reached the valley of the Kichik-Káramuk-Su the road descends steeply into it. This valley is the last of the Kará-tegin territory; on passing over the heights bordering it on the east, Russian territory is reached. The lower part of the valley is occupied by some wintering places.

ROUTE 170.

From the town of Garm to the town of Kalah-i-Khum.

[From information obtained by enquiry by M. Oshááin.]

The road from Garm to the capital of Darwáz, Kalah-i-Khum, first runs down the right bank of the River Surkháb, and then crosses to the left bank at the village of Sar-i-Pul, where there is a bridge. Here the road divides into two branches, re-uniting at the fort of Chil-Dara belonging to Darwáz. One of these branches runs by the Kamchirak pass; this is the most direct route from Garm to Chil-Dara, the distance being about 30 *versts* (19 miles 7 furlongs). The pass is half way. From the pass the road runs along the Shak-Ab stream, at the mouth of which is situated Fort Chil-Dara on the right bank of the Khuliás.

The road over the Kamchirak is only practicable in summer, so the other is used for winter communication. This second road leads from Sar-i-Pul down the left bank of the Surkháb, and passes through a defile through which the river breaks. In this defile there is apparently a very narrow place; it is avoided by the small Yáfiéh pass, which receives its name from a Karátegin village situated on its summit.

The Khuliás is only here and there fordable in autumn and winter; consequently a bridge is constructed over it below Chil-Dara at the Darwáz village of Pashál. The whole distance by this winter route from Garm to Chil-Dara is about 60 *versts* (39 miles 6 furlongs).

At Chil-Dara the summer and winter routes unite, and the road then runs by the right bank of the Khuliás, through a well-cultivated and thickly-populated valley. Opposite the fort of Tabi-Dara is a bridge. Tabi-Dara is situated on the left bank of the Khuliás, 24 *versts* (15 miles 7½ furlongs) from Chil-Dara.

At Tabi-Dara the road leaves the valley of the Khuliás and runs to the village of Sagri-Dasht. This latter stands on the river of the same name running into the Khuliás somewhat above Tabi-Dara. The valley of the Sagri-Dasht in its lower part changes into a narrow defile, passable with difficulty; consequently it is only used in winter when the snows render the direct route from Tabi-Dara to Sagri-Dasht impracticable. In summer one rises direct from Tabi-Dara to the Zakh-Bursi pass. The whole distance from Tabi-Dara to Sagri-Dasht by the direct road is 16 *versts* (10 miles 5¾ furlongs) and by the winter one 24 *versts* (15 miles 7½ furlongs). Beyond Sagri-Dasht the road leads across the Darwáz range, which here serves as the watershed between the river systems of the Surkháb and the Ab-i-Panjah. It is crossed by the Khobu-Rabát pass. This pass is lower than that of Zakh-Bursi, but more stony and steeper, especially the descents. On its southern side are situated opposite to each other on the banks of the River Khumbu the two villages of Khobu¹ and Rabát. It is counted 24 *versts* (15 miles 7½ furlongs) to them from Sagri-Dasht and the same from them to Kalah-i-Khum. This latter part of the route is very hard; it runs along the defile of the River Khumbu by narrow cornices constructed now on the right bank and now on the left of the river, which often has to be crossed by bridges. There are 15 bridges altogether in this part.

¹ Khowub on English map.

In the widening out parts of the defile some villages are scattered about. Thus, by the shortest summer route from Garm to Kalah-i-Khum, it is reckoned 118 *versts* (78 miles $1\frac{3}{4}$ furlongs) according to information from enquiries, *viz.* :—

Garm—		<i>Versts.</i>	Miles.	Fur- longs.
Summit of Kamchirak pass ...	...	16	10	$4\frac{3}{4}$
Chil-Dara ...	...	14	9	$2\frac{1}{4}$
Tabi-Dara ...	...	24	15	$7\frac{1}{4}$
Sagri-Dasht ...	...	16	10	5
Khobu (village) ...	...	24	15	$7\frac{1}{4}$
Kalah-i-Khum ...	...	24	15	$7\frac{1}{4}$
		118	78	$1\frac{3}{4}$

Kalah-i-Khum is on the right bank of the Ab-i-Panjab. It was for a long time the capital of Darwáz and the residence of the Sháh. Since the annexation of Darwáz to Bukhára, it has still remained the chief point of administration. The citadel is reckoned very strong. In the town there are about 100 houses, and consequently about 500 inhabitants. The River Panjah here flows in one chaunel, and its current is so gentle that its passage by boats is practicable in autumn and winter. At full water the passage is made on “Gupsars.”¹

¹ Inflated skins.—*Trans.*

ROUTE 171.

From Kuliáb to the town of Faizábád (in Badakhshán).

[From enquiries by N. I. Korolkoff¹.]

	From point to point.	Total between chief places	From point to point.		Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	
Kuliáb, town of ... ..	...		...		..	...	The road from Kuliáb is fit for wheels throughout; it is at first even and then runs among low hillocks. Near the village of Samti the River Amu is crossed on "Gupsars" ² . The village lies on the left bank and is inhabited by Tájiks.
Samti (village)	28		18	4½			From Samti the road runs in a defile for a distance of 2 <i>tash</i> (about 10⅔ miles); the defile then widens out into a valley covered with good grass. The road is throughout fit for wheels. Tájiks inhabit Fort Chiab.
Fort Chiab	28		18	4½			From Chiab the locality is low and level. The road is fair and fit for wheels.
Fort Rustak	30		19	7			Rustak is inhabited by Tájiks. For 2 <i>tash</i> (10⅔ miles) from Rustak there is steppe, and beyond this for about 5½ <i>tash</i> (29⅓ miles) defiles. Wheel road. At the village there is a passage by a wooden bridge to the left bank of the Kukcha. <i>Arabas</i> cannot cross it. The inhabitants of the village are Turkis.
Village on the left bank of the Kukcha (Karalik) ²	45		29	6¾			From the village of Karalik (?) the road leads through an inhabited locality. Road fair and fit for wheels. The village of Argu is inhabited by Turkis.
Argu (village)	45		29	6¾			From the village of Argu the road runs up the River Kukcha over steppe, and is fit for wheels.
Faizábád, town of	18		11	7½			At Faizábád the River Kukcha is crossed to the right bank by a single wooden bridge, broad enough to admit of the passage of <i>arabas</i> .
		194			128	5	

¹ From an Afghan belonging to Abdul Lahmán's suite, who, by order of the latter, had twice travelled to Kuliáb *via* Badakhshán, the Nuksán pass, Chitral, and Dir.—*Author*.
² Inflated skins.—*Trans.*

ROUTE 172.

From Khulm (Tásh-Kurgán) viâ the towns of Faizábád (in Badakhshán), Ishkáshim, Kala-Panjah, to Tásh-Kurgán in Sarikul.

[Explored by the emissary of the British Government, the Mirza, in 1863-69.]¹

						From point to point.	Total between chief places.	REMARKS.
						Miles.	Miles.	
Khulm (Tásh-Kurgán), town of	According to M. Matvaieff, the road runs through a desert, level locality, with little water. The road is perfectly suitable for wheel traffic.
Angarik (small village)	...	...	...	...	...	9	
Abdán (spring)	...	...	...	...	...	20	
Karabágh (small village)	...	...	...	...	...	23	
Kunduz, town of	...	...	...	...	...	7	
							59	The town of Kunduz was removed from Afghán rule in 1879. The town is celebrated for its unhealthy climate.
Fort Khanábád	...	...	...	...	...	12 $\frac{1}{3}$	
Talikhán (village)	18 $\frac{1}{2}$		The fort is situated on the right bank of the river. The village is surrounded by ruins. Climate healthy.
As	...	...	...	...	...	2	
Girdáb	13		The village of Girdáb lies on the right bank of the Kukcha. The river is very swift; passage by swimming (on "Gupsars").
Rustak, town of	...	...	...	...	...	11	
							57	In the village of Atamjal there are about forty houses. The village of Kankhar-Daria includes about 100 houses and is situated on the slope of a hill.
Alkáshim (village)	...	...	...	...	...	8 $\frac{1}{3}$	
Atamjal	...	...	...	...	...	15	
Kankhar-Daria (village)	11		The capital of Badakhshán. Faizábád was detached from Afghánistán in 1878. Here, as has been remarked above, is the only wooden bridge over the Kukcha. The river is deep, swift, and flows between steep banks in a stony bed. This town is situated in a narrow valley along the right bank of the Kukcha. In length the town extends for several <i>verst</i> s, whilst the breadth is about $\frac{1}{2}$ <i>verst</i> ($\frac{1}{2}$ mile). The town has no walls. The inhabitants are Tájiks.
Faizábád, town of	...	...	...	...	...	12	
							6 $\frac{1}{3}$	

¹ The Mirza went from Kábul. The route of the Mirza from Kábul to Tásh-Kurgán is not given, as there is a Russian survey and description given above (Route 163). Colonel Matvaieff, of the General Staff, travelled from Tásh-Kurgán to Faizábád in 1878, but there is no description of his route yet, although a survey was made by him. The Mirza's route is to be found in "Report of the Mirza's exploration from Kábul to Káshgár," by Major Montgomerie, R.E.—*vide* Journal of the R. G. S., Vol. XLI, pages 132 *et seq.* Extracts have been made by M. Minassé in his book "Information about the countries at the sources of the Amu-Daria."

From Khulm (Tásh-Kurgán) viâ the towns of Faizábád, &c.—continued.

							From point to point.	Total between chief places.	REMARKS.
							Miles.	Miles.	
Chapchi (village)	19	79	<p>The Mirza left Faizábád on the 24th December 1868 in a severe snow-storm. According to him the road was very bad, so that it was impossible to ride. According to the statements, however, of a native, who had travelled from Faizábád to Zabak and beyond several times, this route, passing through an inhabited locality, is quite good, and perhaps even fit for wheels.</p> <p>In Zabak there are about twenty houses; the inhabitants are Tájiks. From here the road to Chitrál branches off, by which a lively trading traffic is carried on notwithstanding the plunderings of the Siyahposh Káfirs.</p> <p>From Zardkhán he crossed a range and a river flowing out of Chitrál by a ford.</p> <p>The town of Ishkáshim lies at the entrance to the Wakhán valley; which is very fruitful and thickly populated.</p> <p>From Ishkáshim to Kala-Panjah a small and very difficult path leads. There are few villages along the road. The Mirza and his companions suffered much from cold (he travelled in January). The Oxus was so hard frozen that it could be crossed anywhere. The river remains in this state from December to March; during the remainder of the year it is difficult to cross it, and this may be taken as one of the reasons why traders choose the winter for marching from Badakhshán to Káshgár and back. The migration of the Kirghiz to lower grounds may be taken as another reason, as in consequence caravans are less liable to be plundered.</p>
Chokarak "	...	...	...	...	...	...	10½
Jumullo "	...	...	...	...	...	...	6½
Tirgaran "	...	...	...	...	...	...	6
Zabak "	...	...	...	...	...	...	18
Zardkhán small (village)	...	...	...	...	...	...	5
Ishkáshim, town of	...	...	...	...	...	...	14
Gazda (hamlet)	...	...	...	...	...	...	9
Shekarb "	...	...	...	...	...	...	11
Oragand "	...	...	...	...	...	...	12
Kandut "	...	...	...	...	...	...	14

Kala-Panjah (fort)	16
Raz-Khán (hamlet)	17
Patur „	15½
Dehgalamanh (wintering hut)	11
Patur (2nd) „ „	12
River Sarhad „ „	12
Langar	13
Kirghiz wintering hut—a ruin	13

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In the fort of Kala-Panjah there is a garrison of 200 men¹.

Patur is the last inhabited point of the Wakhán valley. Here it is necessary to take in stores for the further journey, as for eight marches it is impossible to obtain anything. The road generally from Ishkáshim to Patur was very bad. It was necessary to cross a frozen river several times daily. *In summer this road is impassable.* The country, however, up to this point, though not very fruitful, is well inhabited, and about the settlements good places for camps can always be found. The valley of Sarhad-Wakhán is bounded on the north and south by high ranges of mountains. On the lower slopes right up to Patur flocks were seen. At about 20 miles from Patur, near Langar, the mountains gradually close in forming a narrow gorge, through which the river flows. Still further to the north, the mountains change into the low hills of the Pámir steppes. 7 miles beyond Patur 2nd, the travellers had to halt and camp for the night on the snow. On the fourth day's march from Kala-Panjah all the difficulties of travelling over the Pámir steppes commenced. The marches were long and the country desert. On the sixth day the travellers reached Langar, from which a road branches off south-east to Kanjut² or the country of Khánza.

80½

From the Kirghiz wintering hut a good road runs to Gilgit and Kanjut. From Langar the mountains gradually sink to sloping hills, and these were so insignificant that the travellers had difficulty in finding their route. The Mirza reached an open valley having a width of 4 or 5 miles. Here a small frozen lake, about 2 or 3 miles in length, was found³.

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¹ According to Trotter only 150.

² Kanjut is not shown on any English map. Khánza is a town in it; both are shown on Colonel Kostenko's map.

³ Here there is some confusion in the Mirza's story. He calls this lake Pámir or Barkat-Yassin, and says that one of the sources of the River Panjah runs out of its western extremity. This lake is evidently Gaz-Kul, from the eastern end of which flows the River Ak-Su.

From Khulm (Tásh-Kurgán) via the towns of Faizábád, &c.—concluded.

				From point to point.	Total between chief places.	REMARKS.
Lake Gaz-Kul (Oi-Kul, or the lake of geese)	...	...	...	9		From the lake the country is very dreary and desert.
Halting place on the Pámir amongst hills	...	...	...	23		From here the Mirza moved down the river, which was a considerable one and flowed east.
Ak-Tásh	...	...	...	20		From Ak-Tásh the road improved; there was little snow on the path, and the travellers saw signs of animal life; a herd of ibex appeared in sight. In summer there is plenty of all kinds of game here. From Ak-Tásh the travellers went down the course of the river, here flowing amongst boulders. They halted for the night in a low wood, abounding in good grass. A suitable camping ground, as there is forage and fuel. After leaving this spot 3 miles, the travellers saw the fruitful valley of Lari-Kul, and were soon under the walls of Tásh-Kurgán.
Wood	18		The fort is in ruins. It was constructed, according to tradition, by Afrasiáb. The fort is oblong, about 1 mile in length and $\frac{1}{2}$ mile in width. The towers and walls were made of cut stone. At Tásh-Kurgán the roads from Badakhshán and Chitrál to Khokand, Yárkand, and Káshgár meet. This place is still considered an important one. The fort is situated in the middle of the elevated Sari-Kul valley, bounded on the north by the Chichik-Daván mountains, on the east by the precipitous Kandar range, on the south and west by the last spurs of the Pámir mountains. The plain extends for 30 to 40 miles from west to east; its breadth is from 12 to 18 miles. The route on to Káshgár is not described as Lieutenant-Colonel Gordon travelled from Káshgár <i>via</i> Tásh-Kurgán with other members of the Forsyth Mission in 1874 and compiled a more circumstantial description of the route traversed.
Fort Tásh-Kurgán	6 $\frac{1}{2}$		89 $\frac{1}{2}$
GRAND TOTAL				...	473 $\frac{1}{3}$	

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ROUTE 173.

From Pesháwar viâ Dira and Chitrál to Faizábád (in Badakhshán).

Explored by order of the British Government by the native explorer, the Sapper, known also by the name of the Havildar.¹

The Sapper left Pesháwar on the 12th August 1870, passing successively the villages of Nisotha and Jalála; on the 14th August he reached the village of Dargai, lying on the Swat frontier. This village is surrounded by a clay wall about 40 feet high and 3 feet wide; the inhabitants are robbers. On the morning of the next day the traveller left the village, and crossing the Malakand range reached Aladand at night. This is the residence of the ruler of Swat. The town of Aladand consists of 300 poor stone-houses.

On the 16th August, leaving Aladand, the travellers reached the Swat River at 1½ miles, and were obliged to cross it with the help of boat hooks. At night they reached the group of small villages called Uch; Patháns live in three villages, in the fourth the inhabitants are called Saiyads.

On the 17th August the travellers reached the small fort of Serai. Here they were subjected to customs tax. They paid a second tax at the village of Shamshi-Khán, which they reached the same day. The Kháns governing these small villages are subject to the ruler of Bajaur. The country of Bajaur is divided into three provinces—Jandal (Miankala), Navagai, and Shakhr; each of these districts is governed by its own Khán.

On the same day the travellers crossed the river of Panj-kora and halted for the night at the village of Kotkai. The country from the village of Uch to the River Panj-kora forms the district of Talash.

On the 18th August at night the travellers reached Miankala. This town consists of 1,000 stone-houses, and is the most important and extensive in the whole province of Bajaur. It lies in the district of Jandal. Leaving Miankala on the 20th August they reached the village of Khánbád, celebrated for its robber population. On the next day, having crossed the Janbatai mountain (12,000 feet), they reached the fort and village of the same name. The ascent of the mountain is very steep; its northern slopes are covered with thick fir woods, and there are a number of springs on the mountain. On the 22nd August the travellers reached the small villages of Surbat in the evening, lying in the district of Dir. At half way they passed by the fort and village of Bandai situated in the district of Baraul.

On the 23rd August the travellers reached the town of Dir, consisting of 400 houses. The Governor of Dir also rules over Chitrál. In the neighbourhood of Dir, there are many villages inhabited by Siyahposh Káfirs who live by robbery. Traders generally stop at Dir and only proceed on their further journey when they have collected in considerable numbers, sometimes up to 200 men; but even under these circumstances

¹ A Havildar's journey through Chitrál to Faizábád in 1870. By Major T. G. Montgomerie. *Vide* Journal of the R. G. S., Vol. XLII, pages 180 *et seq.* Extracts were made by M. Minnaeff, in his book "Information about the countries at the sources of the Amu-Daria."

they are liable to be attacked by the Káfirs. Traders move in the same manner from Chitrál to Dir.

The Chitrál-Dir road is only open for caravan traffic for 2½ months, from the end of May to the middle of August. In the winter months snow and in the summer robbers impede traffic.

The travellers left Dir on the 25th August, and on the same day reached the village of Kashgarai. On the following day, in a company of twenty-five men, they continued along the Chitrál road, and arrived at the village of Gajor, only inhabited in the summer months. On the 27th August, having crossed the Lahúri mountains (14,000 feet), they reached the village of Ashret. A quantity of iron is found in a small river which has its source in the Lahúri mountains. The village of Ashret is particularly feared by traders; there are always a number of Káfir robbers here who generally fire at travellers throughout the whole night. They also treated our travellers in this way.

Leaving Ashret on the 20th August they reached the village of Darosh at night. At the village of Galatak, lying in the Chitrál district, they left their armed escort. At Darosh there is a fort.

On the 29th August they reached Shashidara, a small village, lying on the bank of the river of the same name. A bridge is thrown over this stream, which flows into the River Kunár. The district of Chitrál consists of some small villages and detached houses, scattered over a considerable expanse. Although this country lies at an elevation of 7,000 feet, it is very hot in summer. The Government is a little better than that of the Káfirs; the Governor is employed in the slave trade.

On the 30th August the travellers reached the village of Brutz (Braz), and on the 31st Chitrál, where they remained until the 5th September. On that day they left Chitrál and reached the village of Shagot in the evening.

Leaving Shagot on the 8th the travellers reached the village of Shali, and on the 11th went to that of Harkári, where they remained until the 13th. On the 14th they left this place and reached the village of Ovir; for a whole mile the road on this march is very dangerous for baggage animals; the travellers were obliged to carry over the loads by hand.

On the 15th September at midday they reached the foot of the Nuksán pass. Having rested, they commenced the ascent the same day, but had to halt half way for the night. The ascent is very tiring. Commencing at the foot, the pass is covered with snow. A strong wind blew during the whole day.

On the 16th the travellers started at 3 A.M. and continued the ascent¹. They passed the whole day at the village of Daigul, lying on the Badakhshán frontier.

On the 18th September they reached Zabak. This place consists of eight villages, contiguous to one another. It lies in a valley having a length of 2 to 3 miles, and surrounded by mountains on all sides. Three rivers—one from Yárkand, the second from Daigui, and the third from Sanglich—unite near Zabak and run on to Faizábád.

On the 21st September they reached the village of Safed-Dara, and on the 22nd that of Sufián. The country round this village produces fruit of all kinds,—quantities of apples especially.

¹ The height of the pass is 17,000 feet.

On the 23rd September they reached Yárdár; the 24th, Rabát; and on the 25th, Faizábád.

The Havildar returned by the same route as far as Zabak, where he arrived on the 2nd November. On the 3rd he went to Sanglich; on the 4th to the second village of the same name; on the 5th he reached the foot of the Dorah pass. The Dorah pass, though not so difficult as the Nuksán, is more dangerous owing to the Káfir robber bands¹.

On the 6th the travellers crossed the pass and halted at the foot on the opposite side. On the 7th they reached the village of Lotko, in the Chitrál district; on the 8th, Darosh; and 9th, Shagot. From here the Havildar traversed the same route as before; and on the 13th December entered Pesháwar.

Of another journey of the Havildar's there is only the most scanty information. Starting from Kábul the Havildar went north to Charikár and crossed the Hindu-kush by the Sir-ulang pass. Descending to Khinján he travelled by the direct route to Faizábád *viâ* Narin and Ishkámish. From here he went to Kuliáb *viâ* Rustak and crossed the Oxus at Samti. Travelling further north-east he went by Khovalin and Sagri-Dasht to Kalah-i-Khum, the capital of Darwáz. From here the Havildar went for about 50 miles in a south-easterly direction along the right bank of the Oxus; on the road he turned off to Kalah-i-Wanj; finally, he reached the small village of Yazghulám on the extreme frontier of Darwáz. There they turned him back by order of the Khán of Darwáz, who was at that time at war with the ruler of Shignán. The exploration of the river by the Havildar stopped within one day's journey of Pigish, the lowest point reached by a native explorer sent by Captain Trotter from the opposite side in 1874.

The Havildar returned to Faizábád, and from thence to Ishkámish going down the river, but he was again stopped by the ruler of Shignán. Being obliged to return from Yazghulám to Kuliáb the Havildar went west through the countries on the north bank of the Oxus,—countries which have been well explored by Russian travellers.

¹ The pass is 16,000 to 16,500 feet high.

ROUTE 174.

From the town of Kulja viâ the village of Suidun, the mountain passes of Talka, Chebata, Toskaur along the western shore of Lake Sairâm to the Lepsa Station (on the River Lepsa).

[Explored by Captain Larionoff in 1875.]

	From point to point.		Total between chief places.		REMARKS.	
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.
Kulja, town of						From Kulja to Suidun is a post road (<i>vide</i> Route 8 from the Altin-Imel station to the town of Kulja).
Suidun (village)	40		26	4		From Suidun the road first runs north on the left side of the Sari-Bulâk stream and then descends into a low valley, occupied with continuous fields, kitchen gardens and gardens belonging to the inhabitants of Suidun (Dungans). At 18 <i>versts</i> (11 miles $7\frac{1}{2}$ furlongs) from Suidun the road turns north-west and crosses a low ridge of the foreland of the Talka range; then by an even, gently sloping channel it reaches the entrance of the Talka defile. This road can be easily adapted to wheel traffic. ¹
Entrance to the Talka defile ...	35		23	1 $\frac{3}{4}$		From the entrance to the Talka defile to Lake Sairâm-Nor the route runs by the former so-called Kitai (Chinese) Imperial road from Kulja (destroyed) to Pekin. It is perhaps even now fit for wheels, with some repairs made here and there. On this route eighteen wooden bridges were constructed by the Chinese in the defile, out of which not a single one is now fit for a vehicle to pass over. The defile is abundantly overgrown with wood (fir, birch, poplar, apple, willow, white thorn, mountain ash, &c.) furnishing material for the repair of the bridges ready to hand. The ruins of the Chinese stations still remain along the route. The ascent

Southern shore of Lake Sairám-Nor	25	16	4½
Chebata pass	39	25	6¾
Valley of River Borotola (at the tombs of Zezbai and Mastai).	12	7	7¾
Ford over River Borotola... ..	10	6	5
Mouth of River Kokotal... ..	20	13	2

to the pass commences at 4 *versts* from the lake, and is not difficult.

The descent from the crest of the pass is in all only about 200 *sajens* (466¾ yards); here are the ruins of the Chinese picket of Kárátash. The Talka defile is the most suitable of all those leading through the range of the same name. From the ruins of Kárátash the road bifurcates; one branch, the old Imperial route, leads east to Jin-Kho and on to Manás and Urumchi, and the other, here described, turns west towards the River Lepsa; this latter road first runs along the lake winding round it and then leads to the Chebata pass (7,670 feet). The road here requires hardly any putting in order, to make it fit for wheels. There is fuel, forage, and water everywhere².

From the Chebata pass the route runs north by the defile of the same name to the River Urtuk-Sari, distant 8 *versts* (5 miles 2½ furlongs), and at the present time is only fit for pack animals. There is wood and water, but no forage either along the route or at Urtuk-Sari point. Although there is a ford over the River Urtuk-Sari, it would be better to construct a bridge.

The road from here up to its issue on the Borotola valley runs across the Toskaur pass, the ascent to which begins at 5 *versts* (3 miles 2½ furlongs) from the River Urtuk. The height of the pass, according to Larionoff, is 6,400 feet. The road, as one for pack animals, is not difficult.

From here to the ford over the River Borotola the route is good, so that you might even use wheels. In the Borotola valley Kizai-Kirghiz are employed in agriculture.

From the ford over the River Borotola (at the Bogdo hill) the road runs west up the river by both banks to where its affluent, the Kokotal, runs into it.

From here it runs north through a defile to the Káratau pass.

¹ This road is shorter than that which runs by the villages of Chin-Cha-Khoja and Lantsugun by 6 *versts* (3 miles 7¼ furlongs), but the latter is quite fit for wheels up to the entrance to the Talka defile.

² From the Ili valley to the basin of the Sairám-Nor Lake, besides the Talka road, there are also two others which run along affluents of the Ak-Su and through the Ulatai and Ak-Su passes. These routes unite with that by Talka on the west shore of Lake Sairám-Nor. They are only fit for pack animals, and even then not at all seasons of the year.

From the town of Kulja via the village of Suidun, &c.—continued.

	From point to point.	Total between chief places.		From point to point.		Total between chief places.		REMARKS.
		Versts.	̄ verst.	Miles.	Fur.	Miles.	Fur.	
Káratan pass	20		13	2				From the Káratan pass the road descends down the defile of the Rivers Archala and Lepsa to the Lepsa station. From the ford over the Borotola to the River Lepsa the route is exclusively one for pack animals, and only practicable in June, July, and August. During the remainder of the year deep snow makes travelling very difficult. It is impossible to construct a wheel road here ¹ .
Lepsa Station on the River Lepsa ..	45	246	29	6 $\frac{1}{2}$	163	0 $\frac{1}{2}$		

¹ From the River Kokotal (i.e., from the turn of the road described towards the Lepsa Station) there is a nomad road which leads up the River Borotola along its valley which gradually narrows (70 versts or 46 miles 3 $\frac{1}{4}$ furlongs) and then to the pass over the Alatau (Kok-Su) to the Kok-Su Station. This road can only be travelled from May to October. During the remainder of the year it is impossible to ride owing to the deep snows. The height of the Kok-Su pass is 11,000 feet according to Larionoff.

ROUTE 175.

From Kulja to Urumchi and on to Barkul and Hámi by the Chinese (Imperial) road.

Kulja, town of	} See Route 174. Steppe, plain.
Suidun, "	40	26	...	4			
Entrance to Salka defile	35	23	1 $\frac{3}{4}$	1 $\frac{3}{4}$			
Southern Shore of Lake Sairáfu-Nor.	25	16	4 $\frac{3}{4}$	4 $\frac{3}{4}$			
Khustai	28	18	4 $\frac{1}{2}$	4 $\frac{1}{2}$			
Takumtu	30	19	7	7			

Takiánza (village)...	...	...	14	9	$2\frac{1}{4}$
Jinkho "	...	...	47	31	$1\frac{1}{4}$
Kum-Tám "	...	...	39	25	7
Totokhoi (picket)...	...	...	15	9	$7\frac{1}{2}$
Kurtu-Kunga ,,	...	...	10	6	5
Dombada "	...	...	19	12	$4\frac{3}{4}$
Bulkhazi (Purtaji)	...	...	25	16	$4\frac{3}{4}$
Ruins of the town of Karkara-Usu	...	...	22	14	$4\frac{3}{4}$
Kuitun (station) ...	...	...	22	14	$4\frac{3}{4}$
Antzi-Khaya (station) ...	...	...	20	13	2
Khorgos ...	...	...	25	16	$4\frac{1}{2}$
Ulan-Usu ...	...	...	20	13	2
Manás or Kangi (village)...	...	...	40	26	$4\frac{1}{4}$
Yán-Balgasun (station) ...	...	...	21	13	$7\frac{1}{4}$
Tugurik "	...	...	26	17	2
Khutuk-Bai "	...	...	38	25	$1\frac{1}{2}$
Loklon "	...	...	33	21	7
Gun-Nin "	...	...	40	26	4
Urumchi, town of "	...	...	22	14	$4\frac{3}{4}$
			656		434
Khei-Goi (station) ...	...	...	26	17	2
Fu-Kán "	...	...	24	15	$7\frac{1}{4}$
Di-Tsuán "	...	...	20	13	2
Tsin-Shui "	...	...	27	17	7
San-Tai "	...	...	33	21	7
Tsimsa (village) ...	...	...	34	22	$4\frac{1}{2}$
Gu-Chen, town of	...	...	29	19	$1\frac{1}{4}$
Kitai (village) ...	...	...	39	25	$6\frac{3}{4}$
Murui (station) ...	...	...	25	16	$4\frac{1}{2}$

Even, sterile steppe; sands in places; very little water.

Character of road the same. At Kuitun the road from Chuguchak runs in from the north.

Over steppe; good grass.

Even steppe.

As above.

As above; passage of the River Manás.

Even steppe. Up to Loklon good grass.

Through a slightly undulating, inhabited locality.

Over a slightly undulating and well-populated locality. Urumchi was once a large and flourishing town; it is now ruined.

From Urumchi to Hámi one may travel by two routes, *viz.*, by Turfán, the shorter road, and by Barkal, the better. We will take the latter road.

A well-irrigated plain.

Slightly undulating locality.

Along the foot of mountains.

The same.

The same; country well watered by streams from Bogdo-Ola.

At the foot of mountains, over steppe.

As above; the town has a citadel.

Through a well-populated and irrigated country.

Over steppe, at the foot of mountains.

From Kulja to Urumchi and on to Barkul and Hámi by the Chinese (Imperial) road—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places		REMARKS.
			Versts.	Fur.	Miles.	Fur.	
Ak-Tásh (station)...	22	469	14	4 $\frac{3}{4}$	324	1 $\frac{1}{4}$	As above.
Ulan-Usu „ ...	22		14	4 $\frac{3}{4}$			
Sebi „ ...	30		19	7			
Gashun (village) ...	29		19	1 $\frac{3}{4}$			
Urtu (station) ...	35		23	1 $\frac{3}{4}$			
Chuba-Tsuán ...	29	19	1 $\frac{3}{4}$			Along a stream. From here one can travel to Bárkul either direct <i>viá</i> Gu-Guai, 60 <i>versts</i> (39 miles 6 furlongs), or by the post road as under.	
Se-Utsi (station) ...	30	170	19	7	112	5 $\frac{1}{2}$	Along the foreland of the Tián-Shán. As above.
Bárkul, town of ...	35		23	1 $\frac{3}{4}$			
Koisu (station) ...	36		23	7			
Sun-Shu-Tán (station) ...	41		27	1 $\frac{1}{4}$			
Nán-Shán-Khu „ ...	36		23	7			
Khei-Chán-Fán „ ...	27	17	7 $\frac{1}{4}$			Traverse mountains. Descent along a river.	
Hámi, town of (Kómul) ...	30	19	7			Over plain.	
Total distance ...	1,315	871	5 $\frac{1}{2}$		From Hámi across the steppe to the town of An-Si on the River Bulungir by a most difficult sandy road is 470 <i>versts</i> (311 $\frac{1}{2}$ miles). At An-Si the road turns off to the Tsyayü-Guan barrier and then <i>viá</i> the town of Su-Chu; it runs on to Pekin, to which from Hámi is 3,541 <i>versts</i> (2,341 $\frac{1}{2}$ miles) ¹ .

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¹ This route from the picket of Khustai is taken from Venyukoff's book "Sketch of the Russian Frontiers in Asia," vol. 1, pp. 50-52.

ROUTE 176.

From the village of Jin-Kho viâ the Borogosun pass to the town of Kulja.

[According to Larionoff.]

Jin-Kho (village) ... ..	...	...	...	...	...	...	...	...	...
Entrance to the Borgusta defile ...	40	26	4	2	5				
Bifurcation of roads to the Borogosun and Pelichan passes.	26	17							
Borogosun pass	10	6							

The village of Jin-Kho lies on the former imperial picket road. From here the direct route to Kulja runs south-west and is fit for wheels up to the entrance to the Borgusta defile. The route runs over saltish and clay soil, amongst cultivated fields and farms, which gradually decrease, so that from the 13th *verst* to the 38th ($6\frac{1}{2}$ to 25 miles) neither water nor forage is met with. From the entrance to the Borgusta defile up to the separation of the roads leading to the Borogosun and Pelichán passes, the road is only for pack animals, and runs through a rocky narrow defile partly by cornices and crossing from one side of the stream to the other by fords. It would be difficult to adopt this road for wheel traffic. There is no grazing along the whole road. There is fuel.

From the point of bifurcation of the roads up to the Borogosun pass (about 8,000 feet), it is also difficult to prepare the road for wheel traffic, as in winter (from October to April) it is blocked with snow.

From the pass up to the east from the Borogosun defile the road is also difficult and either runs by cornices or over fallen stones. Along the whole Borogosun defile on both sides of the pass there is wood (fir, birch, poplar, willow, &c.), and from the fork of the roads up to the village of Mazár good forage. Throughout the whole distance in the mountains Kirzhiz of Baibulat and Kizai tribes and Chekari Kalmaks summer.

From the exit from the defile to the village of Mazár the road is fit for wheels; it continues to run down the Borogosun stream. At the 15th and 16th *vershs* (9 miles $7\frac{1}{3}$ furlongs and 10 miles $4\frac{2}{3}$ furlongs) the road passes through the so-called Borogosun gates for 600 *sajens* (1,400 yards), and here is only for pack animals.

From the village of Jin-Kho viâ the Borogosun pass to the town of Kulja—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	
Mazár (village)	26		17	2			The village of Mazár (Taránchis) is scattered in small groups over 10 <i>versts</i> (6 miles 5 furlongs) along the valley of the River Borogosun. From here to Kulja the road runs through the Ili valley, inhabited by Taránchis and almost continuously covered with fields, gardens, and vegetable gardens.
Kulja, town of	47		31	1			
		149			98	6	

ROUTE 177.

From the village of Jin-Kho viâ the Pelichán pass to Kulja.

[According to Larionoff.]

Jin-Kho (village)	<i>Vide</i> Route 197. From the bifurcation of the roads the Pelichán route turns west up the defile of the River Togur-Su to the Pelichi pass. Pack animal road. The pass is gentle, soft, and easy. There is much wood along the road. From the pass to the River Tur-sun, an affluent of the Jargalán, the route runs through an undulating elevated valley on the southern slope of the Kuyuk-Ti crossing fifteen small streams flowing into the River Jargalán on the right.
Bifurcation of roads	66		43	6		
Pelichán or Pelichi pass	21		13	7 $\frac{1}{4}$		

River Tursun	...	...	...	23	15	2		
Valley of the River Pelichán	...	...	...	32	21	1½		
Pelichán (village)	...	...	...	12	7	7¾		
Kulja, town of	...	...	...	12	7	7¾		
				166			110	0½

The valley lies at an elevation of 6,000 feet, and from October to May is covered with deep snow. At this season the valley is not fit to travel in even with pack animals.

From the River Tursun the river rises on to the hills, and runs along the water-shed of the Rivers Jargalán and Pelichán at a height of 4,500 feet. Up to the very issue of the road on to the broad Pelichán valley there is no water, 32 *versts* (21 miles 1½ furlongs), except a small spring at 7 *versts* (4 miles 8 furlongs) from the River Tursun. There is wood along the road. From its issue on the broad Pelichán valley the road runs along the left side of it through continuous corn-fields and vegetable gardens.

From the village of Pelichán to Kulja the road runs through the continuously cultivated part of the Ili valley.

Comparing the two last routes we find that the distance is almost the same, but that by Borogosun is more suitable for making, as it only passes through a hilly, impracticable tract for a distance of 54 *versts* (35½ miles), and is passable at all seasons; the road by the Pelichán pass, however, runs through hill country for 106 *versts* (70½ miles), and is in addition blocked with deep snow from September to May, so that traffic ceases entirely. From May to September, however, the Pelichán route is preferable for caravans, as it is over softer ground, and water and grazing are more abundant.

ROUTE 178.

From the ruins of Manjur Kulja viâ the Talka pass and the Kaptagai gorge to the ruins of the Chindal picket.

[According to Larionoff.]

Ruins of Kulja	...	...	...	...	...	...
Suidun, town of	...	...	...	12	7	7½		

The ruined Chinese (Manjur) town is still called New Kulja. This town was founded by the Chinese in 1765 and destroyed by the Dungans in 1865. This was the place of residence of the Governor General of the whole Ili Province. The town lies on the right bank of the River Ili, and at 1½ *versts* (1 mile) from it at the confluence of the River Sari-Bulák with the Ili are the ruins of a former Russian factory.

From Kulja to Suidun the country consists of abandoned fields, half-withered trees, and neglected canals irrigating a few fields.

From the ruins of Manjur Kulja viâ the Talka pass and the Kaptagai gorge to the ruins of the Chindal picket—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Ruins of the Chinese picket of Ak-Tâsh on Lake Sairâm.	60		39	6½			For route from Suidun to Lake Sairâm <i>vide</i> Route 174. From the ruins of the Ak-Tâsh picket the road runs along the east shore of Lake Sairâm by the former Chinese postal (imperial) road. It is a very good one.
Ruins of Bama picket	34		22	4¼			From the Bama picket the imperial road continues due east, and runs to Manâs and Urumchi; the Kaptagai route, however, runs north over even ground up to the foreland of the Daboti mountains for 10 <i>versts</i> (6 miles 5 furlongs); the road is fit for wheels. Beyond, the road runs through the sterile and stony Daboti and Jite-Beteu mountains for 30 <i>versts</i> (19 miles 7 furlongs)—a pack animal road;—and finally by the Borotola valley to the ford over it at the point of Sarbuk 20 <i>versts</i> (13 miles 2 furlongs). Throughout the whole distance of 60 <i>versts</i> 39 miles 6 furlongs) from Bama to the Borotola there is only one stream, that of Daboti, crossing the road at 25 <i>versts</i> (16 miles 4½ furlongs) from Bama and 35 <i>versts</i> (23 miles 1½ furlongs) from the Borotola.
Sarbuk ford on the River Borotola...	60		39	6½			At Sarbuk are the ruins of a Chinese picket called Krul and also the ruins of a school, where at some time Manjur boys were prepared for the priesthood. The passage of the Borotola by the ford at Sarbuk and opposite the ruins of Krul is not passable at every season of the year ¹ . Twenty-five <i>versts</i> (16 miles 4½ furlongs) below this ford there is a stone bridge, also constructed by the Chinese; this bridge is now in a half-ruined condition. Kirghiz of the Kizai and Baïbulat tribes have their winter quarters along the Borotola valley. Part of them are occupied in agriculture

River Burga-Su	15	9	7 $\frac{1}{2}$		
Issue on the Káptagai valley ...	50	33	1 $\frac{1}{2}$		
Ruins of the Chindal picket ...	20	13	2	251	166
					3

along the tract from the Bogdo eminence (about 50 *versts*, or 33 miles above the Krul picket) to the stone bridge. The fields are situated on both banks of the Borotola in a belt 5 *versts* wide (3 miles 2 $\frac{1}{2}$ furlongs) which gives an expanse of cultivated ground of about 50,000 *desyatins*, or 135,000 acres.

Millet is chiefly sown, then wheat, and then oats. The fields are irrigated by canals run from the Borotola and by streams flowing into it.

In this valley there is about 200,000 *desyatins*, or 540,000 acres, of irrigated land.

There are many ruins of farms and settlements; traces of abandoned fields and canals testify that a large population was once settled here.

According to the nomad Kirghiz now there, Kalmaks lived there up to 1863; the Kirghiz did not go there until 1865.

From the ford at Sarbuk the road runs north-east, and up to the River Burga-Su is even and fit for wheels.

The River Burga-Su flows at 4 *versts* (2 $\frac{2}{3}$ miles) from the foot of the Ala-Tau mountains. From here the road runs along the foreland of the Ala-Tau, crossing the brooks of Aina-Bulák, Silau, Tarti, and Oto-Bulák; it then winds amongst granite rocks and the sterile mountains of Chagda up to the former Chinese picket of Káptagai. From here after circumventing some granite heights of the Chagda by zig-zags, it descends steeply by the Kara-Daván defile, at first obstructed with heaped-up stones and then overgrown with reeds; along this defile it runs until it issues in the valley called the Káptagai defile.

According to Captain Larionoff, this part of the road is not even practicable for pack animals.

From here up to the ruins of the former Chindal (or Chindalan) picket the road runs through the Káptagai valley; it is even and fit for wheels.

Along the whole route from the River Burga-Su to the Chindal picket and also along the Chagda and Chindalan hills there are no inhabitants, with the exception of the robber Konokrats (*Barantachis*) living in the defiles.

¹ Quite impracticable for vehicles.

ROUTE 179.

From the Ak-Tásh picket (on Lake Sairám) viâ Takiánza and Takelgen to the Chindal picket.

[According to Larionoff.]

	From point to point.		Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	
Ruins of the Ak-Tásh picket	<p><i>Vide</i> Route 178. From the ruins of the Ak-Tásh picket the road runs along the former imperial route <i>viâ</i> the ruins of the pickets of Bama, Khustai, and Tokhumtu to the village of Takiánza. Here the road is quite suitable for wheels.</p> <p>From the village of Takiánza the road diverges from the former imperial route and turns north to the point of Takelgen.</p> <p>At Takelgen the River Borotola divides into several branches, the three chief of which are called Kára-Su and flow into Lake Ebi-Nor. The passage of these three branches by fording is difficult; 15 <i>versts</i> above Takelgen is the half-ruined Chinese bridge (already described in Route 178) over the River Borotola. If one passes over by this bridge the length of the route is increased by 30 <i>versts</i> (19 miles 7 furlongs).</p> <p>From Takelgen the road runs for the first 5 <i>versts</i> (3 miles 2½ furlongs) through reeds and then over salt-soil and sands for 10 <i>versts</i> (6 miles 5 furlongs) to the projecting foreland of the Chagda hills.</p> <p>From here the road runs in the space between the Chagda hills and the shore of Lake Ebi-Nor, at first over salt-soil and then over gravelly and waterless country, without any kind of vegetation, right up to the former Chindalan picket, where a Russian detachment has been stationed since 1867 under the name of the Kaptagai detachment (since removed).</p>
Takiánza (village) ...	90		59	5¼	
Takelgen point ...	24		15	7¼	
Chagda mountains (foreland) ...	15		9	7½	

Ruins of the Chindalan picket ...	27	156	17	7 $\frac{1}{4}$	103	3 $\frac{1}{4}$	On the whole route described inhabitants are only found in the village of Takiánza (Chinese) and in its neighbourhood (Nomad Chekari Kalmaks), and at Takelgen Kirghiz of the Baibulat tribe have their winter quarters.
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ROUTE 180.

From the ruins of the Chindal picket by the north shore of Lake Ebi-Nor and the village of Shikho to the ruins of Kur-Kára-Usu.

[According to Larionoff.]

Ruins of Chindal picket ...	...	...	...	...			From the Chindal picket the route runs over a gravelly, waterless tract without any kind of vegetation up to the point of Ulán-Kul (Tuz-Kul). Here there are small springs of fresh water, and $\frac{1}{2}$ <i>verst</i> from the springs red salt is found, which is obtained from here by all the nomads of the Borotola valley. This small salt lake of Tuz-Kul lies 2 <i>versts</i> from Lake Ebi-Nor. From Ulán-Kul the road runs along the north shore of Lake Ebi-Nor, over gravelly and sandy soil, destitute of all vegetation.
Pits on Lake Ebi-Nor ...	...	50	33	1			This character of road continues to some pits, which resemble wells, and from here marsh commences. Along this whole distance of 50 <i>versts</i> (33 miles) there is no water fit to drink. Lake Ebi-Nor has very brackish water; its shores are sloping and shallow; the soil along the shore is salt. The shore on the south-east side is covered with impassable reeds, and that on the north-west, open, and, except thin reeds and "saksaul," destitute of vegetation. There are numerous birds on the lake—geese, duck, and snipe; there are no fish in the water.

From the ruins of the Chindal picket to the ruins of Kur-Kára-Usu—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	
Ruins of Yadza picket ...	100		66	2 $\frac{1}{4}$			The elevation of the lake above the level of the sea is 940 feet. From the lake the road turns east over gravelly and in part soft salt-soil along the Ebi-Nor marshes to the picket of Yadza (Kulan) on the former Chinese road from Chuguchak to Kur-Kára-Usu. Along this distance there is fresh water in the Ebi-Nor marsh and good grazing, but only for about 1 <i>verst</i> from the road.
Ruins of Chapeza picket ...	26		17	2			At the Yadza ruins the road described, as said above, comes out on the Chuguchak route, which, according to the natives, is fit for wheels from here right up to Chuguchak. The part running south from the Yadza picket leads to the Chapeza picket, and at first lies over salt marshes and sands and then through abandoned fields. At the Chapeza picket there is a Chinese guard, and a passage over the River Kitin has also been established by them.
Ruins of Chinese picket ...	25		16	4 $\frac{1}{4}$			From here to the next picket and on to the village of Shikho the road is fit for wheels.
Shikho (village) ...	20		13	2			The village of Shikho is inhabited by about 50 families of Jungars; there are also three forts (Kurgáns) constructed by the Chinese troops in 1872.
Ruins of Kur-Kára-Usu (town) ...	12		7	7 $\frac{3}{4}$			The garrison here amounts to 4,000 men (in 1875). The road is fit for wheels.
		233			154	3 $\frac{1}{2}$	Kur-Kára Usu was not long ago a large town; 50 Kalmak families have now settled here with the consent of the commander of the Chinese detachment. Kur-Kára-Usu lies on the main picket (imperial) road from Kulja to Manás and Urumchi.

ROUTE 181.

From the Chindal picket to the Yadza picket along the southern base of the Barluk mountains.

[According to Larionoff.]

Chindal picket ... ..	...	...	...	...	...	...	...	...	...	From Chindal the route at first runs over the gravelly soil of the Kaptagai defile and then along the low spurs of the Barluk mountains, called the Ulan-Kul hills, where layers of different coloured quartz lie one over the other.
Spurs of the Barluk mountains ...	30		19	7						After crossing the River Laba (where traces are seen of the working of gold mines) the road runs along the foot of the Barluk mountains, crossing the streams of Turangul, Dulandi, Kok-Sai, Chugur-Gati, Chelgai, and Burga-Sutai. From here the road, running round a projection of the Kardish-Kára-Dir mountains, joins that from Chuguchak at 15 <i>versts</i> (9 miles $7\frac{1}{2}$ furlongs) from the Yadza picket.
River Laba	20		13	2						The rivers named have very little water in them, so that in order to obtain water it is necessary to go up the defile 2 or 3 <i>versts</i> ($1\frac{1}{3}$ or 2 miles). There is thin wood in the hills. As a rule, the whole steppe from the foot of the Barluk mountains to the lake and marshes of Ebi-Nor, a width of about 20 <i>versts</i> (13 miles 2 furlongs), is completely without life, and, except occasional bushes of "saksaul," destitute of vegetation. This is the reason there are no inhabitants whatever here.
„ Turangul	20		13	2						
„ Dulandi	7		4	$5\frac{1}{4}$						
„ Kok-Sai	8		5	$2\frac{1}{2}$						
„ Chugur-Gati	5		3	$2\frac{1}{2}$						
„ Chelgai	7		4	$5\frac{1}{4}$						
„ Burga-Sutai	13		8	$4\frac{3}{4}$						
Junction with the Chuguchak road	17	127	11	$2\frac{1}{4}$	84	$1\frac{1}{2}$				

ROUTE 182.

From Kulja to Kitai picket (Chinese) on the upper Kunges.

[According to Larionoff.]

Kulja, town of	From Kulja to the Chinese bridge over the River Kásh the road runs along the right side of the Ili valley, inhabited by Taránchis and covered with fields and gardens. It is fit for wheels. Within 1 <i>verst</i> ($\frac{2}{3}$ mile) of the bridge there is a turn to the village of Mazár, lying 3 <i>versts</i> (2 miles) from this point. (For road from Kulja to Mazár, <i>vide</i> Route 176.)
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From Kulja to the Kitai picket (Chinese) on the Upper Kunges—continued.

	From point to point	Total between chief places.	From point to point.		Total between chief place.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Bridge over the River Kásh at its exit from the Avrala mountains.	45		29	6 $\frac{3}{4}$			From the bridge the road runs south-east still along the right bank of the River Ili and from the point of junction of the Tekes with the Kunges along the right bank of the latter up to the ford situated on the point where the Tsagma runs into the Kunges. Along this distance the road is only not fit for wheels in one place, <i>viz.</i> , at 25 <i>versts</i> (16 miles 4 $\frac{1}{3}$ furlongs) from the bridge where the River Ili approaching a spur of the Avrala range forms a precipitous bank, in consequence of which the road from this place for 20 <i>versts</i> (13 miles 2 furlongs) runs along a locality intersected by ravines and rocks. The width of the Kunges at the ford is 20 <i>sajens</i> (46 $\frac{2}{3}$ rd yards) and the depth 1 $\frac{1}{2}$ <i>arshins</i> 3 $\frac{1}{2}$ feet. From the ford to the ruins of the Kitai picket the road runs by both sides of the River Kunges, and although over an even locality, it is intersected by steep river beds flowing into the Kunges.
Ford over River Kunges... ..	100		66	2 $\frac{1}{4}$			
Kitai picket	80		53	0 $\frac{1}{4}$			
		225			149	1 $\frac{1}{4}$	

NOTE.—From Kulja to the Kitai picket there is also a road along the left bank of the River Ili, but it is less suitable than that just described. Its comparative disadvantage consists in the fact that after crossing the River Ili by a ferry opposite the town of Kulja, two other passages, those of the Rivers Tekes and Tsagma, have to be made. Besides this, as in the above route, in order to avoid the precipitous and high banks of the River Ili, opposite to where the River Kásh flows into it, the road traverses a stony locality intersected by channels and studded with large stones. The spot named the Kitai picket is so called because there was once here a Kitai or Chinese picket. At this spot the Semirechia *Sotnia* of the 1st Cavalry Regiment, who were stationed here in 1874, erected huts a sarai, cook-houses, stoves, &c.

From the Kitai picket via the Ungut and Narat passes to the town of Karashdr.

[According to Lamonoff.]

ROUTE 183.

Kitai picket	...	...	...	...	...	...
River Tsagma	...	...	...	7	4	5
Narat pass	...	...	...	18	4 $\frac{1}{2}$	...

From the Kitai picket the road first runs for $\frac{3}{4}$ verst ($\frac{3}{8}$ mile) along the valley east, and then turning sharply south crosses the Ungut pass of moderate height (6,800 feet). As a road for pack animals it is quite suitable, and could easily be adapted for wheel traffic. The pass is an easy one. The descent leads to the valley of the Tsagma.

From here the road runs in the mountain valley of Tsagma which has an extent of 50 *versts* (33 miles 1 furlong) in length and from 2 to 5 *versts* ($1\frac{1}{2}$ to $3\frac{1}{2}$ miles) in breadth. This valley, forming as it were a recess of the Narat range, is covered with succulent grass, and the slopes of the hills enclosing it with wood (fir, &c.).

The height of this valley is from 4,000 up to 7,000 feet. A small extent is taken up with fields of the Torquts. From the descent from the Ungut Pass to the Narat pass the road runs west up the Tsagma valley by its left bank. After crossing five small streams flowing into the Tsagma, the road crosses by a ford to the right bank. Running up the gently sloping channel it crosses an elevated open space, and having crossed two gentle stream beds forming the sources of the Kunges, the road reaches the watershed of the Narat.

The ascent to the pass is $1\frac{1}{2}$ *versts* (1 mile). The height is 10,600 feet. The road winds up the slope. On the pass the road avoids the two stream beds of the Southern Narat River and descends by a gentle ridge along the left bank of this river to the even valley of Little Uiduz. Throughout this distance it is a pack animal road for only 20 *versts* (13 miles 2 furlongs), and this part also can be exactly prepared for wheel traffic.

The Narat pass is impassable in the winter season owing to the deep snows.

From the Kitai picket via the Ungut and Narát passes to the town of Karashár—continued.

	From point to point.		Total between chief places.		From point to point.		Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.			
Springs of Ulziáta	37		24	4 $\frac{1}{4}$					<p>From the descent to the Narát pass the road runs along the northern edge of the Little Ulduz marsh at the foot of the Ulziáta mountains. After crossing four rivers with little water in them the road reaches the sacred springs of Ulziáta flowing from the mountains of the same name. From here, running over a level locality, the road reaches a projection of the Bayun-Khush mountains. For the whole distance of 65 <i>versts</i> (43 miles) from the Narát pass the road is fit for wheels.</p> <p>From the Bayun-Khush spur the road runs by the right side of the River Little Khadek along the foot of the Bayun-Khush mountains. After crossing several stony beds of streams it reaches the ascent to the Kotil pass. The ascent is easy and gentle (10 <i>versts</i>, or 6 miles 5 furlongs). The height of the Kotil pass is 10,500 feet. The whole route up to the pass is suitable and could easily be made for wheel traffic. From the Kotil pass to Karashár the information was only collected by M. Larionoff by enquiry from Torguts, who had been in Karashár. According to these enquiries it appears that from the Kotil pass the road at first runs through a hilly locality down the defile of the River Kapchikha for 55 <i>versts</i> (36$\frac{1}{2}$ miles), after which it issues on a plain, along which it runs for another 20 <i>versts</i> (13 miles 2 furlongs) up to Karashár.</p> <p>From the Kitai picket in the direction of Karashár there is another road <i>viá</i> the Adun-Kur pass. After crossing the River Kunges by a ford at the Kitai picket the road runs along its right bank up to its affluent—the Ulastai—for 10 <i>versts</i> (6 miles</p>
Kotil pass	50		33	1 $\frac{1}{4}$					
Karashár, town of	75	197	49	5 $\frac{3}{4}$	130	4 $\frac{3}{4}$			
Total from Kulja		422			279	6			

5 furlongs), being fit for wheels throughout. At the Ulstai stream it bifurcates; one branch (the upper) runs close to the hills over undulating ground, crossing deep ravines with steep banks and studded with large stones. On the Arshán stream it joins the other branch (the lower), which, after the bifurcation at the River Ulstai, enters the narrow stony defile of the River Kunges, winding along its right bank by dangerous cornices and slopes. The length of this lower branch is 25 *versts* (16 miles $4\frac{1}{2}$ furlongs); of the upper, 35 *versts* (23 miles $1\frac{1}{2}$ furlongs), the latter, though 10 *versts* (6 miles 5 furlongs) the longer, is the more suitable road.

On the two branches uniting at the mouth of Arshán stream, the route runs along the right bank of the Kunges, at first along a steep slope crossing deep and stony hollows, and then along the gentle declivity of the valley of the Upper Kunges, by which it gradually leads to the watershed of the Adun-Kur (10,000 feet), whence it also descends gradually on the Little Ulduz plain. Here this route joins the one to Karashár above described. This route abounds in wood and grazing. At the apex of the River Arshán there are warm mineral waters.

ROUTE 184.

From the town of Kulja viâ the Ungut, Narát, and Ulstai passes to Urumchi.

[According to Larionoff.]

Kulja, town of	} <i>Vide</i> Routes 182 and 183. From the Ulziáta springs, the Urumchi road separates from that to Karashár, and runs due east over the gravelly soil of the lofty Little Ulduz plain (from 8,000 to 9,000 feet). Up to the junction of the Sarin-Usu and Zagist Rivers it is fit for wheels.
Kitai picket	...	...	...	225	149	$1\frac{1}{4}$		
Narát pass	...	...	...	35	23	$1\frac{1}{2}$		
Ulziata springs	...	...	...	37	24	$4\frac{1}{4}$		
					297		196	7	

From the town of Kulja viâ the Ungut, Narât, and Ulatai passes to Urumchi—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Junction of the Rivers Sarin-Usu and Zagist.	50		33	1			From here it becomes a good pack road, and runs along the right bank of the River Zagist, crossing six beds with little water in them. From the mouth of the Argasin stream, by a gentle ascent up the valley of the upper Zagist, it reaches the Ulatai pass (or Zagist) 12,300 feet high. This route can be easily made a wheel road.
Ulatai or Zagist pass	35	85	23	1 $\frac{3}{4}$	56	2 $\frac{3}{4}$	From here to Urumchi the information is merely from enquiries, from which it is only known that the road runs along the southern slopes of the Argasin mountains, and that as a pack road it is satisfactory.
Urumchi	160	160	106		106		
		542			359	1 $\frac{3}{4}$	

NOTE.—From the Ulatai pass a pack road branches off down the valley of the River Ulatai connecting with the route leading by the Kotil pass to Karashâr. It joins it in the valley of the River Kapchikha (Route 183).

ROUTE 185.

From the Kitai picket viâ the Dagit pass to the town of Karashâr.

[According to Larionoff.]

Kitai picket			<i>Vide</i> Route 183. From the Ungut pass the road turns due south over hilly country for 5 <i>versts</i> (3 miles 2 $\frac{1}{2}$ furlongs) up to the entrance to the defile of the River Northern Dagit, and, after traversing the stony ascent by this river and the descent by the River
Ungut pass (Tsagma)	7		4	5			

Ford over River Great Hadik ...	12	7	$7\frac{3}{4}$
Altin-Kaz	20	13	2
Commencement of the defile of the Great Hadik River.	12	7	$7\frac{3}{4}$
Defile of the River Sakhim-Takha	19	12	$4\frac{3}{4}$
Sakhim-Takha pass	10	6	5

Southern Dagit, it issues on the Ulduz plain. The Dagit pass is much worse than the Narát pass, as, throughout its whole extent, both along the Northern and Southern Dagit Rivers, it is obstructed with huge stones which have fallen down from the mountains, and has steep ascents and descents. The Dagit gorge cuts through the range called the Narát. The height of the pass is 11,270 feet. This pass is suitable for pack traffic; it would be very difficult to work it up for wheel traffic¹.

On issuing on to the Ulduz valley the Karashár road turns south-east over a hilly locality, and reaches the ford over the Great Hadik River. The ford is called Khongur-Merue-Amin.

From the ford the road runs along the north side of the valley of the Great Ulduz, over hilly ground, to the Zagist River, and beyond over even ground to the point of Altin-Kaz on the River Sarmin.

From here the road runs along the left side of the River Sarmin, also over an even locality, and enters the defile of the Great Hadik.

The defile is very narrow and rocky; consequently the road through the defile is only suitable for pack animals. The route winds along the right bank of the defile, and on reaching the defile of the River Sakhim-Tokha turns sharply up the latter².

Here the road runs for 10 *versts* (6 miles 5 furlongs) along an even valley, and then by a steep ascent enters mountains, the height of which is 10,000 feet.

¹ Twelve *versts* (7 miles $7\frac{3}{4}$ furlongs) to the west of the Dagit pass there is yet another across the Narát range—the Kharnur—which is still worse than the Dagit, so much so that it does not admit of traffic with large pack animals.

² At the turn of the road up the River Sakhim-Tokha there is the only bridge over the River Great Hadik along the whole eastern side of the Great Ulduz valley. Across this ford a good pack road runs west, first by the defile of the River Hadik, and then along the southern edge of the marshes and valley of Great Ulduz.

From the Kitia picket viâ the Dagit pass to the town of Karashâr—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Issue from the mountains on the Karashâr plain.	60		39	6 $\frac{1}{4}$			Beyond this it is known from enquiries that the road runs through mountains to its issue on the Karashâr valley. Here it is not practicable, as it is only possible to move along it in summer with light loads.
Fort Karashâr	60		39	6			
		200			132	4 $\frac{1}{2}$	
Total from Kulja ...		425			281	5 $\frac{3}{4}$	From Great to Little Ulduz there is a pack road which at first runs along the River Sarmin for 40 <i>versts</i> (26 miles 4 furlongs) and then crossing the Sarmin range follows the defile of the River Northern Sarmin for 10 <i>versts</i> (6 miles 5 furlongs). From this it issues on the valley of Little Ulduz, and joins the road running from the Kitai picket <i>viâ</i> the Kotil pass and Khar-gasti to Karashâr (Route 183).

ROUTE 186.

Routes along the valley of the River Kásh.

From the town of Kulja the road into the valley of the River Kásh runs through the village of Mazár at 47 *versts* (30 miles 4 furlongs). Up to Mazár the route is quite fit for wheels (*vide* Route 176).

From Mazár a pack road runs eastwards along the hilly right side of the Kásh valley and then bifurcates within 12 *versts* (7 miles 7¼ furlongs) of the village of Ulatai; one branch runs close to the hills over undulating ground, intersected by the deep hollows and ravines of streams and studded with large stones as far as the Jirgilita stream. The other branch, after traversing a hilly locality for 10 *versts* (6 miles 5 furlongs) and leaving the village of Ulatai 2 *versts* (1¼ miles) on one side, descends by a steep stony hill into the low valley of the Kásh; it then runs through the villages of Ulatai (another of the same name) and Nilki, over even ground for 45 *versts* (29 miles 6½ furlongs), to the River Jirgilita. From here, in consequence of the contraction of the Kásh valley by precipitous rocky banks, the road turns sharply north and follows the stony defile of the Jirgilita; joining the upper road at 5 *versts* (3 miles 2½ furlongs) it runs on for 5 *versts* (3 miles 2½ furlongs) over an undulating locality up to the River Tsatse¹.

From the River Tsatse, the route continues due east, and after traversing undulating ground for 6 *versts* (4 miles) descends into the Kásh valley; it then runs along the right bank of the River Kásh for a distance of 50 *versts* (33 miles 1 furlong) up to the ford across the Kásh, which is opposite the Ovata pass. Crossing the ford (3½ feet deep) the road runs southwards along the soft defile of the River Borgusta, and then rises gradually by a gentle ascent over a distance of 15 *versts* (9 miles 7½ furlongs) to the Ovata pass. From here the road descends by zigzags on the gentle slopes of the southern side of the Avrala range for 12 *versts* (7 miles 7½ furlongs), and comes out on the Kunges valley.

The Ovata pass is the highest from the Kásh on to the Kunges, and practicable for pack animals at all seasons of the year. Below this pass there are two others across the Avrala mountains—the Jirgilita and Basta,—both much less suitable. From the above-mentioned ford over the River Kásh, good roads run by both banks of the river up to its very source, where, however, they cease in consequence of the impracticability of the snowy range at the sources of the River Kásh.

The swift streams flowing into the Kásh there serve as an obstacle.

From the Kásh valley there is a road to the village of Shikho, which runs along the River Munkto; this road is not even practicable for light loads.

¹ From here there is a road bearing north-east past the Bargati mineral spring *via* the Bargati pass to the village of Jiukho; it is, however, only practicable in the summer season, and then with great difficulty.

ROUTE 187.

From the Lepsa station (on River Lepsa) via the Ján-Su defile and the Chinese picket of Amati to Manás.

[Compiled by the merchant Kamenski¹.]

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Lepsa station			<p>The road from the Lepsa runs to the village of Herasimovka, and after crossing the Chit-Tentek River enters the Ján-Su defile, which is made for a cart route. Forage and water are obtainable along the whole route.</p> <p>From Amati to Shikho, 420 <i>versts</i> (280 miles), there is a wheel route, as well as from Shikho to Manás.</p>
Passage of the River Chit-Tentek by ford.	70		46	3 $\frac{1}{4}$			
Kizil-Agach pass	20		13	2			
Kul-Chaganák (bay of Lake Ala-Kul).	20		13	2			
Sari-Bulák	20		13	2			
Sari-Kegen	25		16	4 $\frac{3}{4}$			
Uzun-Bulák	15		9	7 $\frac{1}{2}$			
River Kup	30		19	7			
Former Chinese picket of Amati ...	25		16	4 $\frac{3}{4}$			
	225		149	1 $\frac{1}{4}$			

¹ Kamenski recommends this route as the shortest for trading communication between the districts of Sergiopól and Kopál on the one hand and the western provinces of China on the other.

ROUTE 188.

From the town of Kulja viâ the Chapchal pass to the Muzárt picket (the quarters of the Tián-Shán Detachment).

[Explored by Colonel Kostenko in 1872.]

Kulja, town of					<p>The whole of this road, with the exception of a few places in the Chapchal defile, is fit for wheeled vehicles. The preparation of the defile for wheel traffic is also possible without great expense. There is water, fuel, and forage everywhere.</p> <p>The passage of the River Ili near Kulja is carried out by three moderate-sized ferry boats. The width of the river here reaches 80 <i>sajens</i> (186$\frac{2}{3}$ yards); the right bank is very steep. In consequence of the swiftness of the current especially with a wind, the passage is made very slowly.</p> <p>From the point of passage to the entrance to the defile is smooth and suitable, being occasionally crossed by ravines.</p> <p>From the entrance to the defile for about 15 <i>versts</i> (about 10 miles) the route rises gently, and the road is excellent; then after that ascents and descents commence, in addition to which boulders and large pebbles form obstacles of no little importance for wheel traffic. As it approaches the summit of the pass the defile becomes covered with vegetation (fir) which ceases at the summit of the pass itself, so consequently its height may be fixed at about 9,000 feet. The descent from the pass is more convenient than the ascent; the ground falls gently, and there are no large stones on the road.</p> <p>From the southern foot of the pass the road turns west, and at first runs along the Atin-Tau hollow and then along the valley of the Tekes River. The hollow and valley abound with excellent pasturing grounds. Water in abundance.</p> <p>The chief channel of the Tekes at the point of passage is 100 <i>sajens</i> (233$\frac{2}{3}$ yards) in width. The banks are low and firm; the bottom is also firm and covered with fine shingle. The depth of water is 3 feet; the current is swift.</p>
Passage of the River Ili	...	3	2	0							
1st "Sumun-Sibo"	...	5	3	2 $\frac{1}{2}$							
Kainak (village)	...	8	5	2 $\frac{1}{4}$							
Kán	...	20	13	2 $\frac{1}{4}$							
Entrance to the Chapchal defile	...	8	5	2 $\frac{1}{4}$							
Summit of the pass	...	27	17	7 $\frac{1}{4}$							
Opposite foot of the pass	...	24	15	7 $\frac{1}{4}$							
Passage of the River Tekes by ford.	...	67	44	3 $\frac{1}{4}$							
Muzárt picket	...	40	26	4 $\frac{1}{4}$	202	133	7 $\frac{1}{2}$				

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ROUTE 189.

From the Muzárt picket viâ the Muzárt defile to the town of Ak-Su.

[This route as far as the Mazár-Básh picket was travelled by Colone Kostenko in 1872; beyond it is from information obtained by enquiries.]

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	
Muzárt picket			} This route is described in a very detailed manner in the description of the Muzárt defile (<i>vide</i> vol. i, pp. 69 <i>et seq.</i>). From the Tamga-Tásh picket the road is perfectly practicable.
(Quarters of the Tián-Shán detachment).							
Entrance to the Muzárt defile ...	5		3	2 $\frac{1}{2}$			
Summit of the pass	50		33	1			
Mazár-Básh picket	12		7	7 $\frac{3}{4}$			
Tamga-Tásh „	20		13	2			
Kailek „	12		7	7 $\frac{3}{4}$			
Tuprak „	15		9	7 $\frac{1}{2}$			
Muzárt-Kurgán „	32		21	1 $\frac{3}{4}$			
Kizil-Bulák „	14		9	2 $\frac{1}{4}$			
Anat „	12		7	7 $\frac{3}{4}$			
Jám „	35		23	1 $\frac{1}{2}$			
Kend-Shlenchi „	20		13	2			
Tásh-Liangan Sarai	18		11	7 $\frac{1}{2}$			
Ak-Su, town of	22		14	4 $\frac{3}{4}$			
		267			177	0	
From the first Mazár-Básh picket to Ak-Su		200			132	4 $\frac{1}{2}$	

ROUTE 190.

From Chuguchák to Shikho.

[Traversed by the merchant Masloff.]

II TOA	Chuguchák	...	...	...	...	...	...
	Maligaur	...	...	...	30	19	7		
	Emil	...	...	...	25	16	4 $\frac{3}{4}$		
	Gurtu	...	...	...	20	13	2		
	Sharakhulusun	...	...	...	35	23	1 $\frac{1}{2}$		
	Tolu	...	...	...	35	23	1 $\frac{1}{2}$		
	Yamati	...	...	...	25	16	4 $\frac{3}{4}$		
	Kulden	...	...	...	30	19	7		
	Chapenzi	...	...	...	60	39	6 $\frac{1}{4}$		
	Tutai	...	...	...	30	19	7		
	Shikho	...	...	...	25	16	4 $\frac{3}{4}$		
				315	208	6 $\frac{1}{2}$			

ROUTE 191.

From the exit from the defile of the River Bárskun up this defile in the direction of Uch-Turfán.

[According to Kaulbars.]

I	Exit from the defile of the River Bárskun.	...	...	...		There is water, fuel, and forage along the whole route.
	Junction of the Rivers Bárskun, Karegetásh, and Dengereme.	30	19	7		The road traverses steep, stony, and deep ravines. Beyond there are deep fords; then wood with large masses of stone. The route is for pack animals.
	Camp on the Sirta 5 <i>versts</i> (3 $\frac{1}{3}$ miles) south of the Bárskun pass.	13	8			From the camping ground the road turns sharply to the west up to the confluence of the River Karegetásh, then crosses the River Bárskun by a ford, and again, turning south, avoids by a lateral ravine the defile of the river which is here impassable for a distance of about 2 <i>versts</i> (1 $\frac{1}{3}$ miles); having again descended to the bed of the river, the road often crosses from

From the exit from the defile of the River Bárskun up this defile in the direction of Uch-Turfán,—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Point of junction of the Rivers Yaktásh and southern Bárskun.	23		15	2			bank to bank by stony slopes, and finally rises, but not steeply, to the summit of the pass. The road generally is little suitable for traffic. Beyond the pass the soil is so saturated with water that a horse sinks up to his knees at every step in wet shingle. At 5 <i>versts</i> (3 miles 2½ furlongs) from the summit of the pass there is a dry spot to encamp on. There is water and dung for fuel.
Valley of the River Sari-Garm near Lake Ukurin-Kul.	29		19	1¾			The road runs south-east along the Sirta, crosses the south Bárskun, and then enters the defile of the River North Jitim-Su (almost opposite the Juka pass). The ascent to the Jitim-Bel pass, about 5 <i>versts</i> (3½ miles) is a very suitable one. The descent is worse, but it could be easily turned into a wheeled route. Fuel, dung.
		95			62	7¾	The road runs for about 7 <i>versts</i> (4 miles 5 furlongs) along the River Yaktásh, crosses it by a ford, and enters the broad valley of the River North Ak-Bel-Su. At the camping ground there is little dung.
On to Uch-Turfán		100			66	2¼	From here <i>viâ</i> the Bedel pass the road leads to the Káshgár town of Uch-Turfán, to which from Lake Ukurin-Kul is about 100 <i>versts</i> (66¼ miles 2¼ furlongs). Staff Captain Sunarguloff travelled across the Bedel pass from the Ak-Su and Uch-Turfán side in 1877. According to Captain Sunarguloff the whole distance from Ak-Su to Kárákol is 340 <i>versts</i> (225 miles 3 furlongs) and Uch-Turfán is distant 82 <i>versts</i> (54 miles 3 furlongs) from Ak-Su. The following is Captain Sunarguloff's route :

ROUTE 192.

From the town of Ak-Su viâ the town of Uch-Turfán and the Bedel pass to the town of Kárákol.

[According to Sunarguloff, who travelled by this route in 1877.]

Ak-Su, town of	From Ak-Su the road for 8 <i>versts</i> (5 miles 2½ furlongs) runs through gardens and villages, over low ground taken up with rice, reckoned the best in the whole of Káshgár. Sandy soil then commences, and within 3 <i>versts</i> (2 miles) the first branch of the River Ak-Su has to be crossed by a ford. The last, or seventh branch, is at a distance from the first of 3 <i>versts</i> (2 miles). Solid bridges are constructed for horsemen and foot travellers, but <i>arabas</i> cross by ford above the bridges. When in flood, communication for <i>arabas</i> across the River Ak-Su ceases. After crossing the Ak-Su villages fields and gardens again begin, and run on to the camping ground. The road is good throughout; there is no want of either water, fuel, or forage. From the village of Bárin the road runs through an inhabited locality; it is quite suitable for wheels. There is water everywhere. There is no grazing, but in the villages along the route clover, barley, and fuel can be obtained. From the village of Acha-Tág to the town of Uch-Turfán the character of the road as before. The town of Uch-Turfán is not large. At the fort are situated about fifty houses, and there is a row of shops. Bazar days are on Mondays and Thursdays. A cultivated oasis continues for another 15 <i>versts</i> (9 miles 7½ furlongs) from the fort along the road to the Bedel pass. The road up to the camping ground is good and quite fit for wheels. Plenty of water; also fuel. There is no grazing, but clover can be obtained in the villages <i>en route</i> and at the camping ground. Here there was a Káshgár post, and a few men still live here who keep horses and carts. In addition to these a few families are employed in agriculture. From here two roads run to Káshgár—the northern and the southern.
Barin (village)	...	...	32	21	3¼	
Acha-Tág „	...	...	26	17	1¾	
Uch-Turfán, town of	...	...	24	15	7¼	
Básh-Agma (village)	...	...	27	17	7¼	

From the town of Ak-Su viâ the town of Uch-Turfân and the Bedel pass to the town of Kârakol—continued

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Ui-Tâl point	22		14	4 $\frac{3}{4}$			<p>From the Básh-Agma post the road soon becomes and runs into hills over stony country, without covered with occasional bushes of "ishkar." At (12 miles 4$\frac{3}{4}$ furlongs) the road by a long and circuitous comes out on the River Ui-Tâl and runs along it to the point of Ui-Tâl, where caravans camp for th there is good water and fuel.</p> <p>From the Ui-Tâl point within about 3 <i>versts</i> (2 mil crosses to the right bank of the river by a ford and ravine with steep, rugged sides. Issuing from after 9 <i>versts</i> (5 miles 7$\frac{3}{4}$ furlongs), the road again on the River Ui-Tâl, and having crossed the river reaches the "Rabât" or sarai of Agacha-Kul, bu Here there are several rooms for travelling men stables for horses. The walls of the <i>Rabât</i> are From Ui-Tâl point high mountains accompany either side—on the right the Kukrum, and on the the Chalmâta. Mountain artillery can be taken the time of flood (in June) the River Ui-Tâl overflo several days communication ceases.</p> <p>There is little grazing, but there is fuel.</p> <p>At 2$\frac{1}{2}$ <i>versts</i> (1$\frac{1}{2}$ miles) from Agacha-Kul-Rabât a</p>
Agacha-Kul-Rabât	29		19	1 $\frac{3}{4}$			

Fort Urta-Kurgán is constructed on a small open space; it has the appearance of a quadrilateral, 50 paces square, with clay walls and two rows of loopholes. When Sunarguloff passed by here the garrison consisted of 100 men; the men complained of pains in head, probably produced by the rarified atmosphere.

About 400 *sajens* (933 $\frac{3}{4}$ yards) from Urta-Kurgán to the north the ascent to the Bedel pass commences. This ascent is even steeper and longer than the first. The path winds up by zigzags.

Sunarguloff ascended for 40 minutes without counting constant halts for rest.

The guard on the Bedel ridge, who are accustomed to this work, dragged the baggage animals up with ropes. On the crest of the pass, on a small open space, stands a little "rabat," which was occupied by caravan drivers and jigits from Urta-Kurgán. Captain Sunarguloff puts down the height of the Bedel pass at 15,000 feet above the sea. The pass itself as well as the spots lying below it on both sides are always covered with ice. The most suitable time for crossing the Bedel pass is, according to the natives, after the first few days in July, when the locality on the northern side of the pass is free from the so-called yellow snow (*sari-kar*) which falls in the middle of March. The descent from the Bedel (in Russian territory) is much more convenient than the ascent. At 9 *versts* (5 miles 7 $\frac{3}{4}$ furlongs) on the right side are seen the channel and River Sari-Chát. By this name also the mountains are called, which run on the right and left right up to the camping ground at the Karaul-Tepe point. The whole road from Agacha-Kul-Rabát is generally difficult, even as a pack one; in places it is obstructed with cobblestones. There is no fuel, and it is necessary to provide oneself from Agacha-Kul. There is excellent grazing on the descent from the Bedel. Dung here for fuel. At the point of Karaul-Tepe is a spring in which there is a little water.

From the town of Ak-Su viâ the town of Uch-Turfân and the Bedel pass to the town of Kárákol—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			Versts.	Fur.	Miles.	Fur.	
Karaul-Tepe point	24	7 $\frac{1}{4}$	15		<p>From the point of Karaul-Tepe the road at first runs along the defile of the River Bedel-Su, winding along cornices for 7 or 8 <i>versts</i> (4 miles 5 furlongs to 5 miles 2$\frac{1}{2}$ furlongs). At about 14 <i>versts</i> (9 miles 2$\frac{1}{4}$ furlongs) from the camping ground the Bedel-Aghizi (mouth of the Bedel) ridge has to be crossed; the ascent is long but not steep. The descent, however, is much steeper. The road runs on descending to Ishtik-Básh. At 25 <i>versts</i> (16 miles 4$\frac{1}{2}$ furlongs) a small pass has again to be crossed, after descending from which the road comes out on the mountain plateau of Kára-Giru.</p> <p>At 34 <i>versts</i> (22 miles 4$\frac{1}{4}$ furlongs) from the last camping ground the road crosses the River Kára-Sai and immediately afterwards rises to the broad valley of Ak-Bel, which serves as a place of emigration for the Kirghiz of the Issik-Kul district. This elevated valley continues to another lower valley, that of the River Jau-Jurek. The waters of the Kára-Sai and the Jau-Jurek flow into the Narin. There is no fuel. In March there was only water in two places, in the Ishtek and Jau-Jurek. The grazing on the Ishtek is good.</p>
Jau-Jurek point	50	1	33		<p>From Jau-Jurek the road commences to ascend at 9 <i>versts</i> (5 miles 7$\frac{3}{4}$ furlongs) and rises to the Ara-Bel plateau. Here on the left of the road are seen the Bárskun and Zanku passes, across which caravans only pass in summer.</p> <p>At 18 <i>versts</i> (11 miles 7$\frac{1}{2}$ furlongs) from the camping ground lies a small lake, beyond which the Káshka-Su pass begins. The ascent to it is insignificant, but fierce snow-storms rage here.</p>

Slivkino (village)	75	49	5 $\frac{3}{4}$		
Kárákol, town of	37	24	4 $\frac{1}{4}$	229	2 $\frac{3}{4}$
	346				

The descent is very difficult; masses of sharp stones obstruct the road; it is, in addition, very long, so that it takes two hours to accomplish.

The blocks of ice hanging in the mountain slopes often fall into the road.

On issuing on the River Káshka-Su fir woods are first seen. At 40 *versts* (26 miles 4 $\frac{1}{4}$ furlongs) the defile of the River Zanku into which the Káshka-Su falls comes down on the left, and the road then runs along the Zanku defile, grown over with fir woods. It is very difficult, as it constantly crosses from one bank to the other, and, besides, is all blocked up with fallen trees. The road only becomes even at 56 *versts* (37 miles 1 furlong). At 63 *versts* (41 $\frac{3}{4}$ miles) the first "aul" (encampment) of the Issik-Kul Kirghiz is met with. Here the road diverges from the Zanku to the right, and reaches the Russian village of Slivkino.

There is no fuel along the route up to the River Káshka-Su, nor water; forage (in March) only commenced from the descent to the Káshka-Su, and then in no great quantity.

From here to Kárákol, 637 *versts* (24 $\frac{1}{2}$ miles), there is a good wheel road.

ROUTE 193.

From Sufi-Kurgán to the frontier picket of Irkeshtám.

[According to Kuropatkin.]

Sufi-Kurgán ... ..	...	...	...	...	...
Sari-Kuchuk point	15	9	7 $\frac{1}{2}$		
Tásh-Ui "	18	11	7 $\frac{1}{2}$		
Ike-Ikezyák "	16	10	4 $\frac{3}{4}$		
Irkeshtám post	17	11	2 $\frac{1}{4}$	43	6
	66				

Between the points of Sari-Kuchuk and Tásh-Ui, the road crosses the Terek-Daván pass (13,000 feet); the pass is not difficult. The pass, as well as the whole route generally from Gulcha and Sufi-Kurgán to Irkeshtám, has been made for wheel traffic.

ROUTE 194.

From Irkeshtám to Káshgár.

[According to Kuropatkin, who traversed this route in 1876.]

	From point to point.		Total between chief places.		From point to point.		Total between chief places.		[REMARKS.]
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.			
	Irkeshtám	

Having descended into the broad Ittig channel, the road takes an easterly direction, which it keeps up to the Yegin post. After passing along the bed for $2\frac{1}{2}$ *vershs* ($1\frac{1}{2}$ miles) the road issues on the Yegin valley, presenting a still greater contrast than the Ittig valley to the Kára-Bel. The valley of this stream is 80 *sajens* ($186\frac{1}{2}$ yards) in width, and, as far as the eye can see, is thickly grown over with wood, poplars, willow and brushwood. Crossing the Yegin stream by a shallow ford the road reaches the Yegin post (junction of roads).

The Yegin post consists of a square clay wall of 15 *sajens* (35 yards) side. From the post the road continues along the bank of the Yegin stream, crosses a small transverse water channel (the road here requires repair), and then crossing to the right bank reaches the camping ground on a moderately-sized glade covered with grass and surrounded by old poplars and willows. There is no fuel or water along the bed of the Takai-Báshi and on the Kára-Bel. In the Ittik and Yegin valley, owing to the abundance of grazing and especially of fuel, a considerable detachment might be quartered for a prolonged period.

From the camp at the Yegin post the road crosses to the right bank of the River Yegin, which it follows along a broad open space, covered with stones and sloping down to the river. High vertical mountains came almost down to the left bank of the stream. The road following the bends of the river crosses several inconsiderable water channels (requiring work to make a wheel road). It then descends into the widened valley of the Yegin and runs along in a south-easterly direction to the junction of the River Yegin with the Kizil-Su. The valley of the Yegin is thickly grown over with wood, large poplars and willows and bushes of wild rose, &c. Many poplars have a diameter of 10 *vershoks* ($17\frac{1}{4}$ inches) and are fit for building. At 7 *vershs* (4 miles 5 furlongs) from the camping ground, the River Yegin flows into the Kizil-Su, here having the local name of Yas-Kichu; the road runs on along the valley of the latter river in a north-easterly direction to the point of Ulugháft 11 *vershs* (7 miles $2\frac{1}{4}$ furlongs). At the junction of the two rivers just

Yegin post...

...

...

20

13

2

From Irkeshtám to Káshgár—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Fort Ulughát	18		11	7½			<p>named, the inconsiderable Nágra-Chaldi post stands on the right bank of the Kizil-Su. The quadrilateral wall of this post, with flanking towers, is surrounded by yet another wall 2 feet high. The width of the Kizil-Su valley, which reaches 250 <i>sajens</i> (583½ yards) at the confluence of the Yegin, expands beyond to 1 <i>verst</i> (¾ mile); it is rich in woods, which cover it thickly in places. Near Ulughát the wood thins. At 3 <i>versts</i> (2 miles) from Nágra-Chaldi the road crosses to the right bank of the stream (ford not deep), rises on to a projection of this bank, and runs along it for 2½ <i>versts</i> (1¾ miles). At this spot the route is rendered difficult by great masses of conglomerate obstructing the road. The road then again descends, by a steep water channel to the river valley, by which it runs on to Ulughát. In the valley the road crosses several water channels and gorges, and in places runs over very stony ground. Within 1 <i>verst</i> (¾ miles) of Ulughát and 17 <i>versts</i> (11 miles 2 furlongs) from the camping ground, the valley of the Kizil-Su receives the River Uch-Tásh from the north and expands to 2½ <i>versts</i> (1¾ miles). The road reaches Ulughát after crossing a moderate spur which conceals it.</p> <p>The Fort of Ulughát lies in low ground, and is surrounded by commanding heights. The descent from the above-mentioned spur across which the Yegin road runs is an especially suitable position for artillery. Ulughát is a rather large fort with a garrison of 200 men.</p>

There is sufficient grazing only in the neighbourhood of Ulugchát.

There is plenty of fuel and wood for material along the whole march. Water everywhere of good quality.

The road from Ulugchát at first runs along the valley of the Kizil-Su, by its right bank over soft ground, overgrown with thorn at first and afterwards also with "chi." Poplar and willow woods then commence. The river runs under the vertical left bank. At about 4 *versts* ($2\frac{2}{3}$ miles) from the camping ground the road crosses to the left bank by a rather deep ford. Beyond this thickly growing willows commence in which there is much game (pheasants). At $6\frac{1}{2}$ *versts* (4 miles $2\frac{1}{3}$ furlongs) from the camping ground the road again crosses to the right bank, and in spring and summer hangs over the river on a cornice which is now much broken down. (In autumn one can travel by the bed of the river.) Further on, the cornice descends down to the very stream, and is revetted with logs on that side.

The cornice ends in gates which it is impossible to avoid. Beyond the gates is constructed a small guard-house. Rock-salt is procured not far from this spot. Further on, the road following a bend of the river turns south and now runs along the high bank, covered with large masses of conglomerate, now descends to the bed of the river. At this part the route is difficult and only fit for pack train. The stream flows slowly; it is broad, and there are no fords. The valley is covered with wood. At 9 *versts* (5 miles $7\frac{1}{2}$ furlongs) commences the most difficult part of the route to Uksalir, about 1 *verst* ($\frac{2}{3}$ mile) in length. Large blocks of conglomerate completely block the road, obliging it to cling for short distances to narrow cornices. These cornices might be easily destroyed by the spring floods. The road then descends on to a broad gentle slope, covered with rugged stones, along which it runs for about 2 *versts* ($1\frac{1}{2}$ miles).

At 12 *versts* (7 miles $7\frac{1}{2}$ furlongs) from the camping ground the road turns east into the broad channel of the Tugarak-Saz-Sai, along which it runs for 10 *versts* (6 miles 5 furlongs) gradually rising to the Shur-Bulák pass. This ascent is considerably

From Irkeshtám to Káshgár—continued.

From point to point.		Total between chief places.		From point to point.		Total between chief places.		REMARKS.
<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	Miles.	Fur.	
								<p>steep towards the end. The height of the pass is 9,200 feet. A gentle descent runs along the bed of the Shur-Bulák-Sai, over ground of the same character as the ascent, following the course of the Shur-Bulák stream (with brackish water). This stream loses itself at 6 <i>versts</i> (4 miles) from its source.</p> <p>At 10 <i>versts</i> from the pass the road reaches the Mashrup fort and passes it within 60 paces through gates constructed in a defensive wall run out from the fort. It is apparently difficult to avoid this fort, but easy to take it. It is surrounded by commanding heights, from which it would be easy to destroy it by artillery fire.</p> <p>After passing through the Mashrup gate the road descends to the valley of the River Uksalir by a narrow and steep passage between vertical walls. The descent is so long and steep that guns could only be taken down by men. The clay soil of the descent with trifling rain becomes slippery, and riders had then better dismount. The hills on which Fort Mashrup stands form the right bank of the River Uksalir. The left bank consists of some broad terraces, the lowest of which nearest the river is very little above the level of the water. The valley itself of the River Uksalir is up to 100 <i>sajens</i> (233$\frac{3}{4}$ yards) in width and covered with large willow trees.</p> <p>Between Forts Mashrup and Uksalir, 5 <i>versts</i> (3 miles 2$\frac{1}{2}$ furlongs), the road runs along the river valley, and when within 2$\frac{1}{2}$ <i>versts</i> (1$\frac{1}{2}$ miles) of Uksalir rises on to the first terrace which continues up to the fort. The ascent over debris is very steep. The valley of the River Uksalir is very marshy in front of the fort.</p>

Fort Uksalir	40	26	4
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The fort, which is rather insignificant, stands in the middle of the valley on the left bank of the stream. Fuel and wooden material abound in the Kizil-Su and Uksalir valleys. Along the remainder of route there is only thorn. In autumn the grazing is insufficient for the most inconsiderable detachment. The water is good only in the Rivers Kizil-Su and Uksalir. In the Shur-Bulák it has a brackish taste.

For the first 3 *versts* (2 miles) from Uksalir the road runs along the valley of the River Uksalir, grown over with wood. To the left (north) of the road behind a low ridge of hills there are many wintering huts of the Kirghiz. At 3 *versts* (2 miles) from the fort the valley expands and takes the name of Maral-Tugai (Maral-Meadow). There are many wintering huts on Maral-Tugai. Beyond, the road turns north along the broad valley of Kosh-Uki (birds' camp). Direct along the Kizil-Su valley a pack road leads to the town of Upal, which, according to information from enquiries, lies at 16 *tash* (128 *versts* or 84 $\frac{3}{4}$ miles) from Uksalir. The valley of Kosh-Uki gradually contracts to 100 *sajens* (233 $\frac{1}{2}$ yards). Almost precipitous mountains of compact red clay border it. These hills to the east of the road bear the name of Elki-Yailau or Elki-Yurti (the summering place of horses¹). Many willow trees grow in the valley. At 3 *versts* (2 miles) from the turn the valley of Kosh-Uki again expands and runs north-west from the road. It extends for about 10 *versts* (6 miles 5 furlongs) and forms an excellent summering place for herds. In the valley are seen wintering huts with stores of hay. The road after crossing several small hills turns east at 9 *versts* (5 miles 7 $\frac{3}{4}$ furlongs) from Uksalir, and runs through a narrow passage bearing the name of Malagchát. Up to the entrance to this passage the road from Uksalir may be reckoned a wheel one. The road runs through this corridor, from 6 to 15 paces wide, between vertical walls several hundred feet high of compact clay. In several places these walls overhang the road. Twice the road runs in steps, and twice, leaving

¹ Properly of mules.

From Irkeshtám to Káshgár—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts</i>	<i>Versts</i>	Miles.	Fur.	Miles.	Fur.	
							<p>the passage in consequence of its impracticability, makes a small circuit with inconsiderable but steep ascents. The passage is very winding. Its length is about 2 <i>versts</i> ($1\frac{1}{2}$ miles). The making of a wheel road through it would require great labour. It is easy to defend this passage, and it could be quickly destroyed. The passage can be circumvented by infantry. Beyond the passage an ascent commences by narrow water channels and partly by cornices on to the Kuruk mountains, after crossing which the road descends into the wide but sterile bed of the Kuruk-Sai (dry bed). Beyond the bed the road runs along slopes over slippery flag-stones. This place is called Taigak-Tásh (the slippery stone). Beyond this a second pass follows less considerable than the first, after which the road descends into the bed of the Kucha-Bulák. This channel is very narrow and in places becomes a passage (corridor). The heights forming it have excessively fantastical shapes, reminding one of huge buildings, towers, walls, &c. In it flows the Kucha-Bulák stream, which, after receiving the Oi-Bulák on its left bank, obtains the general name of Kichik-Shur-Bulák. The water of this stream is brackish, as its name betokens. At 17 <i>versts</i> (11 miles 2 furlongs) from Uksalir the road enters the Elki-Yailau hills, turning sharply to the north, and for several hundred <i>sajens</i> (1 <i>sajen</i> = $2\frac{1}{3}$ yards) runs along a broad, as it were artificially-cut passage, and natural chaussee. The Kichik-Shur-Bulák flowing through the passage breaks through to the right (east) by a narrow gorge, and the road</p>

Kurgashin-Káni-Rabát

...

27

17

7½

running straight on enters a third small hut very winding and narrow passage called Bur (lime) formed of limestone rocks. To make a wheel road through this passage would require very considerable amount of blasting. Beyond the road issuing on the Katta-Shur-Bulák valley follows this stream for about a *verst*. It then leaves it and reaches the Kurgashin-Káni mountains by small cornices and steep slopes permitting of only one single horse passing; it then makes a rather steep ascent and a still steeper descent, and issues on the valley of the River Kurgashin-Káni (the lead mine), on the left bank of which is constructed a "rabát" (traveller's house). There is not sufficient fuel along the road, but at a few *versts* from Kurgashin-Káni coal is worked.

There is also little grazing. The water along the whole march is brackish. The water in the River Kurgashin-Káni at the camping ground is good.

From the Kurgashin-Káni sarai the road rises on to a projection of the right bank, over which it runs on even ground for about 1 *verst* ($\frac{2}{3}$ mile). The ascent to the Kurgashin-Káni mountains then follows. The ascent is steep, stony and narrow, and requires working at. From the pass an insignificant descent into a channel follows; the road crosses this channel and rises over *débris* to the second pass, less steep than the first, named the Kizil-Daván. From this pass a grand view opens out over an extensive basin, having several local names in its different parts—Baka, Kizil-Oi, Kanjugán, and Terek. The width of this basin reaches 8 *versts* (5 miles $2\frac{1}{2}$ furlongs) and its length 20 *versts* (13 miles 2 furlongs). Its height above the level of the sea according to barometric observation is 7,000 feet. In the basin and in the hills surrounding is grouped a Kirghiz population of the Chumbagish tribe, to the number of 1,000 "kibitkas" (tents). The descent into this basin is steep, and runs over slippery flag-stones with steps. After this descent the road may be considered a wheel one right up to Káshgár, requiring only the most insignificant repairs, which would only delay the leading portion of a detachment.

From Irkeshtám to Káshgár—continued.

From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	

Kánjugán post	22	14	4 $\frac{3}{4}$
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At 19 *versts* from the camping ground the road again approaches the Kizil-Oi hills, winds round their base in a south-easterly direction, crosses the River Kánjugán, which has its source in the Kuz-Gun mountains, and, following the left bank of the stream, approaches the Kánjugán post. The Kánjugán post consists of an irregular-shaped four-sided wall with loopholes, and has several covered places inside. A second wall about 2 feet high surrounds the first. Kánjugán¹ signifies "washed in blood." According to tradition a great fight took place here between the Mogul and the Turk nations. Bushes and "chi" serve for fuel; met with along the road. There is generally a want of fuel along the route.

There is grazing in abundance ("chi"²), although not altogether of a satisfactory quality (in autumn). During movements in peace time, fuel, forage and cattle can be obtained in abundance from the Chunbagish Kirghiz. The water in the Bagha-Bulák, Kuzgun, and Kánjugán streams is in autumn slightly saltish, but fit to drink.

The road following the Kánjugán stream enters a broad defile bordered by hills, which are bare and destitute of vegetation. On the right (south) are the Kánjugán, on the left (north) the Urta-Bulák (middle stream). The width of the defile reaches 250 *sajens* (583 $\frac{1}{2}$ yards), and the bottom is grown over with "chi" and occasional bushes. At 7 *versts* (4 miles 5 furlongs) from the camping ground, the Urta-Bulák stream runs into the River Kánjugán. Still further on, at 12 *versts* (7 miles 7 $\frac{1}{2}$ furlongs) from the camping ground, the road issues on to the valley of Karvánkul, about 2 *versts* (1 $\frac{1}{3}$ miles) in width, along which it runs at the foot of the Karvánkul hills which form the valley. After traversing this valley for 2 *versts* (1 $\frac{1}{3}$ miles) the road crosses the River Uruk, into which the Kánjugán River flows at this point. Having run along the left bank of this river for a *verst* the road issues on the second extensive basin of Min-Ul-Dala. The ford across the Uruk is rather deep. A

¹ *Kán* (Turkish), blood, and possibly *chikan* (Persian), meaning dripping.

² Chi is probably a local name for some kind of rush or grass.

From Irkeshtám to Káshgár—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			Versts.	Versts.	Miles.	Fur.	
Min-Ul post 	30		19	7			<p>road runs up the River Uruk, which has its source in the Uruk mountains, to the Agach-Chát post, and then on to Fort Chakmak; this route, according to information from enquiries, is very difficult; in places it is necessary to lead one's horse. The Min-Ul-Dala basin is oval in form and about 15 <i>versts</i> (9 miles $7\frac{1}{2}$ furlongs) long by 9 <i>versts</i> (5 miles $7\frac{1}{2}$ furlongs) broad, and the road runs along the centre of the basin in an easterly direction; the River Uruk recedes from the road in a south-easterly direction. Along it runs the road to the town of Upal, and the Kapka post lies on it in the locality of Kapka. The surface of Min-Ul-Dala presents an open plain, covered with shingle, making the road across it very difficult. It is only covered with small bushes of "ishkar". At 16 <i>versts</i> from the camping ground is constructed a small monastery, which, in bad weather, would shelter several men. Not far from this Mullah's hut the road crosses a moderate-sized canal with water in it run from the River Uruk to the Min-Ul post. This post also consists of a quadrangular wall with flanking towers; the face is about 35 <i>sajens</i> ($81\frac{2}{3}$ yards); within are some covered dwellings. The walls are very thin.</p> <p>The post looks very neat, and some gardens and fields give it an appearance of life. There is no grazing or fuel. The Kirghiz of the Chunbagish tribe can furnish these as well as cattle. There is water almost along the whole march, and it is of good quality. From Min-Ul the road runs by the valley of the River Siliáb. This valley is formed on the north by Mushi and on the</p>

south by the Ak-Tásh hills. At some *versts* distance from the encamping ground the road crosses the dry bed of the Ak-Tásh whence the whole of the locality receives its name. The Ak-Tásh hills are at first of some height, but gradually get lower, and finally the road merely runs under the vertical edge of the valley. At 10 *versts* (6 miles 5 furlongs) from Min-Ul the hills cease, and the road issues on the Káshgár plain. Near its issue on to it the road passes an ancient watch tower built by the Chinese and now almost ruined².

The plain is covered with pebbles and occasional shrubs of "ishkar," and there is neither forage nor fuel. It becomes inundated with water from the Mus-Tau hills almost right up to the village of Langar. At 19 *versts* (12 miles $4\frac{3}{4}$ furlongs) from Min-Ul the road crosses the Andiján-Kichik canal. The ford across this canal even in autumn is something over $2\frac{1}{2}$ feet in depth. For pack horses some felled logs are thrown across. About $4\frac{1}{2}$ *versts* (3 miles) further on it crosses a second. They both have their origin from the River Kizil-Su. They both at first flow in a northerly direction, but then describe a curve and run east parallel to the road. Along the canals occasional trees are planted and small "rabáts" constructed. Before reaching the village of Langar 3 *versts* (2 miles) to the right (south) of the roads there are constructed in a direction perpendicular to it four watch-houses (rabáts) $\frac{1}{2}$ *verst* ($\frac{1}{3}$ mile), one from the other. When the locality is inundated by water from the Kizil-Su, these buildings show the direction to the fords across the canals.

With very high water it is necessary to take the direction of the most southern "rabát." The village of Langar forms the commencement of a cultivated belt, which runs up to Káshgár. There are a few huts in it, rather considerable corn-fields, and many mulberry and other trees. There is no forage or fuel along the road, but in Langar both can be obtained. Cattle can be driven in, in the requisite quantity, from the neighbourhood of the town of Káshgár. Water in abundance and of good quality.

¹ From *ishkar* the natives prepare ashes, as a substitute for potash.

² Near this building a path turns off to the right to the village of Mushl.

From Irkeshtám to Káshgár—concluded.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Langar (village)	26½		17	4½			The road at first runs through the gardens of the village of Langar, the gardens then end, and the road enters on a locality covered with pebbles. After crossing this part covered with pebbles, the road enters on a clayey locality, which it passes through in a deep cutting; the road is there so narrow that an <i>araba</i> can with difficulty pass. There are several little bridges only fit for pack-train. Corn-fields and then trees commence and the road runs imperceptibly into the village of Sarman. At about 5 <i>versts</i> (3 miles 2½ furlongs) from the town of Káshgár the road widens. The town walls only become visible at a <i>verst</i> (¾ mile) from the town; the gardens end at 200 <i>sajens</i> (466¾ yards) and form an esplanade, very much cut up by holes. About the town gates buildings run right up to the walls, and at this place one could approach them without loss. The town is defended by the town wall made on the top of a scarp. The wall is of strong profile, but for a great part of its extent has no <i>banquette</i> . There are no guns. On the whole, if an attack were carried out direct on the fortress of Yangi-Shahr, you could count on the surrender of the town of Káshgár without fighting. The road from Káshgár to Yangi-Shahr lies in part through occasional buildings and gardens, and then crosses a marshy locality, forming the Kizil-Su valley. A splendid <i>chaussée</i> is run across this ground. The fortress of Yangi-Shahr is surrounded by ten towers in which troops are quartered. These towers on the north side are within 60 paces of the fort gates.
Fortress of Yangi-Shahr	17¾	201	11	4¾	133	1	The fortress of Yangi-Shahr is of very strong profile and of Chinese construction. To take it by open force without previously breaching the walls would be hazardous.

ROUTE 195.

From Káshgár to the town of Ak-Su.

[According to Kuropatkin.]

Káshgár, town of	...	...	...	~	...	From Káshgár to the village of Yandám the road runs through a cultivated locality and is quite fit for carriages. There is no want of either fuel, water, or forage.
Yandám (village)	...	...	16	10	$4\frac{1}{4}$	From the village of Yandám the character of the road is the same. Salt soil is met with in places, owing to which the road is very tenacious. There is fuel everywhere; forage and cattle can be furnished by the inhabitants. There is water in abundance in the canals along the road.
Shaptáli "	...	...	$32\frac{1}{2}$	21	$4\frac{1}{2}$	From the village of Shaptáli there is less salt-soil, and the road is better. Plenty of water, forage, and fuel.
Faizábád "	...	...	14	9	$2\frac{1}{4}$	Road very good. Water obtainable from canals and ponds in the villages along the road. For fuel thorn bushes on the roadside.
Yangi-Abád "	...	...	19	12	$4\frac{3}{4}$	From Yangi-Abád the road runs on to steppe. The locality is salt-soil, sometimes studded with salt hillocks. In summer the road is well beaten and terribly dusty, and in the bad season muddy to a degree. At 20 <i>versts</i> (13 miles 2 furlongs) the road crosses an extent of very sandy plain for $\frac{1}{2}$ <i>verst</i> . At 28 <i>versts</i> (18 miles $4\frac{1}{2}$ furlongs) the road comes out on the River Kizil-Su, up to which there is no water along the road. There is plenty of fuel everywhere. There is no forage along the road or at the "rabát" at the camping ground, but the road is generally quite fit for wheels.
Kupruk Rabát	...	...	28	18	$4\frac{1}{2}$	Kupruk Rabát is a quadrangular enclosure, of 20 <i>sajen</i> ($46\frac{3}{4}$ yards) side. From here the road partly lies over a salt locality and partly over sand; although fit for wheels it is heavy. There is no forage, but plenty of fuel. The water at the camping ground is good.

From Káshgár to the town of Ak-Su—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			Versts.	Fur.	Miles.	Fur.	
Urdaklik	40		26	4			From the point of Urdaklik the road runs into a "turgak" (a particular kind of poplar) wood, and runs through it up to the camping ground. The road is very well beaten and dusty. Fuel in abundance, but little forage even in spring. Cattle must be taken with one. Water in abundance at the camping ground (a canal from the Kizil-Su).
Kara-Kilchin Rabát	25		16	4½			The Kara-Kilchin Rabát is of the same proportion as the former one. The road runs through the wood as before, and is quite good. Plenty of water and fuel, but no forage.
Tshurga Rabát	18		11	7½			From the Tshurga-Rabát the road at first runs through wood, and at 12 <i>versts</i> (7 miles 7¼ furlongs) enters an extensive tract of reeds which extends right up to the River Káshgár-Daria. At 20 <i>versts</i> (13 miles 2 furlongs) the road enters the fields and settlement of Maralbáshi.
Maralbáshi (village)	27		17	7¼			From Maralbáshi the road at first runs through cultivated country, but from 11 <i>versts</i> swampy places commence for 5 <i>versts</i> (3 miles 2½ furlongs). Then, when within 7 <i>versts</i> (4 miles 5 furlongs) of the camping ground, the road passes through a growth of reeds, and is consequently difficult, particularly in spring. There are some détours. Reed serves for forage and fuel. Water in abundance.
Chaharbágh ,	24		15	7¼			A poor village; it contains 50 hovels. For the first half of the march inundations from the Káshgár-Daria make the road

Tumshuk	„	...	...	...	28	18	$4\frac{1}{2}$
Chádir	„	...	...	...	20	23	2
Yaka-Kuduk		...	...	...	17	11	$2\frac{1}{4}$
Jaidi station		...	...	...	20	13	2
Chilián	...	...	...	...	19	11	$2\frac{1}{4}$
Shur-Kuduk Rabát		...	...	...	25	16	$4\frac{1}{2}$

swampy in places. One place about 7 *versts* (4 miles 5 furlongs) from Chaharbágh is particularly difficult, where the River Káshgár-Daria has to be crossed. The length of this portion is 400 *sajens* ($933\frac{1}{3}$ yards) which would require regular making. There is water along the march; at the camping ground it has a marshy taste. There is plenty of forage in the Tumshuk village. Ample fuel.

The village of Tumshuk consists of 40 to 50 walled-in huts.

The road at first runs over salt-soil covered with hillocks and tamarisk; at 17 *versts* (11 miles $2\frac{1}{4}$ furlongs) wood commences, which afterwards gets thicker. The road is good. There is no forage. Fuel ample; plenty of water, and of good quality.

From the village of Chádir the road is also good. Ample water and fuel. Little forage.

From 2 to 11 *versts* ($1\frac{1}{3}$ miles to 7 miles $2\frac{1}{4}$ furlongs) the road crosses deep sand-drifts, and is therefore difficult. Beyond this it runs to the Jaidi station over an even, salt-soil locality, here and there grown over with thin bushes of tamarisk and thorn. The Jaidi station consists of several small buildings. There is sufficient fuel along the whole march; there is no forage. The water at the camping ground is of bad quality (salt).

From Jaidi the road runs over an even salt locality, grown over with tamarisk, thorns, and "kúruk"; the road is suitable. There is no water on the march, and that at the camping ground is slightly saltish. Plenty of fuel; no forage.

In the village of Chilián there are twenty houses.

From Chilián the route runs over the open steppe. The road is firm and good. Plenty of fuel; no forage. Water at the camping ground is furnished from two wells 4 *sajens* deep (20 feet); it is slightly salt.

From the "Rabát" of Shur-Kuduk there is also steppe, in places sandy and hillocky, in places pebbly. In approaching the village of Sai-Arik the country becomes very salt. The road is good. The water at the camping ground is from ponds. Fuel and forage are to be found in the village.

From Káshgár to the town of Ak-Su—concluded.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			Versts.	Fur.	Miles.	Fur.	
Sai-Arik (village)	22		14	4 $\frac{3}{4}$			<p>From Sai-Arik the road is good; it passes through several villages. At the village of Ai-Kul alone it is marshy in spring (there is a depression here). Water in abundance, and of good quality.</p> <p>Forage can be had in the villages. There is no fuel along the route.</p>
Chuk-Tal Rabát	25		16	4 $\frac{1}{2}$			<p>From Chuk-Tal Rabát the road runs through a populated tract, and in places well cultivated. It is quite good. There is water, forage, and fuel along the whole route.</p> <p>The town of Ak-Su is about 2 <i>versts</i> (1$\frac{1}{2}$ miles) in circumference. The town is surrounded by a rather good wall with <i>banquette</i>, but without an esplanade (rampart).</p> <p>In the wall there are four gates, of which the southern is named Kush-Kabuk, the northern Suchi-Kabuk, the western Sabun-Kabuk, and the north-western Ak-Tásh-Kabuk.</p>
Ak-Su, town of	20	437 $\frac{1}{4}$	13	2	290	0	<p>The streets are narrow and untidy. The shops are poor.</p>

From the town of Ak-Su to the town of Kurlia—continued.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versta.</i>	Miles.	Fur.	Miles.	Fur.	
Jurga Rabát	36		23	6 $\frac{3}{4}$			<p>For the first 10 <i>versts</i> (6 miles 5 furlongs) from the camping ground the road runs over a hilly locality, wild and uninhabited. The surface of the road is covered with gravel, and it is an excellent one. At 11 <i>versts</i> (7 miles 2$\frac{1}{4}$ furlongs) the route crosses the valley of the River Muzárt-Daria, which is inhabited by small settlements. At 12 <i>versts</i> (7 miles 7$\frac{3}{4}$ furlongs) is a bridge over a canal. At 1$\frac{1}{4}$ <i>versts</i> (1 mile) from the bridge is the poor village of Shakh-Dar.</p> <p>At 3$\frac{1}{4}$ <i>versts</i> (2 miles 1$\frac{1}{4}$ furlongs) from here there is another good bridge. Beyond, the road runs almost right up to the right bank of the Muzárt-Daria. Here and there villages are met with and abandoned corn-fields. Towards the end of the march the River Muzárt-Daria is crossed by a ford.</p> <p>The country for a distance of 15 <i>versts</i> (9 miles 7$\frac{1}{2}$ furlongs) up to the camping ground at the village of Kush-Tám is covered with thin "chi" and "tizganak." The road is good throughout; the portion of the route up to the issue into the valley is destitute of water, fuel, and forage. In the valley there is no want of any of the three.</p> <p>The water at the camping ground is of good quality. Forage can be obtained in the village and neighbourhood.</p> <p>From the village of Kush-Tám the road runs over a desert tract and only enters a cultivated locality at 22 <i>versts</i> (14 miles 4$\frac{3}{4}$ furlongs) from the camping ground; this belongs to the Bai district. The road throughout the march is however excellent.</p>
Kush-Tám village) (the birds' camp).	25		16	4 $\frac{3}{4}$			

Bai, town of	...	...	30	19	7
Sairám (village)	...	...	28	18	4½
Kizil	„	...	14	9	2½
Davána Rabát	...	...	25	16	4½
Kucha, town of	...	...	28	18	4½

The bridges met with were solidly constructed of stout beams, with handrails. There is little fuel, but plenty of water on the road. The town of Bai is very small; it has two gates, which are connected by one almost straight street. The wall of the eastern part of the town ends on a precipice, on the top of which are some sorry huts.

From Bai the road runs through a thinly-inhabited district. Up to Sairám the road remains excellent. Water is often met with along the road; in Sairám there is water from springs. Fuel can be obtained at the camping ground in the village.

On issuing from Sairám the cultivated oasis ceases and the road enters on a salt steppe. At 11 *versts* (7 miles 2¼ furlongs) the road enters the valley of the River Kizil-Su, where it is fringed with trees, and runs through excellently-cultivated fields. The River Kizil-Su unites with the River Muzárt, not far from the village of Kizil, and they flow together into Lake Lob-Nor. The village of Kizil has 200 houses scattered over a great distance. The road is good throughout. Fuel, thorn bushes; water at the camping ground from the River Kizil-Su and springs.

From the village of Kizil the road runs over a desert; it is very good, the soil being gravelly. There is no water along the whole march; at the "rabát" at the camping ground there is also no water; it is brought on donkeys 8 *versts* (5 miles 2¼ furlongs) from the Kizil-Su. There is little fuel; forage is brought from the town of Kucha.

From Davána the road quickly enters a defile, which in places is very narrow, and can be easily defended. Nevertheless the road throughout the whole march is excellent, and for a distance of 22 *versts* (14 miles 4¾ furlongs) runs over well-beaten gravel. There is no fuel *en route*, except a few "tugrak." The water found in the defile is brackish. The gardens of Kucha commence at 3 *versts* (2 miles) from the town.

From Kucha the road passes through several villages, some of which are considerable. The route is good along the whole march. Water at the camp from a canal. In the village of Yaka-Arik there are about 200 houses.

From the town of Ak-Su to the town of Kurlia—concluded.

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
			Versts.	Versts.	Miles.	Fur.	
Yaka-Arik (village)	29		19	1 $\frac{3}{4}$			From the village of Yaka-Arik road passes through tamarisk, kuiruk and thorn bushes. An excellent road. No water or forage. Water at the camping ground saltish. In the village of Yangi-Abád there are about thirty houses.
Yangi-Abád „	41		27	1 $\frac{1}{2}$			From the village of Yangi-Abád the character of the road as before; it is also good. Plenty of fuel. Plenty of forage can be obtained in the village of Bugur. Water of good quality. In the village of Bugur there are about thirty houses.
Bugur „	32		21	1 $\frac{3}{4}$			From Bugur to the branch of the Dinar-Sai, 3 <i>versts</i> (2 miles), the road runs through the gardens of Bugur, and beyond them through an uninhabited tract. The road is excellent. There is plenty of fuel on the second half of the march. The water at the camping ground is good, but that in two ravines on the road is salt.
Yangi-Sár „	30		19	7			In the village of Yangi-Sár there are up to 200 houses. From Yangi-Sár the road runs over ground grown over with “tugrak,” or tamarisk, and in places with reeds. The road is good throughout, but very dusty.
Chádir „	22		14	4 $\frac{1}{2}$			The water <i>en route</i> and in the village of Chádir is of good quality. Plenty of fuel. In the village of Chádir are about ninety houses. From the village of Chádir the road for 3 <i>versts</i> runs through cultivation. Beyond is a thick wood of “tugrak” in which tamarisk and willow also grow. At 7 <i>versts</i> (4 miles 5 furlongs) the road runs along the edge of a wood, leaving it

Iahma	„	...	...	15	9	$7\frac{1}{2}$	
Charchi	,	...	...	28	18	$4\frac{1}{3}$	
Durbin	„	...	...	40	26	4	
Kurlia, town of		...	...	16	10	5	324
				490			$6\frac{1}{2}$

on the right. The soil of the road is salt and in places gravelly. The road is good. In spring there is grass. The water at the camping ground is drawn from wells, but horses are taken to water at the River Ishma.

The road at first runs along the edge of and then through a "tugrak" wood. At 19 *versts* (12 miles $4\frac{3}{4}$ furlongs) the wood ceases and the locality becomes cut up with watercourses and is covered with thorn and occasional bushes of tamarisk. At $23\frac{1}{2}$ *versts* (15 miles $4\frac{1}{2}$ furlongs) the road again runs through a wood of "tugrak" about 2 *versts* ($1\frac{1}{3}$ mile) in width. The road is good.

Plenty of fuel. Water from the Charchi stream at the camping ground, and is of good quality. In the village of Charchi there are twenty-two houses.

From Charchi the road runs now over gravel and now over salt-soil, and is excellent throughout. Fuel in plenty. Water in the village of Durbin from a large canal running from the town of Kurlia and frozen hard in winter, so that the inhabitants cut out the ice. There is no forage along the road, but it can be procured in the village.

From the village of Durbin the road passes along the very foot of the mountains running on its left; on the right are seen villages which at 12 *versts* (7 miles $7\frac{3}{4}$ furlongs) join on to the gardens of Kurlia. At $\frac{1}{3}$ *verst* from the town lies a tort with two walls of square trace. The side of the square is about 160 *sajens* ($373\frac{1}{3}$ yards). On entering the town there is a solid bridge across the Haidin-Kua with much water in it.

The town is of quadrangular shape; there are two gates, the northern and southern, joined by a straight broad street about 400 *sajens* ($933\frac{1}{3}$ yards) long. There are a few shops and caravan-serais. A few old buildings. The town wall has not long since been remade, and it is well kept.

ROUTE 197.

From the town of Kurlia to Fort Káráshahr.

[According to Wilkins, who traversed this route in 1877.]

	From point to point.	Total between chief places.	From point to point.		Total between chief places.		REMARKS.
	<i>Versts.</i>	<i>Versts.</i>	Miles.	Fur.	Miles.	Fur.	
Kurlia, town of			At 3 <i>versts</i> (2 miles) north-west of Kurlia the road crosses the gentle ridge of the Básh-Egin-Tau; from here the soil becomes stony, and after descending the road issues on the River Haidin-Kua, which is split up into branches and has its banks overgrown with reeds, poplar, willow, and "saksaul." Following the right bank of the river the road soon runs along a cornice which is quite wide and well made. After an hour's ride fortified gates bar the road; about 200 paces further on other similar gates are met with, at which there is a small court with three shaky huts. From this court a wooden bridge leads to the opposite bank of the river. The length of the bridge is 33 paces. Beyond the bridge the settlement of Kurut, with a small grove of poplars, is situated on the bank. Beyond the gates the defile becomes narrower and opens out in places. After a ride of 35 minutes from the Kurut gates (Kurut-Darwáza) one has again to ride through the Básh-Egin-Urtang gates. Here there is a small fortified post. At ten minutes' ride from Básh-Egin-Urtang on the left of the road seams of coal crop up. Beyond the mines the hills soon cease. On issuing from the hills the river turns east at about an angle of 30° and assumes a steppe character. The road also becomes salt-soil; to the sides of the road sand heaps are seen covered with tamarisk. At 23 <i>versts</i> (15 miles 2 furlongs) from Kurlia a "rabát" stands on the road at the Posh ¹ -Bulák spring. From here for several

Fort Káráshahr ...

...

41

41

27

1½

27

1½

versts to the right are seen large, thickly-growing reeds. Beyond Posh-Bulák, "chi" is soon met with; at 31 *versts* (20 miles 4¼ furlongs) from Kurlia is situated the village of Dan-Za with a little fort. The inhabitants of the village are Kalmaks, and are employed in agriculture.

Beyond the village traverses a perfectly even flat locality grown over with "chi." At 4 *versts* (2¾ miles) from the village is a tomb ("ziárat") with a shady poplar garden. At 7 *versts* (4 miles 5 furlongs) from Dan-Za the route crosses the great Khol canal, having here a grove of "tugrak." Beyond the canal the road reaches the Upper Haidin-Kua River, on the opposite bank of which is situated the large fort of Karashahr and a small settlement near it.

The passage of the river is made over the ice in winter; in summer in "*kayuks*" (boats). The breadth of the stream is 480 paces, but above and below the town the river is narrower by half.

Káráshahr is a small settlement, undeserving of the name of a town; there is only one street in it running almost due north and south, and about 200 *sajens* (466¾ yards) long. There is no regular bazar, though there are a few dirty and poor shops. There were neither Russian nor English goods in it. The population of Káráshahr consists exclusively of Kalmaks. Wheat here costs 2 "tengas" the "charik"; wheat flower 12 "pul" the "jin"; rice 16 to 18 "pul" the "jin"; barley and maize 1 to 2 "tengas" the "charik"; a sheep from 30 to 40 *tengas*; mutton 22 "tengas" the "jin"; firewood (from 1 *tenga* to 60 *pul* a donkey load. In the town and neighbourhood there are about 250 houses, and consequently about 1,500 to 1,600 souls. There are two *masjids*, one caravan-serai, and an elementary school. At some distance from the north end of the street is situated a quadrangular fort, the face of which fronting the town is not less than 150 *sajens* (350 yards). To the north of the town an uninterrupted series of gardens and ruined villages extend, deserted at the time of the Dungan invasion.

PART VI.

THE ARAL FLOTILLA.

Object of establishing the Aral flotilla—Difficulties of navigation on the Sir—Division of the river into portions—Cost of carrying freight on the vessels of the flotilla—Route along the River Sir-Daria—Composition of the flotilla in 1877—Armament of the boats—*Personnel*—Effect of the boats of the flotilla in the period from 1865 to 1878—Maintenance of the flotilla—Table of expenditure of fuel, &c., by the steamers—Question of handing over the flotilla to private individuals—Supply of fuel—Clearing of the Kára-Uzyak stream, a branch of the Sir—Question of abolishing the Government flotilla on the Sir-Daria.

Government steamers were established on the Sir-Daria in the year 1853, when the two first were sent to the Kaim fortified post, *viz.*, the *Perovski*, of 40-H.P., and the steam pinnace *Obrucheff*, of 12-H.P. The object of establishing steam navigation on the Sir-Daria was a purely military one, *i.e.*, the desire of preventing the Khivans from crossing the River Sir and plundering the Russian Kirghiz. It was supposed that the rapidity of movement of the steamers with the detachments carried by them, and the effect produced on the imagination of these semi-savages by the moving steamer, who would probably consider it a diabolical agency, would keep the Khivans in salutary fear. In the event of the movement on Khiva, which was then proposed, the steamers could transport cargo and reinforcements for the troops. In view of this latter object the steamer *Perovski* was made with a false keel, in order that it might navigate the open sea (Aral). Some existing defects in the construction of the steamers caused two other steamers, the *Aral*, 40-H.P. and the *Sir-Daria*, 20-H.P., to be despatched, but these also proved unsuccessful. Their chief defect consisted in their small power, and that they drew too much water. Owing to these circumstances a new steamer of 70-H. P., called the *Samarkand*, was ordered from the Belgian Company, Kokeril, and launched in 1869. This steamer proved tolerably satisfactory.

Steam navigation on the Sir-Daria is excessively difficult owing to the peculiar characteristics of this river, *viz.*, its sinuosity; the swiftness of its current reaching in places 7 to 8 *versts* an hour ($4\frac{1}{2}$ to $5\frac{1}{2}$ miles); and the shifting of the channel. But what is most injurious to the development of steam navigation on the Sir has always been, and will be, the shallowness of the Yaman-Daria. This portion of the river, more than 130 miles in length, divides it into parts, communication between which is only possible during the period of flood in June and July for an interval of three to six weeks, when the water in the Jaman-Daria stands at 3 feet. Generally the water in the stream is only 1 foot deep. In consequence of this it is impossible for steamers from the upper part of the river to run down and *vice versa*. Owing to these circumstances the navigation on the Sir-Daria is divided into three portions, according to the characteristics of the river:—

1st—From Kazála to Fort No. 2.

2nd—From Fort Perovski to Chináz.

3rd—The intermediate portion between Fort No. 2 and Fort Perovski.

In 1872 a new steamer, the *Táskhend*, of 35-H.P., was launched, made at the Komsko-Votkin factory, on purpose for the Yaman-Daria. This steamer according to calculation, with a full cargo, was to draw $\frac{1}{2}$ foot of water and to serve as a link between the upper and lower steamers. Unfortunately the navigation in 1872 and the following years proved that this steamer drew much more water than calculated on.

The division of the steam navigation into portions has this advantage, that after the breaking up of the river the upper steamers can commence navigation sooner than the lower ones; but, on the other hand, the frequent reshipping of cargo makes progress slow, independently of the other unfavourable conditions above mentioned.

The rate of movement of the boats of the Aral flotilla varies and depends on several circumstances. The distance down from Chináz to Fort Perovski is traversed by the steamers in from eight to fourteen days¹, whilst the same distance up stream takes from twelve to twenty days.

Between Forts No. 1 (Kazála) and No. 2 the steamers run up in from three to six days and down in two to three. The distance between Fort No. 2 and Perovski on the Yaman-Daria is run in the same intervals of time. It is quite impossible to reckon on the time in which Kazála can be reached from Chináz, as there is no connection between the times of arrival and departure of the steamers on the different portions of the river.

The number of voyages too made by the boats on each portion of the river cannot be fixed at a regular amount. It is a common thing for the Sir-Daria steamers to stick on a sand-bank, and moreover getting on to one takes up a considerable interval of time. The crew too become much wearied with dragging the steamer off it.

Navigation on the boats of the Aral flotilla is generally very slow, and few private individuals travel from Chináz to Kazála and back by water.

The whole importance of the flotilla consists in carrying Government stores between the forts on the Sir-Daria from No. 1 to Chináz. Steamers do not go above Chináz, as at Bigavat rapids commence, which prevent steamers reaching Khojend. Besides Government cargo, the Aral flotilla also transport men, chiefly parties of young soldiers going to fill the ranks of the troops of the district, soldiers' wives with children going to join their husbands, and also parties of rank and file returning to their native country to the reserve. Rapidity of movement for young soldiers, soldiers' wives, and children, is not essential, whilst the advantage of preserving the men's energies, when they are not accustomed to the difficult steppe marches, has a beneficial influence on them.

In accordance with District Order No. 72 of the 26th March 1868, private persons are carried *gratis* on the boats of the flotilla. For transporting cargo the flotilla has nine barges, carrying in all 55 $\frac{1}{2}$ thousand *puds* (894 $\frac{3}{4}$ tons).

Government stores are brought from Orenburg on carts to Kazála or in preference on camels, and from Kazála they are conveyed to the forts

¹ It must be remarked that the Sir-Daria steamers do not travel at night.

by the flotilla. In accordance with District Order No. 81 of 10th March 1869, the following is the scale levied for carriage of cargo:—

From the undermentioned points.	To						
	Fort No. 1.	Fort No. 2.	Fort Perovski.	Julek.	Uch-Kayik.	Aris.	Chinaz.
	Kopeks the pud. 2½ Kop=1d. 36'113 lbs.=1 pud.						
Fort No. 1	5	11	15	22	25	35
Fort No. 2	5	...	6	10	17	20
Fort Perovski	10	5	...	4	11	14
Julek	12	7	2	...	7	10
Uch-Kayik ¹	18	13	8	6	...	3
Mouth of the Aris	20	15	10	8	2	...
Chinaz	25	20	15	13	7	5

¹ Uch-Kayik means the "three boats." This point, where the passage of the Sir-Daria is made by the Kirghiz on one of the iron ferry-boats given by the flotilla to the Commandant of the Turkistán Division, lies on a level with the town of Turkistán 40 *versts* (26 miles 4 furlongs) to the west.

Route on the River Sir-Daria.

PORTS.	DISTANCE ALONG THE RIVER.						REMARKS.
	Between Ports.		From Fort No. 1.		From Fort Perovski.		
	Versts.	Miles.	Versts.	Miles.	Versts.	Miles.	
Fort No. 1	525	346 $\frac{3}{4}$	Between Forts No. 1 and No. 2 navigation is carried on between the 25th March and 20th October. Between Fort No. 2 and Fort Perovski (on the Yaman-Daria), between the 25th March and the middle of September. Between Fort Perovski and Chináz fortified post navigation is carried on from the middle of March to the end of October. The period for navigation consequently averages 7 $\frac{1}{2}$ months.
" " 2	260	171 $\frac{1}{4}$	
" Perovski	
Julek	175	116	
Uch-Kayik	332	220	
River Aris	130	86 $\frac{1}{4}$	
Chináz	482	319 $\frac{3}{5}$	
					1,644	1,088 $\frac{1}{5}$	
					1,119	741 $\frac{3}{5}$	

Composition of the Aral Flotilla in 1878.

Names of boats.	For what specially intended.	Material of which constructed.	Where constructed.
Steamer "Samarkand," 70-H. P.	Tug	Iron	In Belgium at the Kokeril works.
" " "Perovski," 40-H. P.	"	"	In Switzerland at the Mutal works.
" " "Aral," 40-H. P.	"	Galvanised iron	In England at the Windsor works.
" " "Sir-Daria," 20-H. P.	"	Do.	Ditto ditto.
" " "Táshkend," 35-H. P.	"	Iron	At the Kamsko-Votkin works.
Steam Pinnace "Obrucheff," 12-H. P.	Owing to the swift current it is not able to tow on the river from want of power, but can navigate and tow boats in still water.	"	In Switzerland at the Mutal works.
Barge No. 1	} Cargo, each carrying up to 3,500 puds (1,128 $\frac{1}{5}$ cwt.).	} Iron	At the Kamsko-Votkin works.
" No. 2			
" No. 3			
	Cargo, carrying up to 4,000 puds (1,289 $\frac{1}{5}$ cwt.).		

Composition of the Aral Flotilla in 1878—continued.

Names of boats.	For what specially intended.	Material of which constructed.	Where constructed			
Barge No. 6	} Cargo, each carrying up to 7,500 <i>puds</i> (2,418 cwt.).	Iron	At the Kamsko-Votkin works.			
" No. 7				} Cargo, each carrying up to 8,000 <i>puds</i> (2,579 cwt.).		
" No. 8						
" No. 9				} Cargo, carrying up to 11,500 <i>puds</i> (3,707½ cwt.).		
" No. 10						
" No. 4	Cargo, carrying up to 2,000 <i>puds</i> (645 cwt.).	Hollow iron	In England at the Windsor works.			
Three ferry-boats	Serve for the passage of caravans over the river and other requirements. Each carries up to 1,500 <i>puds</i> (483½ cwt.).	Iron	At the Kamsko-Votkin works.			
Small ferry-boat "Kaufmanka" of two iron pontoon boats of a special kind, with wooden deck; each boat consists of four pieces.	May serve for the passage of guns over the river; approximate burden up to 200 <i>puds</i> (64½ cwt.).	"	At Kazála.			
Ten long boats	These are at the disposal of the Commandants and Commander of Troops for the requirements of the Forts.	"	At the Kamsko-Votkin works.			
Rowing boats, twelve of iron and four of wood.	With the steamers and barges.	"	Eight at the Kamsko-Votkin works; four on the Francis system at the Windsor works.			
Hydraulic floating dock in two parts.	Not used, owing to the shallowness of the river.	} Of galvanized iron	} In England at the Windsor works. Temporarily remade at Kazála.			
Two ferry-boats out of the two lower parts of the hydraulic floating dock.	} Can be used for the passage of caravans across the river.					
Two ferry-boats out of four upper portions of the hydraulic floating dock.						

The steamers and barges of the Aral flotilla have an artillery armament consisting of 4-pr. rifled guns, $\frac{1}{4}$ pud (9-prs.) howitzers, 6-pr. copper carronades, and 10-pr. mountain howitzers—in all 22 guns.

The *personnel* of the Aral flotilla in 1879 was as under :—

Staff, superior officers and civil officials	...	...	...	15
Volunteer mechanists and artificers	...	...	...	15
Lower ranks	...	...	...	597 ¹

The lower ranks are armed with 6-line ($\frac{3}{8}$ " bore) muskets, boarding cutlasses, and 6-barrel revolvers of Colt's and Blanshard's patterns.

The Aral flotilla partakes of the nature of a war fleet only in its *personnel*, and the ships of which it is composed; in its administrative relations it is under the War Minister. The flotilla is administered in accordance with the Regulations of 18th June 1866, and the many imperfections in the administration of the flotilla have obliged the local authorities to work out new regulations for it.

The chief changes consist in the detailed designation of all kinds of supplies according to Marine Regulations,—in increasing and exactly defining the rights of the Commander of the flotilla; in establishing a post of the 2nd class in Fort No. 1; in increasing the *personnel* to 600, &c. The new Regulations received the Imperial assent on 26th January 1880, and were published in War Department Order No. 49 of 24th February.

The effective work of the boats of the Aral flotilla since 1865 is as follows :—

	CARGO CARRIED ² .		Passengers.
	Puds.	Tons.	
1865	94,910	1530·10	1,208
1866	96,315	1552·75	1,761
1867	168,929	2720·20	2,328
1868	118,726	1914·18	3,558
1869	163,570	2637·05	2,412
1870	160,343	2585·05	2,347
1871	71,985	1160·53	1,658
1872	91,115	1468·94	615
1873	146,371	2359·75	1,710
1874	182,351	2939·84	4,480
1875	120,431	3130·18	1,343
1876	98,062	1580·94	1,756
1877	99,018	1596·35	1,713
1878	33,506	572·42	692

The cause of the amount of cargo carried by the Aral flotilla being so much less in 1871-72 than in the preceding years, was that the steamers made several trips with empty barges owing to there being no cargo for them at the forts. It is necessary to observe that the supply

¹ Of these, 322 on the rolls and 275 men detached from the local and line battalions of the district.

² Nearly all Government cargo. The amount of private cargo carried by the flotilla is comparatively insignificant.

of the Turkistán district with warlike stores is under the Orenburg Government, in accordance with whose orders such stores are sent to Fort No. 1 by land. Their late arrival at this fort naturally influences the cargos of the boats. In 1871 the stores from Orenburg only commenced reaching Fort No. 1 after the 10th July, *i.e.*, when the height of the water was commencing to diminish a little and when half the season for navigation had passed. In 1878 the transport of Government stores and passengers was inconsiderable, in consequence of the concentration of troops at Jám.

The maintenance of the Aral flotilla costs the Government about 123,000 silver *roubles* (£19,475) a year. If from this amount we exclude the sum which the carriage of Government stores on hired camels cost, amounting in 1877 to 53,000 *roubles* (£8,391), the yearly cost of the Aral flotilla comes to 70,000 *roubles* (£11,083).

The expenditure of fuel, oil and grease, with a statement of the cost of these articles during the navigation in 1878, is given in the table annexed. The difficulty of navigation on the Sir and the many defects of the flotilla inclined the local authorities at one time to hand it over to private individuals. In 1869 a project was drawn up by two members of the "Lebed" firm to start a company with shares, with the object of establishing direct communication between Russia and the Turkistán district, in which conditions were proposed for the surrender of the Aral flotilla to the management of the company. These conditions were found to be advantageous to the Government, but at the same time the agent, deputed by the Lebed firm to study the question of the steam navigation of the Sir-Daria on the spot, found that steam navigation on the Sir on a purely commercial basis was an impossibility, owing to the small quantity of goods transported by water, and consequently the question of giving the Aral flotilla into private hands was given up.

Table showing the expenditure for the boats of the Aral flotilla in fuel, oil and grease, with a statement of the cost of everything expended during navigation in 1878.

Nature of boats.	Number of miles traveled.	Number of times of starting.	Number of days running.	Number of hours under steam.	Amount of fuel expended.	Cost.	Amount of oil expended.	Cost.	Amount of grease (tallow) expended.	Cost.	Total cost of expenditure.	Cost of materials stored.	Per cwt.
STEAMERS.													
"Samarband"	1,799	53	63	596	7,201'64	358 16 7	4 52½	26 17 6	9 38½	8 4 3½	393 18 ¾	Below Kazala	0 1 2
"Aral"	5,191	130	209½	1,697	23,328'74	690 1 1	3 7½	21 17 11	8 41½	8 5 4½	720 4 4½	At Kazala and at all stores up to Fort No. 2 inclusive	0 0 11½
"Tashkend"	5,584	136	102	2,094	30,141'45	1,088 14 0	6 11½	43 9 0	10 8½	24 12 7	1,136 9 7	From Fort No. 2 to Uch-Kayik	0 0 5
"Sir-Daria"	2,667	83	66½	1,097½	10,289'95	431 10 10	2 36½	13 19 7	1 9½	4 10 11	450 1 4	At Uch-Kayik and up to the store on the River Aris inclusive	0 0 6½
"Petovski"	3,447	100	126	1,197	19,413'95	810 10 10	4 78	26 6 0	4 6½	9 19 2½	846 16 0½	Above the River Aris to Chinaz inclusive	0 0 10½
STREAM BARGE.													
"Obruchef"	...	...	...	...	4,097'78	167 9 11	...	...	...	...	167 9 11	In the Amu-Darou Division Oil Grease, beef tallow...	6 0 3
BARBERS.													
Nos. 1, 3, 4, 6, 7, 8, 9, and 10	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL	19,668	502	560½	6,671½	95,371'50	3,557 17 3	22 12½	133 4 0	22 103	55 12 4½	8,746 13 7½		2 9 1

¹ In the amount of fuel and its cost that expended by the steamer "Samarband" on its voyage from Petro-Alexandroff to Khoja-Salik and back, amounting to 4,962 cwt., is not included owing to the prices of storing not being known.

Amongst the difficulties experienced by the Aral flotilla, it is impossible not to reckon that of supplying it with fuel.

For the traffic of the boats from the mouth of the River Sir to Uch-Kayik, *i.e.*, more than 1,100 *versts* (729 miles), "saksaul"¹ is stored by contract, the cost of which along the stations from Fort No. 1 to Fort Perovski comes to 10 *kopeks* per *pud* (about 1*s.* per cwt.), and beyond this 4 *kopeks* per *pud* (about 4½ per cwt.). Stacks are distributed along the Sir-Daria at the steamer stations at an average distance apart of 50 *versts* (33½ miles), there being in all twenty-three "saksaul" stations.

Not to mention the fact that the destruction of wood along the Sir-Daria causes the steppes to be denuded and thus deprives the nomads of shelter in the winter, the very method of supplying wood is a source of difficulty in consequence of the impossibility of guarding the stacks. These are burnt or stolen, and then the steamers have to stop and the crews have to go ashore to supply themselves with fuel. From Uch-Kayik either coal is supplied for six stations at a distance of 120 *versts* (79½ miles) from one another, or wood for eleven stations at a distance of 60 *versts* (39¾ miles) from each other. A *pud* (36·113 pounds) of coal costs Government about 32 *kopeks* (about 3*s.* 2*d.* per cwt.), and a *sajen* of short fire-wood about 40 *puds* weight (about 13 cwt.) from 10 to 12 *roubles* (31*s.* 8*d.* to 38*s.*).

The Aral flotilla might perhaps repay its cost to Government if a greater quantity of private stores were carried. Unfortunately private persons avoid transporting their stores by the steamers of the Aral flotilla owing to the slowness of progress and the difficulties caused by the portion called the Yaman-Daria. Steam navigation would be undoubtedly improved on the Sir-Daria if this unlucky portion of the river could be deepened. Up to the present time there have been many attempts to increase the depth of water in the Yaman-Daria, but all these have led to nothing, and it is doubtful whether they will in the future.

All the works for improving the Yaman-Daria have been based on the direction of the slope of the lower basin of the Sir-Daria which met the eye from the very first. It was remarked that this direction, defined by the course of the branches of the Sir, Yain-Daria, and Kuvan-Daria, runs from north-east to south-west. We have looked on the Yaman-Daria as a branch formed in exactly the same way as the channels named above. The ease with which the Kirghiz originated all these branches gave rise to the idea that it would be sufficient to dig an inconsiderable canal connecting the upper part of the river with the lower in order for the water to be diverted into it and wash it out to the requisite proportions, at the same time increasing the mass of the water in the Yaman-Daria. They calculated on this in digging out the Kitkan-Su canal, hoping to run the water of the Kára-Uziák into the Yaman-Daria; the same object was had in view in opening out the canal at the Kubas post. As a matter of fact, it turned out that the water had no tendency whatever to flow into the channel cut for it, and the Yaman-Daria as if out of spite has become shallower and shallower every year. The rapid shallowing and even drying up of the left

¹ Wormwood.

branches of the Sir, which is clearly impressed on the remembrance of persons who have seen the river not long since, plainly proves that some metamorphoses are going on in it. The well-known *savant*, the late Academician Ber, in his two excellent articles printed in the "Naval Magazine" (No. 1 of 1857 and No. 5 of 1858) under the title "On the causes of the right bank of our rivers being higher than the left," explains this fact by a common law, deduced by him for all rivers on the terrestrial globe,—a law according to which all rivers, not flowing along the parallels, must deviate and actually do deviate to the right in the northern hemisphere and to the left in the southern.

This law is based on a lateral force diverting the river, in consequence of the rotation of the earth, to the east, and caused by the unequal rapidity of movements of its different points. And as this lateral force is proportional to the cosine of latitude (or which is the same thing to the radius of the parallel), it is evident that the divergence of Russian rivers, which lie in great latitudes, occurs more perceptibly. Whilst agreeing with the opinion of the illustrious *savant* with reference to the influence of the lateral force in diverting the Sir to the right, it must be remarked that, besides this, there are here other causes acting, which are even yet more powerful, and these are geological ones. According to Ber's theory, the divergence of rivers depends on their direction with reference to the meridians; thus, when the river crosses the meridian at an angle of 45° , the diverging force is decreased by half. But, generally speaking, this latter acts very slowly, only having a perceptible influence in an interval of a great many years. The direction of the Sir-Daria in its lower parts more closely approximates to the parallel than to the meridian, so that consequently its divergence must be produced very slowly; as a matter of fact, however, the contrary is the case. The rapid receding of the shores of the Aral sea to the west clearly proved by the freshness of the shells found far from its shores; the rapid drying up of the Jáni-Daria, the Kuvan-Daria, the Darialik; frequent earthquakes occurring in the basin of the Sir-Daria and produced by the proximity of the snowy ranges in which it has its source,—all go to prove the action of subterranean volcanic forces raising the tract to the south of the Sir, and, so to speak, driving the river to the north. Here, probably, the same forces exist which raise the peninsula of Scandinavia and the shores of Chili, &c., and one can judge of the degree of their power by the excessive rapidity of divergence of the river to the right. Forts No. 1 and Perovski constructed on its right bank, at no very long time since, are now quite undermined and serious danger threatens them, in order to avert which the necessary measures are being taken.

Thus cosmic and geological causes have combined to divert the waters of the Sir to the right, and to paralyse all scientific attempts to incline it to the left. According to the investigations of Ber the right branch or stream of a river (in the northern hemisphere) is always the chief one, and the left always becomes shallower, and dries up. This is just what happens here. The Kára-Uziák forms the main line of the river; to block its course to the side opposite to its natural flow would be to run counter to cosmic laws. Owing to these circumstances, the Yaman-

Daria had to be left alone; all the more so, as, in addition to cutting a canal for raising the level of the water, it would have been necessary to cut through 24 necks of land at the bends, which would have required the purchase of lands for an extent of 14 *versts* ($9\frac{1}{2}$ miles), whilst, on the other hand, on the basis of the reconnaissances and plans of works made in 1860 by Colonel Hennerich and of the account of the officer who commanded the survey expedition of the Kára-Uziák in 1864, the extent of marshy tract requiring work on the latter is only about 5 *versts*.

Thus, at the present time, the question of developing regular and speedy steam traffic on the Sir-Daria, connected with the question of clearing out the Kára-Uziák, is, whether the work will be undertaken by Government or by a private individual.

At the present time, however, the conviction of the inutility of Government steam traffic on the Sir is gaining ground. This river has now become completely one within Russian territory, and, therefore, the motives which led to a Government flotilla being established on it no longer exist. The whole effective of the Aral flotilla should be removed to the Amu-Daria, the new frontier line, where, from exploration of the river, experience will show what boats are necessary for it.

The steamers of the Aral flotilla which are now on the Sir-Daria have already in part served their time, in part are serving it out. These boats, as they become totally unfit, should be abolished and those remaining fit, on the establishment of a flotilla on the Amu-Daria, may be transferred to this latter river to assist the future Amu-Daria flotilla.

Since July 1876 the steamer *Samarkand* with barge No. 10 have been at the disposal of the Commandant of the Amu-Daria division, in order to be used for exploring the channel of the Amu and ascertaining the conditions attending the navigation of this river. In the course of the last few years, this steamer has actually undertaken several expeditions up and down the river from Petro-Alexandroff, but nevertheless the question of the suitability of the River Amu for navigation and the conditions necessary for its development still remain unknown.

END OF VOLUME II.

