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N. I.
S. A.

No. 11

ROUTES

ON THE

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WEST FRONTIER,

ORB.30

5522

Vol. II,

COMPILED

(FOR POLITICAL AND MILITARY REFERENCE).

Under the orders of the Quarter Master General in India,

IN THE

INTELLIGENCE BRANCH,

1892,

BY

LIEUT. W. R. ROBERTSON,

STAFF LIEUTENANT, INTELLIGENCE BRANCH.



CALCUTTA:

OFFICE OF THE SUPERINTENDENT OF GOVERNMENT PRINTING, INDIA.

1893.

303

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PREFACE TO VOL. II.

THIS book contains the routes reported upon by —

- (1) Zhob Field Force, 1890,
- (2) Black Mountain Expedition, 1888,
- (3) Black Mountain Expedition, 1891,
- (4) Miranzai Expedition, 1891, and
- (5) Other routes which have been reported upon at various times since the publication of “Routes on the North-West Frontier, 1890” (now termed Volume I), and “Additional Routes on the North-West Frontier, 1890.”

Several other routes, chiefly in Shorawak, which have hitherto been included in “Routes in Afghanistan,” are now shewn herein. There is but little information forthcoming about some of the last-named, but it is hoped that little may prove useful.

To prevent a multiplicity of books, the “Additional Routes on the North-West Frontier, 1890” have been included in this volume.

As far as possible, the routes have been arranged on the system followed in Vol. I, *viz.*, from north-east to the south and south-west.

The following authorities have been consulted in the compilation of this book :—

- Report on Black Mountain Expedition, 1888.
- Report on Zhob Field Force Operations, 1890.
- Report on Miranzai Expedition, 1891.
- Reports by Captain Carter, Captain Boud, and Chief Political Officer, Hazara Field Force, 1891.
- Bengal Route Book.
- Hazara Gazetteer, 1883—1884.
- Gazetteer of Baluchistan, 1891.
- Additional Routes on the North-West Frontier, 1890.
- Routes in Afghanistan.
- Route from Toba to Ghazni by the Mulla, 1887.
- Notes on some paths leading over Takatu from Bostan to the Murgi ravine and Siragurgi, by Captain Wahab, R.E., 1867.
- Reconnaissances of Zmarai hills and Vihoa pass, by Captain Beley, 1888.
- Route from Haripur to Darband and from Abbottabad to Lalugali, by the Assistant Engineer, Hazara Division, 1888.
- Report on the Gumal Survey Expedition, 1888.

Punjab Government Reports on the construction of roads and posts on the Black Mountain, 1892.

G. O. C. C., dated Simla, 16th June 1891.

Reports on roads, camping grounds, etc., connected with Hazara Field Force, 1891.

Report on Apozai-Quetta road by Captain Serjeant, R.E., 1892.

Annual reconnaissance reports, Dera Ismail Khan, 1892.

A cross index containing all routes in Vols. I and II will be found at the end of this book.

SIMLA ;

27th June 1892.

W. R. R.

E. R. E.

LIST OF ROUTES.

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ROUTES

ON

THE NORTH-WEST FRONTIER.

Route No. I.

FROM UGHI TO TAKOT *viâ* KUNGALI SPUR AND MANA-KI-DANA.

Authority.—REPORTS ON BLACK MOUNTAIN EXPEDITIONS, 1888 AND 1891; PUNJAB GOVERNMENT REPORTS ON ROADS OF THE BLACK MOUNTAIN, 1892.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter- mediate.	Total.	
1	MANA-KI-DANA	8	8	First 5 miles level through open plain to Dilbori; thence an ascent of 500 feet in 1 mile to top of the Kungali (or Kiarkot) ridge at the pass ¹ of that name. The route then turns to the left and follows the Kiarkot ridge for about 2 miles to Mana-ki-Dana (about 6,000

feet); a large hog-backed mount on the spur. Up to this point the route is easy. This place was occupied by General Bright's Brigade (1868) the first night after leaving Ughi.

Alternative route viâ Chitabat.

Cross open country for 3 miles to foot of Barchar spur; thence steep ascents by the spur for 1 mile to village of Barchar; thence steep ascent for 2 miles (the last half very steep) to crest of range which is then followed for about 2 more miles to Chitabat. This route was used by the levies in 1868 and seems to present no very great difficulty. Descend over some steep-wooded knolls affording good cover to an enemy, and then ascend to Mana-ki-Dana. Distance by this route about 11 miles.

The making of this road was discontinued in March 1891 by order of the Government of India.

NOTE A.—From Chitabat peak a track leads to the Machai peak. The route descends slightly as far as Doda [see Note H, Route No. V C] about 2 miles, where there is a tank, and thence ascends to Machai peak, which is reached at about 4 miles from Chitabat. This route was followed by General Wilde's force in 1868. From the Machai peak along the crest to the Ganthar peak is about 4 miles, and is said to be practicable, though at one place, called the Tangl, it is very narrow, and requires to be improved for the passage of mules. On Ganthar there is more flat ground than on Machai. From Ganthar along the crest to Kanevar peak is about 5 miles, and though it seems probable that this portion is easier than that between Machai and Ganthar, the accounts are conflicting.

¹ Marked "Jal pass" on the map.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. I—continued.

2	CHIRMANG . . .	4	12	The road-way (made fit for mules, 1888) runs straight along the lower continuation of the spur (a cultivated plateau-like portion) down as far as the meeting of the Tikari and Pariari water-courses. General direction north-north-west. The road on leaving Mana-ki-Dana is very steep and rocky in parts. Infantry traverse this stage in about 3½ hours, and laden animals in 6 hours. Camping ground on the flat spur running north-east from the village. Ground fairly level, soil light, wood scarce, water plentiful on both sides of spur; drinking water obtained from a pool in the stream running north from the Jal pass. Supplies obtainable from Trand, Chirmang, and from the Tikari valley. Space on the spur large enough to bivouac two divisions.

3	MAIDAN (NANDIHAR)	6	18	Road is fit for mules and lightly-laden camels (1888). On leaving Chirmang spur the road runs down the east side of spur to the Tikari stream, which it follows for about 500 yards; then crosses it, and winds up the spur of Shubora ridge as far as the most westerly peak of the ridge. General direction up this spur is north, the bearing to the pass into Nandihar from Chirmang bivouac being 22°. Gradient of road is $\frac{1}{5}$ to $\frac{1}{2}$ and $\frac{1}{2}$ and $\frac{1}{5}$ in a very few parts. General slope of the spurs on either side of Shubora is $\frac{1}{5}$, and of the hill on either side of the road 20°. Three miles from Chirmang, crossing the pass over Shubora, the road zig-zags down the Naoshera spur across fields through the village, descends to the Nandihar stream and ascends by a zig-zag road to the Maidan plateau. Road is sandy throughout with shale rocks here and there, which are, however, easily removed with a pick-axe. A few trees along the route, brush wood on either side.

Space to encamp a division on the level plateau in the fields lying between the two villages of Maidan east and west. Water plentiful, obtained from a pool below in the Nandihar streams $\frac{1}{2}$ mile up-stream from where road crosses. Wood scarce; supplies plentiful in villages of Maidan, Karwar, and Batgraon. The hill to the north-west of camp is wooded with fir trees, and from thence heliographic signalling can be opened with Chirmang. Maua-ki-Dana can be seen from the camping ground.

Alternative route from Chirmang.

Brigadier-General Channer, V.C., and Staff, with 25 men of Northumberland Fusiliers, returned by the river route, on the 7th November 1888; but the road was very bad in parts, descending and ascending steep *nalas* near the river banks. On leaving Maidan the road crosses the Nandihar stream to south, and then, crossing two spurs to south-west, runs alongside the stream which flows from Trand to the Indus. After about 2½ miles the road crosses to the other side, and passing under Trand Fort (to the east of it) winds up the Chirmang spur.

This road to be practicable for mules would have to be made, and, if the inhabitants were hostile, the hills on either side of river would have to be held before passing an army along this route.

4	DABRAI . . .	7	25	Camels with Telegraph Department went as far as the Dabrai pass in 1888. General direction is 347° straight across the spurs running east and west, and starting up the spur running north and south from Balola village. At first pass under the village of Maidan East, then pass under Karwar (leaving it to north-east), and straight up the spur running north to Balola. Along this spur the road is good and gradient slight. There is also a <i>pagdandi</i> (foot-path) that runs straight north-west up this spur (without going near Maidan or Karwar) to Balola, the only difficult part being crossing the stream 200 yards north of a <i>ziarat</i> .

Leaving Balola (where water can be obtained 100 feet lower down to west) the road runs 355° to a large water-course at $\frac{3}{4}$ of a mile running south-west from main ridge of hills

Route No. I—continued.

to north-west. The slope from Balola to this ravine is 1° ; down from the village keep to left of spur between rocks.

Here the road has been levelled with soil; this would wash away in heavy rains. Direction north for about 500 yards, then at 330° to next spur; the pathway is more or less level. Roadway from this is approximately level. It skirts the west of the hill after passing the third spur from Maidan (from this spur the bearing is 330°); descends into a small *nala* just before reaching the Dabrai pass and ascends at $\frac{1}{2}$.

Dabrai is a village on the saddle running east and west between the main hills. The pass itself is flat but cultivated, presenting a view direct north through the opening on the far side.

Water can be obtained at the *nala* below Balola and at several other places along the route. Room for two brigades to bivouac on the plateau. Ground is level and cultivated, a deep *nala* running through the centre south to north; the ground gradually descends towards north end of pass, where there is a steep rocky *nala* descending to Paimal. Plentiful supply of water from this *nala*; wood scarce; supplies obtainable from Dabrai.

5	SHAMSHEREGHAT (SARAI).	3	28	It is said there are four routes from Dabrai to Takot, but the one passing through Paimal, Chanjal, and Karg ¹ is the best. On leaving Dabrai pass descend down the east side of the <i>nala</i> to Paimal 400 feet below the north end of the pass, and pass round the south-west side
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of Paimal to the flat stony end of the spur crossing three *nalas* on the way. The spur is level and easy-going. This place is called Shamshereghat. North-west of this spur lies Chanjal. There is room here to bivouac 4,000 to 6,000 men if the space is taken up from Paimal Fort downwards. Water plentiful and good in *nalas* to the south, and a small irrigation canal runs along the top of the spur. Wood scarce; supplies from Paimal and the village of Sarai.

Chanjal village, about 30 houses, lies at bottom of Shamshereghat spur on a small flat promontory; room to bivouac a brigade, but mules and followers would have to be put on the slopes. Water abundant and good on all sides. Small amount of fire-wood; supplies from village.

6	TAKOT	7½	35½	Leaving Chanjal the road goes at 290° ; and from Karg on the hill half way Takot is 305° . Descend to the stream, then up a steep path to gorge at $\frac{1}{4}$, and straight down north-west to the Nandihar stream which is $1\frac{1}{2}$ feet deep; current not strong, bed rocky. Crossing the stream, wind up a path to the opposite slope (average $\frac{1}{2}$ to $\frac{1}{3}$) and to the village of Karg on the plateau of the square-shaped hill. The first part of this road is the worst. A road was made (1858) zig-zagging up the slope, and the mules went well up and down. Karg is at the north end of the kuoll. (The south knoll which is the highest was held by the Khaibar Rifles). Signalling communication possible from here with Shamshereghat and Lora. Room to encamp an army corps, but water has to be obtained from a small stream $\frac{1}{2}$ mile along the road leading to Takot. The water is not fast flowing; it takes 10 minutes to fill a <i>mushak</i> ; supplies from village of Karg, and plenty of wood from spurs to west.
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Road now goes west, winding round the east side of Jaundar spur, gradient $\frac{1}{2}$ to $\frac{1}{4}$. Continue on this spur to Jaundar village, then descend to Lora on the Indus; cross the Nandihar stream 2 feet deep to east of Lora, then north-east across the sandy banks of the Indus to the right of the *ziarat* straight into Takot. There is room to encamp a brigade at either Lora or Jaundar. Water plentiful; ground cultivated and level, but is commanded by the hill to the west (on which is Manus) and which should be held, as well at that portion of spur on which Jaundar is situated.

For Takot see Route No. VI.

Mules travelled well down from Chitabat to Takot; camels as far as Dabrai, but they could have, if necessary, gone on to Chanjal.

¹ Captain Mason says: "the route from Chanjal by the Nandihar stream is easier than by Karg." Colonel Gatacre, and detachment, 3rd Sikhs, returned from Takot to Chanjal by this pathway which runs along the stream on the right side.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. I—concluded.

Note on the Machai peak.

The view from Machai peak (9,803) is grand. The panorama begins with the Gandghar and the Mahaban mountains, the Indus running between, and Attock seen in the distance through the opening. In the cup of the Mahaban on its north nestles the old Hindustani settlement of Malka destroyed in 1863. The Ambela pass with the lofty peak of Guru is prominent to its west; the "Crag" picquet and the conical hill, both points of painful, though glorious, interest in connection with the Ambela expedition, stand out clear. Through the gorge of the pass is dimly seen the cantonment of Hoti Mardan. Mount Ilam shows boldly against the sky, the great barrier between Buner and Swat. Away on the far horizon glistens the snow-capped Hindu Kush; then the valley of Upper Swat and the lofty snowy peaks of the Laram range; beyond, the mountains of Kohistan, Khagan, and Kashmir; and, lastly, the well-known Pir Panjal range. In the foreground there are the valleys of Pakli and Konsh, and the sanitarium of Murree and Thandiana. Judbai and the tents of the Hindustanis at Bihar on the opposite bank were clearly seen from Machai in 1868.

From Machai a route practicable for mules descends the Rangapaiza spur for a short distance, and then turning down the northern side of this spur, reaches Pakban, all through heavy forest. Thence ascending to the southern slopes of the Shatalpaiza spur, this route winds along it to its end overlooking the village of Judbai (Stage 2, Route No. V). Distance 8 miles.

Another route is said to follow the crest of the spur most of the way through forest to Trand, and is reported to be practicable for laden mules.—*Mason.*

Route No. II.

FROM UGHI TO POKAL *via* ALLAHI (KAGE OBA).

Authority.—CARTER, 1888.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	MANA-KI-DANA .	8	8	} See ROUTE No. I.
2	CHIRMANG . . .	4	12	
3	MAIDAN . . .	6	18	
4	MAZRAI . . . (KANGBI-KI-DANA)	6	24	

Soil sandy and shaly and easily cuts up. Two-and-a-half miles up is a large white rocky point,

Route No. II—concluded.

to north of which there is room to bivouac a brigade. Wood scarce; water is obtainable below this peak from a stream that flows out above the road.

From below this white peak continue up the spur to Bularin point, leaving Khabai below to the right. Here is a pool of water fit for cattle, and a level space for men to halt on.

From this point the road runs through a wooded-country, continuing through these fir trees and undergrowth to Mazrai. Troops can be encamped all along the top of the ridge. Wood plentiful, supplies from villages to east and west of ridge. Water rather scarce and obtainable from a spring north-west of Mazrai. About $\frac{1}{2}$ mile from ridge, and from a spring north of ridge, 100 feet down and 1 mile on the road to Allahi along the Mazrai ridge, there is room for a division, and also a large level space running north-west from Mazrai and about 100 feet below it.

5	ALLAHI (KAGE OBA)	7	31	Straight along the ridge to the west peak of Chaila ¹ hill, bearing 65° and winding round small spurs and under-features along a tolerably level road. Mules experience no difficulty in going up as far as the Chaila crag. From here the ascent up to the ridge of the hill is perfectly precipitous and rocky. ² Along the ridge at a comparative level at 100° for a mile; then down the north side in an easterly direction to a <i>nala</i> , and on to the next spur over which is Kage Oba (crooked waters) or Allahi. From here the road is tolerably level until just before descending into the dip between the hills. (From Chaila crag the direction of Kage Oba is 43°; of Machai peak 210°; of Trand 195°; and of Takot 278°). Encamp in the hollow of Kage Oba and on the hills to north and south. Water and wood plentiful; no supplies; no villages close at hand. Space on these hills to encamp an army corps.
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6	POKAL	8	39	There are two paths to Pokal, one by the village of Behari, and the other above the large white rock on leaving Kage Oba and straight to Pokal. The latter is the shorter of the two by 4 miles. Pass through the gali to the west and wind round the fir-covered hill to north of Kage Oba, crossing several spurs and <i>nalas</i> . Descent generally slight, but in places $\frac{1}{4}$ and $\frac{1}{8}$. Mountain battery mules travel with but little trouble to Pokal. After going 2 $\frac{1}{2}$ miles bear north-north-east down a more open spur at a gradient of $\frac{1}{8}$. (Another track leads straight on, but this is to be avoided, as, although it leads eventually to Pokal, it is longer and runs lower down in woods, and is exposed to fire of an enemy, who might be above in the trees.) Continue down the spur at even gradient of $\frac{1}{10}$ (fit for mules); steep <i>khuds</i> on either side; along this ridge as far as a saddle of hill before arriving at a wooded under-feature. From here the road appears to go straight on as well as to the left. The former goes to Behari. Take the one to the left in a northerly direction, down the spur in a north-west direction, and through thick undergrowth until the spur running north-north-west is reached, at the bottom of which is Pokal. From this spur the country becomes open and cultivated in flats, and a good view of the Allahi valley is obtained. Here there is a spring of good water; would take 5 minutes to fill a <i>mushak</i> . Down the east side of spur to Pokal, road steep, $\frac{1}{4}$ in parts. Just before arriving at Pokal, there is a stream of good and plentiful running water. The village is situated on the south bank of the Allahi stream. Water good and plentiful; wood abundant; supplies from village and neighbouring hamlets. The large villages of Behari, Banda, Nograon, and Rupkani are within a radius of 3 miles.
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NOTE.—Captain Carter says: "The force left (Kage Oba) at 8 A.M. and reached Pokal at 10-50 A.M. It left at 12-50 P.M. and arrived back at Kage Oba (Allahi) at 6 P.M. This included delays on the way caused by the enemy holding several places. Room to bivouac an army corps on the level cultivated flats around Pokal. On the road down to Pokal a well-worn mule track was seen below our track on first turning down to the right from the path running round fir hill to north of Kage Oba. Natives also informed me that there was a good road for mules running along the valley from Pokal to Takot, distance about 13 miles."

¹ Before reaching Chaila crag, signs of a road bearing off north of Chaila were seen. Natives stated that this road goes to Pokal and is fit for mules. Distance to Pokal about 1 $\frac{1}{2}$ miles.—(Carter.)

² A zig-zag road was made up this (1898).

Route No. III.

FROM HARIPUR TO DARBAND.

Authority—CAPTAIN BELEY, 1888; ROUTES IN BENGAL, 1877; HAZARA GAZETTEER, 1883-84.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	

1	SIRRINI STREAM .	$7\frac{1}{2}$	$7\frac{1}{2}$	Good unmetalled road 30 feet wide; <i>ekhas</i> continually use it. Level crossing over the Dor $\frac{1}{4}$ mile broad, at 6th mile. Banks low; bed course and gravelly; liable to flood in rains to middle of September. Country undulating and raviny. Road still broad, but cut up by small irrigation channels often badly bridged. The crossing of the Sirrini stream at $7\frac{1}{2}$ miles is a bad one. The old crossing is absolutely blocked by a <i>bund</i> . Road roughly made round it by detour. Gravel bed; right bank high and steep; ramped; no floods likely after August. <i>Ekhas</i> could not easily go beyond this. Encamp on banks of stream in which water is always to be found. Supplies procurable after due notice; water is scarce along the plateau from Sirrini to Nawagraon. The Dor joins the Indus at Turbela, a village $2\frac{1}{2}$ miles north-west, where there is a ferry. (See Stage 4, Route No. 10, N. W. F., Vol. I.)
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2	NAWAGRAON . . .	$9\frac{1}{2}$	17	From the Sirrini crossing the road becomes a narrow hill one, from 5 feet to 8 feet broad, and winds up the Narati ravine for about 2 miles. Easy gradient averaging $\frac{1}{18}$. At 4 miles pass villages of Soabi and Mehra, where there are small springs and tanks, the supply, however, may possibly not be enough to fix this place as a camping ground, though the ground near these villages situated on a level plateau is favourable to encampment.
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Along the cultivated level plateau for about 3 miles, road good and practicable for wheels and all arms. Pass down the ridge of a rather steep spur for the next $1\frac{1}{2}$ miles; after this along a common hill-road 5 feet to 8 feet wide, winding down the side of the slope and cut into it for $2\frac{1}{2}$ miles to Nawagraon, a small village on the banks of the Indus. Supplies must be collected; water plentiful.

3	DARBAND . . .	$8\frac{1}{2}$	$25\frac{1}{2}$	The road runs at a level through cultivation, skirting the hills on the left bank of the Indus. Hedges on both sides. Some awkward torrent beds 10 feet to 12 feet deep and 40 feet to 50 feet wide; generally dry. At the village of Lallugali, which is reached at $2\frac{1}{2}$ miles, the direct route from Abbottabad to Darband comes in (see Route No. IV). For about $1\frac{1}{2}$ miles beyond Lallugali the road keeps level and then becomes hilly, 6 feet to 8 feet broad. At $7\frac{1}{2}$ miles by a very difficult crossing pass through the Kala Ran <i>nala</i> ; banks steep and large boulders; water usually 3 feet deep. Horses often come to grief here, there being no foothold on the water-worn boulders. Road requires improving from here to end of stage. Darband is a village of the Nawab of Amb. Large mart for timber, <i>ghee</i> , green salt, piece-goods, etc. The Indus is crossed by a ferry, the property of the Nawab of Amb. Water plentiful; supplies procurable after due notice through Deputy Commissioner, Hazara. The camping ground is $1\frac{1}{2}$ miles above Darband.
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Route No. IV.

FROM ABBOTTABAD TO DARBAND *via* SIRI SHER SHAH.

Authority.—CAPTAIN BELEY, 1888; HAZARA GAZETTEER, 1883-84; ROUTES IN BENGAL, 1877.

At 14 miles Gada, and Siri Sher Shah at 22 miles. Road is a fair up-hill one, 4 feet to 8 feet wide. Difficult to get camping ground anywhere for any but a small party or convoy. At Gada there is a small spring which supplies the village. Possibly a space 100 to 150 yards square might be found on cultivated terraces.

At Siri Sher Shah water is plentiful. A space in the bed and on the cultivated banks obtainable. Siri is a small village; few supplies procurable. Between the 14th and 19th milestone, the road is very bad and rough, though mules can scramble over it.

At Badhaura, 8 miles from Siri Sher Shah, is a small camping place. Water fairly plentiful; 6 miles further on is Lallugali. Total distance from Abbottabad 36 miles. Here Route No. III is joined. The road has a gradual rise from Siri Sher Shah to within 4 miles of Lallugali, thence a steep drop.

The hills passed produce a thin crop of grass and are covered with a low scrub jungle—highest have fir trees.

Route No. V.

FROM DARBAND TO TAKOT BY THE LEFT BANK OF THE INDUS.

Authority.—HAZARA FIELD REPORTS, 1891; REPORT ON BLACK MOUNTAIN, 1888.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	TOWARA . . .	12	12	There are two routes from Darband to Takot which separate at Towara about 3 miles south of Kanhar. The ordinary trade route follows the left bank to Towara, crosses the river by Marer ferry to Marer, and follows the bend of the Indus past Garhi (<i>see Note C</i> at

end of this Route).

Leaving Darband camp the road passes over cultivated fields close to the right of Mehra village and under the hills toward a rocky gorge 4 miles from camp. From here to Bela, which is reached at 6 miles, the road is made over the rocks above high-water level and is about 6 feet 8 inches wide. Water good and plentiful from Indus; wood scarce. Here an alternative route *via* Phaldar comes in from the south-east. (*See Note A.*)

Passing Bela by the right the road skirts the base of the hills past the left of Tambai, descends into the Shingri *nala*, and passes the left of that village. Beyond this is Towara. Infantry cover this distance in 5 hours, and laden animals in 6 hours.

Note A.—Alternative route via Phaldar.

There are two routes, one to the right to the village of Amboi, the other up the centre spur straight north of Darband. Both these roads ascend steeply. The one to the left passing along the Biradar plateau is the best. That to the right passes more up and down. They meet at Phaldar beyond which there is good ground for camping. Wood and grass

Route No. V—continued.

plentiful. Water in the *nala* to the east. Here a 6 feet mule track, about which there is little information, branches off north to Pailam, distance about 7 miles. (See Route No. VC.)

At 7 miles, leaving the Darband-Phaldar left road, proceed by the north of the *nala* and descend at an easy gradient for half a mile, then pass over a low kotal and descend slightly to Chamb at 9 miles.

Passing to the right of the village, the road descends very steeply towards the entrance to the *nala*, passing round to the face of the hill above Bela, and, zig-zagging to a lower level on the western spur, passes back very steeply to the north and out on the level at Bela. Total distance to Bela 11 miles. This will never be a good road, and is too steep for safe traffic. It is about 4 feet wide; sometimes less. Bela is situated about 1,000 yards from the Indus. Ground suitable for any number of troops. Water good and plentiful.

2	JUDBAI	12	24	Across the sand to the foot of the cliff by a zig-zag road and across cultivated fields to Kotkui at about 1 mile. This village is built on a hill and overlooks the river. Passing it by the right descend into the <i>nala</i> which is crossed by two made bridges, then by a wide road to the shingly peak and pass by the right of a graveyard beyond which the track to the left leads down to the position of the boat bridge.
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Cross $\frac{1}{2}$ mile of sand by a steep ascent less than 1 in 4; and along the ledge of a cliff, descending through cultivation and rocks to the fields below Kanhar at 3 miles. (See Note B.) There is a ferry here to Palosi; distant $1\frac{1}{2}$ miles. One mile further on is Ghazikot from where a road to Makranai branches off to the right. Here is another ferry to Palosi on the right bank. Up to this the width is rather less than 6 feet. Descend by an 8 feet road into the Khappa *nala*, cross by a causeway, and turn back by a slight ascent, descending twice round rocky corners and zig-zags to the level of the stream. Emerging from the *nala*, cross a landslip and round by a rocky cliff to Dadam in the Shal *nala*, pass the left of the village and across the stream. The Shal *nala* falls into the river at Bakrai, banks about 100 feet; about 20 yards wide; water 6 inches deep (April 1891). Cross the Shal *nala* and leave Bakrai by the right, and going nearly due north pass for 2 miles at a level up the *nala*. From the point where the road descends into the bed of the stream it passes along the right bank under the cliff for a quarter of a mile, then ascends to Lashora, a small circular stone-built village on the Shal *nala*. Water good and plentiful. From here a cattle track, running from the left bank of the Shal *nala*, goes straight up the spur to Sabe village of 35 houses.

Pass through fields near Ledh which is reached at $7\frac{1}{2}$ miles. At Ledh is space to encamp one regiment, but it is a very bad site for a camp. It is commanded from the north, and stragglers can creep up to within 200 yards off and fire right into camp at night. From Ledh a road practicable for mules goes S. W. to Diliarai. The road from Ledh zig-zags up the ridge above, the gradient being at times steep, then passes by an easy kotal, called Gali Darbanai, into the Darbanai *nala*, and by a fairly level track round the head of *nala* of the village at 8 miles (see Route No. VC). The Indus is not in view from any of the villages between Dadam and Ledh. Opposite Darbanai, in the plain on the further bank, is the Chagarzai village Kamach (see Stage 2, Route No. 8, N. W. F., Vol. 1). The road made during the 1891 expedition ends at Darbanai.

By a strong and difficult descent reach Surman on the river at about 9 miles. There is no sign of the road for the next 1,000 yards, but on the hill far above is a footpath which is difficult even for pedestrians. At $10\frac{1}{2}$ miles south of the road is the village of Kotlai. At this place there is a bad rapid difficult for boats to pass. At $11\frac{1}{2}$ miles is Gumbat, built on a mound north of the road. From Darbanai to Gumbat there is no road for transport animals. Gumbat is the last village of the Nasrat Khel. At $11\frac{3}{4}$ miles the road passes through the Judbai plain and at 12 miles reach Judbai; camping ground good. This is the largest Bassi Khel village. The maliks are Azim Khan, Nasr Ali, Akbar Khan, and Kabir of Garhai opposite to Judbai; on the right bank is Biyar, a village owned by Sayads.

Footmen cover this stage in $6\frac{1}{2}$ hours, and laden animals in 10 hours.

Note B.—From Kanhar a very steep track improved sufficiently to allow half-laden animals to ascend with difficulty leads north-east to Makranai; distance 3 miles.

Route No. V—continued.

3	TAKOT	13 ²	40	At $\frac{3}{4}$ mile the road runs along the river bank. For 2 miles it is good, then for $1\frac{1}{2}$ miles it is very bad, and in some places almost impassable for men. About 1 mile north of Judbai the Stai <i>nala</i> from Gharband falls into the Indus, draining the western and southern
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slopes of Chakesar, and on the plains on the right bank is L'absar. At 2 miles pass village of Kabalgram. Just before reaching Shagai at $5\frac{3}{4}$ miles the road runs along a cliff over the river. The ferry which brings the traffic route across from right to left bank is at Shagai. In this plain are the villages of Shahdag, Kotkai, and Darakai. Small stream of water. Across the river are the lands of Kabalgram and the northern boundary of the Trans-Indus Chagarzai. The Shagai Khwar (stream) is about 40 yards wide.

At $7\frac{3}{4}$ miles is Arer (Sayada), opposite which the Chakesar *nala* falls into the river. Near its junction with the main stream is a well-known whirlpool (Gholai). Road practicable.

At $8\frac{3}{4}$ miles is Yarzai and on the opposite bank is Maser. The road here is rocky and crooked but can be made practicable as the soil is almost entirely small gravel and clay. The river bends to the east at the 9th mile.

At 10th mile cross a *nala*, sides 100 feet high.

At $11\frac{3}{4}$ miles reach Mera where there is a good camping ground. Near to Mera are the villages of Daur, Budar, and Mauno.

At 12th mile reach Sado Khan and on the opposite bank is Gunahgar; cross the Tarali *nala* at 13th mile, and the Jal *nala* at 14th mile. The latter separates the Chagarzai on the south from the Swatis on the north. Takot begins here in a tract called Gariar. The road now runs along a rocky cliff but is practicable.

At $15\frac{1}{2}$ miles is the Ghoraske *nala*. There are some 20 huts of Swatis here, and on the right bank is Dand. At 16th mile reach Takot on the river.

Footmen cover this distance in 7 hours, and laden animals in 10 hours.

About 12 miles further north is the village of Sach Bihar near the junction of the Allahi stream with the Indus. The Allahi valley (*see* Route No. II) can be entered from here, but it is obviously a route for the cold weather, as the summer heat in the Indus valley must be very great.

Note on the hills on the left bank of the river.

The highest peak is Machai (*see* Route No. I). The Hassanzais, Akazais, Chagarzais, Akhund Khels, Takotis, Swatis, and Gujars all live on this mountain. Crops good and cattle in the villages. Some of the peaks are well-wooded with *chir*, but on the lower hills are only shrubs. Water plentiful; transport animals can go about almost everywhere. There are towers in several of the villages. Grass plentiful.

Note on the Attock river otherwise called Abasind or Indus.

The average depth in these parts is about 30 feet (April 1891). The current is slow. There are two bad rapids, one near Kotlai above Kamach, and the other at Gunahgar. At the latter place there are large rocks visible in the river, and boats would not be able to pass them. If one or two of the rocks could be blasted, a passage might be made. Besides the above there are other insignificant rapids which boats could easily overcome. At one mile from Judbai the river is but about 40 yards wide. The widest part anywhere does not exceed 200 yards. Wherever there are houses on the banks there is sure to be some means of crossing over. Generally a raft is used by the people, and they swim the horses and mules across. During the hot weather the river rises 15 or 20 feet. The Kaka Khels bring down timber by the river from Kashkar and Kohistan. The river runs in a comparatively narrow and rocky bed, with precipitous sides, and is crossed by ferries at Tambai, Towara, Kanhar, Ghazikot, Palosi, Maidan, Bimbal, Bilianai, Judbai, Kamach, and Shagai. The boats worked on the ferries will hold from 20 to 30 passengers, but do not accommodate animals, which have to be swam over alongside.

Note C.—Mr. Cunningham, Chief Political Officer, Hazara Field Force, 1891, in his report, says:—"The ordinary trade route crossing by the Marer ferry follows the bend of the Indus past Garhi, Nawekiti, Palosi, Kila Maidan, and Mangun to Kama where the Chagarzai territory begins. It continues along the right bank on a stony plain

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. V—concluded.

across the *Dab nala* to Didal, Kamach, Dab Hashim Khel, across the Biyar stream to Biyar (Savada) past both Kabalgram villages to a point opposite Shagai; here it crosses to the left bank and passes Shaldag, Kotkai, Jigal Arer, Yarzai, Daur, Merar, Sado Khan and Tarali to the Jal *nala* where it enters Takot territory about 3 miles south of that village; thus the ordinary route runs on the left bank through Hassanzai country to Towara, crosses by Marer ferry, continues through Hassanzai land to Karna on the right bank, then through Chagarzai (Nasrat Khel lands) to Dab Hashim Khel where it enters the territory of Akhund Khel and Sayad dependants of the Chagarzais; recrosses the river at Shagai to the left bank, runs through Bassi Khel and Akhund Khel territory to the Jal *nala* where the Sarkheli Swati track begins. The reason for this double-crossing the river is to avoid cliffs and difficulties (1) in the spur from Machai which separates Akazai from Chagarzai, and (2) the traffic through Chagarzai (right bank) is impracticable."

Route No. VA.

FROM KOTKAI TO MAKRANAI *via* PALOSI.

Authority.—HAZARA FIELD FORCE REPORTS, 1891.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	MAKRANAI . . .	7	7	The road branches from the Kanhar road three quarters of a mile on (<i>see</i> Stage 2, Route No. V) and crossing the Indus by a bridge or ferry ascends through rocks, turns sharp to the right across sands and joins the Marer-Palosi track; passes by the left of Pirzada-Bela

through fields, across a stretch of sand and shingle under the hills, ascending by a rocky road to the right of a conical hill and passing from thence direct across the shingle and fields to Palosi village at 4 miles.

A track is cleared through the shingle to a small hard opposite Bakrai. Here there should be a ferry. Two good but rather steep roads lead up the cliff to Bakrai at 1 mile. At Bakrai is ground to encamp two regiments. Wood and fodder scarce. From here the road goes in a south-easterly direction on Route No. V, the gradients being very steep, and leaves this route on the point of the spur running north-west from Makranai to the mouth of the Khappa *nala*. From this point the zig-zags are frequent and the gradient steep, till the top of the spur is reached, then pass over a kotal immediately above Ghazikot which is about 2,000 feet below the road, and ascend slightly by another zig-zag to Makranai. From Bakrai the road is always liable to landslips. Laden mules can travel up with difficulty. Here a track comes in from Kanhar (*see Note B*, Route No. V). From Makranai the road skirts the north side of a spur till it reaches Ril. Ascent here gradual.

Note A.—From Palosi to Baio.—This road, a 4 feet track, is made only half way. It passes in a south-west direction up the *nala* under Upper Palosi; ascends at a steep gradient at times 1 in 3, and turning west rises to a small village 1,500 feet above Palosi on the ridge which ends in a spur over Palosi. From here the track passes to the west face and descends to the left into a small valley, ascending again to a village where there is water. Beyond this the ascent is steep and continuous direct to Baio by the spur of Baio hill. Baio is 5 miles from Palosi.

Note B.—From Bakrai to Diliarai, Maira, and Bilianai.—From Bakrai a road goes nearly due west to Diliarai where there is room to encamp a brigade. The gradients are very steep. This road is not a good one for laden animals, and is liable to be washed away during wet weather. It is made through loose soil and sand. Diliarai is 1½ miles from Bakrai and 2,000 feet above the Indus (*see also* Stage 2, Route No. V). Leaving Diliarai the road goes north-north-west to the kotal between the two peaks of the Diliarai hill; and then follows the southern slopes of the hill to Maira. Road practicable but difficult in places for lightly laden mules. Could be made good with a very little labour. Maira is a fair sized village on a flat spur. Water good but scanty from a spring close by and south-east of village; wood very scarce. Crops large in extent but poor. Grass none (hay).

Bilianai is said to be 3 miles from Maira. Leaving the latter place the road bears 261°, passing a *sirat* on its left and dropping straight down the spur about 1,500 feet to the valley: gradient ¼. Passable for lightly laden mules. Could be easily improved. Bilianai consists of 3 villages which are just visible from Darbanai. There is a native raft and ferry a little to the north.

In 1891 the troops and transport animals were conveyed across by means of the flying bridge and also three large boats.

Route No. VB.

FROM KANHAR TO UGHI *via* TILLI.

Authority.—HAZARA FIELD FORCE REPORTS, 1891; PUNJAB GOVERNMENT REPORTS, 1892.

Leaving the Kotkai road, just before the Kanhar *nala*, the road passes up the left of the *nala* along a water-course; crosses to the right bank and ascends by zig-zag to the level of the mosque, up the *nala* for half a mile, crossing again by a cause-way and at once ascending 900 feet by a steep zig-zag at times 1 in 3. At the top of the zig-zag the road runs south along the face of the cliff over the Indus for half a mile, then bends to the east into the *nala* below Kunarai (2,580 feet) where there is good water, rising on the opposite side after passing round the spur at the end of the *nala*, and going at 3½ miles by the left of the Kunarai village through the fields. Kunarai is on a plateau on the spur below Tilli and consists of some 50 houses. Good encamping ground, except in wet weather.

Passing by ramps through the small fields round the nose of the spur south of Kunarai, the road winds round to the left over to the north of the spur and ascends somewhat steeply to a neck from which it ascends by a zig-zag to a higher level and passes to the other side, ascending southwards for a mile, it then turns east round the hill and at 7 miles passes north by a *nala* under a village up to the Tilli plateau. Tilli consists of several small hamlets. Camping ground for two brigades. Good water from a spring ½ mile east. There is also a well not very good close under the slope on the north, and water in the *nala* through which the road runs. The road from Kanhar to Tilli would be liable to be broken and washed away in many places during the rains and destroyed by the *zemindars* over whose fields it passes. Height of Tilli 4,650 feet. Here Route No. VC is crossed.

Two-and-a-half miles east of Tilli lies Pabalgali (6,370 feet) which is approached by a long ascent up a well-made zig-zag road, with a gradient almost throughout at 7° to 8°, except in a few short stretches. This road is throughout 7 or 8 feet wide. There is a great deal of wall work, very well made, but rendering the road liable to fall to pieces in heavy rain. At Pabalgali is space to encamp three regiments. Water good and plentiful.

After leaving Pabalgali descend by easy gradients past the villages of Phagora and Jewar. At 5½ miles from Pabalgali cross the Harigu stream, and at 6 miles reach the village of Bandi (4,270 feet). Water and wood plentiful. Space for one brigade.

Ascend 200 feet to Rahimkot, pass the village of Chhajalkani (Chicharkanai) and descend gradually to the Kotla Khwar and Unhar stream, and pass the villages of Bajna (3,600 feet) at 11½ miles, and Bai and Khari and across the Saror stream to Ughi. The road from Pabalgali is 8 feet wide.

Note A.—From Pabalgali a road 8 feet wide has been made to Panjigali, 3½ miles. The difference in level between Pabalgali and Panjigali (7,250 feet) is 880 feet, and this ascent is made nearly all in the first mile, the road rising at ¼ and ⅓. The remaining distance is practically level up to the first of the five saddles of Panjigali, and then it passes from kotal to kotal up to the fifth and highest.

Route No. VC.

FROM PAILAM TO DARBANAI *via* SERI.

Authority.—HAZARA FIELD FORCE REPORTS, 1891.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	TILLI	5	5	For Pailam, <i>see</i> Stage 1, Route No. V, and <i>Note F</i> of this Route. Leaving Pailam the road ascends for 300 yards to the east and crossing a kotal passes north for 1½ miles along the level. To this point the road is good, though rather choked at times with

rocks. Crossing a neck it descends at times very steeply by a bad road varying from 4 to 6

Route No. VC —continued.

feet in width to a *nala* below Pabalgali and descends at 17° into the *nala*; rises again steeply towards Tilli, and passing through fields emerges to the right of the cemetery. The bivouac ground is on cultivated terraces, clay soil, which are made to retain water. In rainy weather this would be a bad and muddy bivouac. Water good but rather scarce, obtained from a station north of a ziarat. Water can also be obtained 2 miles further back on the Pailam road. Wood and grass *nil*. Crops plentiful.

2	KUNGAR . . .	7½	12½	This is a bad road as far as Ril; is difficult for laden animals in wet weather; and will probably be in a state altogether impracticable for animals without previous clearing. It runs north-east under villages after leaving the Tilli cemetery, passes round to the east and descends into a <i>nala</i> 1½ miles from Tilli, where there is a water-fall. The road here is narrow and steep, passing up and round another spur under a village. Here there is another water-fall and bad <i>khuds</i> and steep. Beyond this the road descends by a very severe zig-zag north-west to Ril (5,400 feet). The large village of Ril is reached at 5 miles. The village is in two portions, where is space to encamp two regiments. Water plentiful and good, obtained from a spring about one mile back on Tilli road; also from near Kui, a collection of huts on the Kungar road. Wood and grass very scarce. Crops plentiful. Makranai is about 1 mile west (see Route No. V A).
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From Ril the road goes north and passes just above Durzir and Kui, and then runs along the face of a steep cliff below Abu. From Ril the road is much better. At Kungar (5,150 feet) there is space to encamp one regiment. Water good and plentiful; wood scarce; grass *nil*. The village is small, and situated on a spur running down from Abu. The plateau is very small and cramped, the terraces being small and narrow. (See also Note G.)

In 1891, the Tilli Column Hazara Field Force, marched from Tilli at 9 A.M., *via* Kanhar and Kotkai to Palosi, arriving at the last-named at 3 P.M. The baggage continued coming in till 11 P.M. Distance about 13 miles.

3	DARBANAI . . .	11½	24	The road runs almost on a level with the Selle <i>nala</i> passing under Selle village. Up to this point it is from 5 to 6 feet wide, hence to Karun about 8 feet and good. There is good water in the springs alongside and an excellent spring close to Karun. Height of Karun 5,900 feet; space to encamp three brigades. Wood plentiful from a pine forest. Dead grass plentiful in the spring. Karun is a small unimportant village. Between Kungar and Karun the villages of Ibrahim Khan's serai, Upper Betban, and Kalukhan are passed.
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From Karun the road descends to Seri (5,903 feet) which is reached at about 4 miles. Here there is a large plateau, space for two brigades, The village is in two portions and was burnt during the 1891 campaign. The plateau consists almost entirely of cultivation terraces. Water and wood plentiful.

From Seri the road descends steeply to Maira *nala* and then ascends to Maira, passing this village on the right, and descending into the Shal *nala* crosses the stream by a bridge or ford. *Nala* easily fordable at this point. From Maira a cattle track impassable for mules runs up to Sabe and Ashkot, and thence to Kungar.

At about 3 miles from Seri the small village of China is passed. There is space here to encamp one company, but it is a very bad site for a camp, the village being well within "Jezail" fire from several points.

Three miles further on pass the small village of Sural, situated above the Shal *nala*. Space here for half a regiment. Water and wood plentiful both at Sural and China. From Sural there is a gradual ascent up the Sural hill. A third of the height below the crest the road winds round the south of the hill, and runs directly above Ledh and then descends to Darbanai. (See also Route No. V.) A new road was opened above the China-Sural road in 1891. It runs north for 500 yards after leaving the China kotal and by a zig-zag path to the Pera Spur, from where it descends in a southerly direction and joins the Sural-Darbanai road at the top of the hill west of Sural.

From Darbanai the small village of Druzgar is about 3¼ (2 P) miles. There is no continuous track, but a road for mules could easily be made, the soil being loose. This village consists of a few houses inhabited chiefly by boatmen. It appears doubtful

Route No. VC—continued.

whether it is a Hassanzai or Chagarzai village. Native statements are conflicting on this point.

Darbanai (3,100 feet) is a large village with a round stone tower; it is 1,500 feet above the Indus, and is a peculiarly strong position. The village is built on the north point of a saddle back, about 800 yards in length, the west slope of which drops down to the river edge at a gradient of $\frac{1}{4}$. The village is out of range of "Jezeil" fire from the hill on east of *nala* which runs into the Indus on the east and south of the saddle back. By shells thrown by No. 9 Mountain Battery (1891) the following ranges were found from the level space north of village:—to Druzgar 1,475 yards; to Kamach 1,225 yards; to Didal 2,725 yards; to ferry and raft north of Druzgar 2,400 yards. The valley north of Kamach is also commanded. Water good and plentiful, obtained from an irrigation channel about 2 miles in length, which rises in a *nala* north-east of Darbanai, at a height of 1,300 feet above it. This supply can be easily cut off. There is also the water below the surface—the dry *nala* east of and just below Darbanai. Possibly shallow wells dug in the *nala* would yield water. Good wood, *nil*. Plenty of stunted bushes on the slope of the Surmal slope. No grass in spring. Room for two brigades.

From here a road goes to Khadigai Banda. Turn back towards Ledh, and on reaching the grave yard immediately below the Diliarai spur, go south-west and down to the village of Khadigai Banda through terraces. Road practicable for mules. Khadigai Banda is a large village overlooking the Indus.

Note B.—From Seri there is a 4 feet road to Kand (Kan) distant $4\frac{1}{2}$ miles. (?)

The road leaves the Seri ziarat due north; runs along the top a low spur, crosses a torrent bed (Shahid Tangai), and then runs again due north, leaving the village of Merabad 200 yards to the right. It then goes through an old grave yard and past a new one; and, following the contours of the hill, runs close to the village of Kohanai; up to this point the descent is gentle. The road then descends north-west, gradient $\frac{1}{2}$ ($\frac{1}{4}$ for short distances) to the Shal *nala*, which is bridged by a plank-bridge about $7\frac{1}{2}$ yards long. The descent from Seri to this point in the *nala* is from 1,200 to 1,300 feet. From the right bank of the Shal *nala* the road rises up the hill to Lower Kand, gradient $\frac{1}{2}$. Road good, passable to mules.

The village is in two portions, called Upper and Lower Kand (Bar Kand and Kuz Kand). Water good and plentiful from two perennial springs. Wood, *nil*. Kand is 350 feet lower than Seri.

A cattle track, practicable for lightly laden mules, leaves Upper Kand north and runs up the spur at $\frac{1}{4}$ to Chamiarai. The ascent takes about two hours. Wood is plentiful, but there is no water except what can be obtained from the snow.

The Jalbang *nala* is commanded from this peak, also the villages of Mairagai, Najorian, and Mamadai to north of Jalbang *nala*.

Chamiarai is south-west of the west point of the Palware ridge (3,200 feet).

A cattle track practicable for mules runs along the south slope of ridge and just below the crest from Chamiarai to the east point of the Palware ridge, which is the highest point on the whole ridge and is called Mamzarai Sar (Machai). There is no water on the top of the ridge. Pine trees plentiful. The road throughout is practicable for a mountain battery, and might with a little labour be made into a good mule road. The ascent from Chamiarai to Mamzarai takes two hours.

Note C.—From Seri, a road leaves east and runs down a well-made zig-zag to the Rewar *nala*, distant a quarter of a mile. *Nala* is fordable. Then northwards, at a level above the right bank of *nala*, and following the contour of a spur to a point opposite Merabad the road runs nearly level to Moratta Khwar; *nala* fordable. The road then rises for half a mile at $\frac{1}{2}$ and $\frac{1}{4}$, and reaches Moratta village at 2 miles from Seri. Between Rewar Khwar and Moratta Khwar the road is not passable to laden mules. There is room to encamp one wing of a regiment (*see Note H*). Bearing from Mosque to Mzarai (Machai) peak, 6°. Water obtained from an irrigation channel nearly 1 mile in length. A cattle track leaves Moratta north-east, descends to the Shal *nala* and runs a little way along its left bank, then crosses at about half a mile; path rocky but not steep. Current in *nala* strong, but easily fordable except after rain. From the *nala* the path ascends north-east up the south slope of a spur and runs past a grass yard to the village of Darai. From Moratta the road is not passable for mules, but could be made so. Water from a perennial stream crossed *en route*. Darai is a fairly large but scattered village, and is distant from Moratta 2 miles. From Darai a cattle track, impassable for mules, goes north to Biran, crossing the Saudagara Khwar and passing above the village of Saudagara round to a branch of the Shal *nala*. Then by a steep ascent to Biran.

Larai, a village visible from Seri, is on the same spur as, and about 250 feet directly above, Darai. A cattle track runs up the spur at $\frac{1}{4}$. Impassable for mules. Water is brought in a channel from the Shal *nala*.

From Darai and Larai cattle tracks leave at a level, following the contours of the hill, to Zanlui, a village on the west of a *nala* of the same name. Zanlui is not visible from Seri. Path good for a cattle track, but rocky. Zanlui (Dzunlewi) is a fair sized village and distant from Darai $1\frac{1}{2}$ mile. Water and wood plentiful. Supplies scarce. An irregular rocky cattle track runs up to Pambro Sar, difficult for cattle even.

A good cattle track follows the contour of the hill from Zanlui to Toram, distance about 1 mile. This path is impassable for mules. A second track, very difficult, runs down to Upper (Bar) Sokar, distance $\frac{1}{2}$ of a mile. Water from a spring at Toram. Wood, *nil*. From Toram a cattle track goes to Kand, crossing the Toram "poza," descending down a hollow to a point level with Kand, and then at a level to the Kand Khwar. This path is rocky and not passable for mules.

Note D.—Following the Seri-Kand road to just below the village of Kohanai (*see Note B*) a cattle track diverges east, following the contours of the hill and passes a perennial spring. Ascend by an easy zig-zag to the Kohanai *nala*; cross at a point 900 feet below Seri, and ascending north for $\frac{1}{4}$ of a mile cross a low spur, and after a few hundred yards cross the Shal *nala* near three water-mills. Path good up to this point. From here the track rises north-west in an ascent of $\frac{1}{4}$ to two houses belonging to Lower Sokar. From Shal *nala* to this point, path difficult for cattle even. From here it goes level west crossing the Sokar Tangai and on to Lower Sokar. From the two houses above mentioned a track runs direct to Upper Sokar. There is a shorter track to Lower Sokar diverging north-east from the Seri-Kand road, from a point lower down than the track already mentioned, and that runs down over a low spur to a mill in the Shal *nala*, which is directly under the spur on which Lower and Upper Sokar are built. From this mill the track rises over the watershed *vid* Lower Sokar to Upper Sokar, and on to the crest of the Palware ridge. Most of this track is very difficult.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. V C—concluded.

Note E.—From Seri Mosque to Kotkai (a large conspicuous rock) 65°. A road leaves the Mosque north-east and running nearly level for about $\frac{1}{2}$ mile, crosses a *tangi* that runs into the Rewar Khwar. To this point mules can pass. The road then rises and crosses the Tangorai torrent running into the Rewar Khwar and then rises gradually and crosses a *nala*, where the pine trees run down to a point into the *nala*. From here the road goes straight up a spur to a point 1,000 feet above Seri. Kotkai is about 500 yards south-east of this. No water.

Note F.—In an amphitheatre south-east of, and below the village of, Pailam is sufficient space to bivouac one brigade. Water plentiful from three small streams, but becomes scarce in June and July. Wood, *nil*. Dead grass left uncovered by the snow plentiful in April and May but unfit for fodder, except as a makeshift. Height 3,660 feet. Distance from Darband about 12 miles. In 1891 the Tili Column, Hazara Field Force, left Darband at 8 A.M., and the baggage arrived at Pailam at 3 P.M.

Note G.—From Kungar a good view of Maidan, Palosi, Bimbal, Towara and Shingri, in the valley; also of Tilli and Diliarai. The following are commanded by and within shelling distance of Kungar:—Ril, Makrauni, Sabe, Ashkot, Selle, Urmal, Bakrai, Baikar, Kilaala, Bary, Karim, Lower Betban, Landai and Ibrahim Khan's Seri.

From Kungar a cattle track goes to Ashkot and Maira; another from Ashkot to Sabe.

Note H.—From Biran to Doda a path practicable for mules runs up the spur. Time, 3 $\frac{1}{2}$ hours from Seri.

Route No. V D.

FROM SERI TO UGHI, *viâ* BANDI.

Authority.—HAZARA FIELD FORCE REPORT, 1891.

Leaving the Seri-Kungar road at Selle (*see* stage 3, Route No. V C), the road passes up to a neck and past a small village and round the spurs to the foot of the Panjigali (*see Note A*, Route V B) at about 4 miles. The road rises for half a mile to the gali, and passing along the south-west side of the hill along the level crosses to the east. From Panjigali the road descends to Bandi, at first at nearly 15°, by a good road zig-zagging to the lower level, joining Route No. V B at Bandi. Water is plentiful along the road. Several small villages are passed.

The road is good throughout, practicable for laden camels, and sufficiently broad for an unloaded convoy of mules and a loaded convoy of mules to pass each other in any part. There is a passing station for laden mules at Panjigali. There is also a mile of alternate road close to, and on the Seri side of, Panjigali.

Route No. V E.

FROM SERI TO UGHI *viâ* SAMBALBUT.

Authority.—CAPTAIN BOND, R.E., 1891; PUNJAB GOVERNMENT REPORTS, 1892.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Interme- diate.	Total.	
1	UGHI	13	13	Leave Seri above the tope of trees and, in an south-easterly direction, ascend by a good 10 feet road over the spur, passing at a good gradient up the right hand wooded slope through the trees, doubling back above a shepherd's hut on a bare spur and zig-zag up a 6 feet

road to the rock spur below Kaima at 2 miles, where there is an open plateau. Tangarai, Chata, and Gurakar are passed between Seri and Kaima.

Tangarai is small plateau where barracks were built in 1891. Water *nil*.

At Chata there is space for one company. Water from the Kalukhan *nala*.

At Gurakar there is space for one company. No water.

At Kaima is space for one regiment. There is a perennial spring in the *nala* below. This spring is said to be called Dor and Dol after a Giyar who was murdered there.

From Kaima the road goes up the crest of the spur to junction of spur with the main range, it then keeps along the crest to Nimal *viâ* Kain Gali.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. V E—concluded.

At Kain Gali (8,680 feet) there is a small stream (a little below the crest) in the *nala* running from Kain Gali in the direction of Seri.

Nimal is a collection of huts, a little way below the crest near the Chitabat road. Water plentiful (June 1891). Space for three regiments. From Nimal a road goes to Machai. It first descends about 600 feet and then runs to Machai along the crest *vid* Chitabat and Doda*.

Leaving Nimal, descend through rather a difficult and rocky piece of ground to the right of the Nimal spur, then by a gradient of $\frac{1}{8}$ to $\frac{1}{5}$ descend to Sambalbut (6,850 feet) which is reached at 7 miles. Still descending by a series of zig-zags with gradients of $\frac{1}{10}$ pass the village of Deval at the foot of the hills, and then across the flat for 2 miles; cross the Unhar river at $11\frac{1}{2}$ miles, and skirting Manchora village ascend to the Ughi-Jal Pass road at $12\frac{1}{2}$ miles from Seri and about $\frac{1}{2}$ mile from Ughi Fort. Between Kain Gali and Ughi the road is 8 feet wide.

* Time taken in marching from Seri to Nimal, and from Nimal to Machai, about 3 hours respectively.

Route No. VI.

FROM DARBAND TO TAKOT BY THE RIGHT BANK OF THE INDUS.

Authority.—HAVILDAR RAMZAN KHAN, 3RD SIKHS, 1891.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Interme- diate.	Total.	
1	TOWARA . . .	12	12	See Stage 1, Route No. V.
2	KAMACH . . .	12	24	
3	JATKUL . . .	12	36	At 3 miles reach the village of Hashim Khel, and at $4\frac{1}{2}$ miles Biyar (<i>see Note A</i>). At $5\frac{1}{2}$ miles is a large collection of grass huts belonging to some Hindustani fanatics. One-fourth of a mile further on cross the Stai <i>nala</i> (<i>see Note B</i>) which is about 20 yards wide and

feet) and Miankili. This plain is well situated for a camp, but gets very hot about April. Wood scarce. Up to this point any arm of the service can come with ease. For the next 5 miles the road is bad and unsuitable for transport animals. Village animals do travel up and down, but with great difficulty. At 7 miles the track goes through the village of Karnar and at $10\frac{1}{2}$ miles reach Didal. Here there is a large plain suitable for camping ground.

Kamach plain is 30 feet higher than the Didal plain; open, level, and well suited for encampment.

water is about $4\frac{1}{2}$ feet deep (April 1891); sandy bottom; sluggish. The road goes north through Kuz Kabalgram (Lower Kabalgram) and to Bar Kabalgram (Upper Kabalgram) at 6 miles. At $7\frac{1}{2}$ miles a ferry crosses to Shagai. At 12 miles reach village of Jatkul which is situated about 400 yards from the road on the hill-side. From Hashim Khel to this point the road is bad, and would require repairing before being used. The plain around Jatkul is covered with boulders and jangle.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. VI—concluded.

4 TAKOT 8 44 | At 1 mile cross Chakesar *nala* (also called Kangola Khwar), 3 feet deep; bottom stony; sides steep; swift; 40 yards wide. At 1 $\frac{3}{4}$ miles reach village of Manser and at 3 miles village and stream of Gunahgar. Thence for a mile the road is good; with this excep-

tion it is bad throughout the whole stage.

At 6 miles pass Surkul which is occupied by boatmen. Here is a good plain for camping on.

At 7 miles is a spot where gold is washed; half a mile further on is the village of Dand, and by making a road down to the river Takot could be reached at 8 miles. On the left and right of the latter place is a long plain, not wide, but suitable for a camping ground. Kadir Khan is *malik* of Dand and owns a tower on the river bank. Malik Hakik of Takot has also his tower on the other side. These two *maliks* are enemies. Distance between the towers is about 800 yards.

Note on the hills on the right bank of the river.

The hills are inhabited by various tribes who follow agricultural pursuits. Some of the villages are fortified and have towers at the corners. Springs of water are to be found everywhere, and on the large streams are mills. Wood is plentiful. The plant which is called in Pushtoo, Shuraskai, probably the *Sanatha*, is very common, and on snow-capped hills the *chir* is to be found. In some places the *Phulo*, a species of Babul, is also to be seen. Grass is very plentiful. Good building stone is also available. Mule batteries and infantry can traverse these hills.

Note A.—Extract from Captain Phillott's Report, Hazara Expedition, 1891.

A mule road used by the merchants of the country is said to run into Buner from Bihar (Biyar). Part of this road can be seen from the Machai peak.

The following villages are said to be on this road in the order noted:—

NAME OF VILLAGE.	Section of Tribe.	No. of houses.	REMARKS.
Biyār	Sayads	150	TRANS-INDUS, Situating on both sides of a <i>nala</i> running into the Indus. Trans-Indus.
Sar	Ditto	20	
Dandkul			
Barsa	} Balul Khel	80	} About $\frac{1}{2}$ mile off the road.
Mera		40	
Garakar		40	
Shangra-Kandas		50	
Chalandro		130	
Guridar	25	} Large well about $\frac{1}{2}$ mile off the village.	
Bilai	8		
Kot	50		
Pondai	35		
Batara	30		
Gumbat	Juna Khel		100
Budial	Firozai Khel		150
Matwanai	Juna Khel		12
	Buner . . . . .	...

Above information derived from a Chagarzai guide who proved himself generally reliable.

The road is said to be suitable for baggage animals at all seasons of the year. The gradients are said to be fairly easy.

Note B.—About 1 mile west of the Stai *nala* crossing is the village of Gir from where a mule road goes to Surat. It is used by the merchants of the country. In parts the gradients are steep.

The following villages are passed on the way:—

NAME OF VILLAGE.	Section.	REMARKS.
Gir	Akhund Khel.	Of Kabalgram. Road branches off west here from Stai <i>nala</i> .
Dishkan	} Balul Khel.	
Katoz		
Serai	Akhund Khel	
Tangur	Ditto	
Shahroza	} Makazai Khel	Buner.
Dankacha		
Choga		
Shahkoti		
Kohkan		

The road runs on into Surat from Kohkan skirting the Buner country. Above information obtained from sowar, Hyderabad Contingent, a resident of Maujakot. His information, however, is not always reliable.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. VII.

KABUL TO FARAJGHAN.

BY THE SOLANAK PASS AND THE PANJSHER RIVER.

Authority.—GAZETTEER, PART II, LEECH.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	AK-SABAI . . .	18	18	Two hundred houses (Tajiks). Water from a stream. (See Stages 1 and 2 Kabul Series, Route No. X A.)
2	BAGH-I-ALAM . . .	10	28	
3	KHOJA KHIDRIJALGAH	12	40	Sixty houses (Tajiks). Water from Panjsher.
4	BARAKAZI . . .	4	44	Two forts, 40 houses (Barakzais). Water from Panjsher stream, which is fordable.
5	ZARSHOE . . .	10	54	Hundred houses (Safis). Water abundant from a stream. The road leads over the Solanak pass, which in some places is so narrow as only to admit a single horseman.
6	GHAIN-I-BALA . . .	11	65	
7	ISHPI . . .	28	93	Thirty houses (Pashais). Water plentiful from Pachghan stream.
8	FARAJGHAN . . .	30	123	

NOTE.—The distances in this route are not reliable.

Route No. VIII.

HANGU TO GULISTAN *via* LAKKA, THE CREST OF THE SAMANA, AND THE CHAGRU VALLEY.

Authority.—DEPUTY ASSISTANT QUARTER MASTER GENERAL, MIRANZAI FIELD FORCE, 1891.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	SANGAR . . .	10	10	Hangu is on the Kohat-Thal main road. From Hangu (2,700 feet) the road runs for 2½ miles over level ground in a north-west direction to the foot of the Samana range. From here the ascent is made to the crest by the 6 feet mule road recently constructed. The maximum gradient of this road (and all the other mule

roads lately constructed on the Samana) is $\frac{1}{8}$, but in a few places for short distances it is as steep as $\frac{2}{9}$. The road ascends in a series of zig-zags to 4 miles, the direction being generally

Route No. VIII—continued.

north-west. From here it turns west-south-west and runs along under the crest rising gradually until $5\frac{1}{2}$ miles Lakka is reached. Height 4,925 feet. There is a small spring near here a little below the crest on the north side of range. From Lakka a good view is obtained of the Khanki valley, and it was a most valuable point for signalling operations, direct communication with Kohat being maintained from here. Beyond Lakka the new mule road is followed in a direction south-west to $6\frac{1}{2}$ miles, the road running below the crest on the south side. At $6\frac{1}{2}$ miles the road turns again north-west, and at 7 miles the Darband kotal (4,400 feet) is reached. Here the mule road from Darband to Saifaldarra crosses the range, the distance to the former place being 3 miles and to the latter about the same. Beyond the Darband kotal the road continues along the crest, direction west-south-west, to 9 miles, when Tsalai is reached (5,150 feet). This is a small walled-in enclosure with a tower in one corner, belonging to the Rabia Khel; half a mile further to the north-west of Tsalai is Gogra (5,680 feet), a Rabia Khel tower (since destroyed). The road keeps under the crest to the south of this and at 10 miles Sangar (5,560 feet) is reached. This is a good sized village on the crest belonging to the Rabia Khel. There is a small tank here, but water for drinking purposes is obtained from a good spring on the south side of the range, about 1 mile south-west of Sangar. There is room in and about Sangar for a brigade to bivouac, but the space is confined, and it would be better to spread out below the crest on the south side. A post is being constructed for $1\frac{1}{2}$ companies of infantry, at the village of Dhar, which is $\frac{3}{4}$ mile to the south-west. From Sangar a road descends to the Khanki valley at Gwada about $3\frac{1}{2}$ miles. This was made passable for mules during the expedition, but it is steep and would probably require repairs, if it had to be used again, before it would be practicable for baggage animals. The mule road recently made from Pat Darband also meets the crest at Sangar. This is $3\frac{1}{2}$ miles in length.

2	GULISTAN	.	.	7	17
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From Sangar the road continues along the crest in a westerly direction. About $\frac{1}{3}$ mile a small hill is passed on which a picquet post to hold 30 men is being constructed. Elevation 5,796 feet. At $1\frac{1}{2}$ miles Sartop is reached. Here there was a small Rabia village with a tower.

These have been removed and a picquet post to hold 30 men is now being constructed near its site. Height 6,200 feet. In a ravine about $\frac{1}{4}$ mile to the south-west is a spring of good water. From Sartop the road follows a dip in the crest and then rises again to the Mastan plateau, the small village which gives its name to the plateau being reached at 3 miles. To the east of this village a post (6,567 feet) is being constructed to hold two companies of infantry, with a detached outpost about $\frac{1}{2}$ mile to the north to hold 30 men. On the Mastan plateau there is space to encamp a brigade of all arms, but water is a difficulty. There are two springs on the north side of the plateau, but the supply is not sufficient for more than one or two regiments for any length of time. At Siritangi on the south side of the range, which is about a mile distant and 1,600 feet below the plateau, there is a copious supply. A temporary mule road was constructed to this place, but it is proposed to make a 6 feet road through it to Baliamin, and when this is finished there will be no difficulty in bringing water up to the Mastan plateau if a sufficient number of *pakhal* mules are available. Sufficient ground has been included on the Mastan plateau within the boundary pillars for a small cantonment, should such at any future time be wanted. Beyond the village of Mastan the road continues west over the plateau past the Saragarhi villages, destroyed during the expedition, and then rises to a high point on the crest at 4 miles, where another small picquet post to hold 30 men is being constructed. This point is visible from Mastan and Gulistan. Beyond here the road runs over undulating broken ground to $5\frac{1}{2}$ miles, when it descends on to the neck on which the villages of Tangi China (destroyed during the first expedition) were situated. It then continues along the crest meeting the new mule road from Baliamin, and at $6\frac{1}{2}$ miles an ascent is made to Gulistan, which is reached at 7 miles. The length of the Gulistan-Baliamin mule road, just mentioned, is $7\frac{1}{2}$ miles, and reaches the plain at the village of Tangai. At Gulistan (6,152 feet), which is the limit of the Rabia Khel settlements on the crest, a post is being constructed for two companies of infantry on the site previously occupied by the village. There is room for a brigade to bivouac in the neighbourhood of Gulistan, but the space is rather confined. Water is obtained from a spring just below the crest on the northern slopes, and there are two small springs at the village of Shuimela about $\frac{1}{4}$ mile below Gulistan on the southern side of the range. There is a large tank for watering animals on the crest close to Gulistan.

Route No. VIII—concluded.

3	KARAPPA	.	.	10½		27½		The newly-made mule road along the crest stops at Gulistan. Beyond that point a road passable for mules was made by the sappers and miners. This road runs for half a mile north-west along the crest, and then leaving the village of Mir Khan (Akhel) and the high
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point (6,743 feet) on the crest to the right, the road skirts along the southern face of the range in a west-south-west direction to 2½ miles. From this point a footpath runs south-south-west for 4 miles to Shinawari (3,870 feet), where a post for two companies of infantry is now being constructed. It is proposed to make this road from Gulistan to Shinawari into a good mule road. From the point where this footpath branches off our road turns north, and at 3 miles again meets the crest of the Samana, which it follows in a direction north-north-west to the Chagru kotal (5,525 feet) which is reached at 3½ miles.

Over the Chagru kotal runs the direct road from Miranzai to the Akhel country. This road runs from Shinawari in a general north-north-east direction and is about 4½ miles in length. At 1 mile from Shinawari it enters a ravine and gradually winds up this for about 1,500 feet to the kotal. The road is stony and the gradient, especially near the kotal is steep, but it was made passable for laden mules by the sappers during the expedition.

From the Chagru kotal the road to Karappa descends through the Akhel or Chagru valley. Several Akhel villages near the kotal on the northern slopes. From the kotal the descent is steep and stony for about a mile, but was made passable for baggage mules. The direction is north-north-east the whole way from the kotal to Karappa. At 4½ miles (from Gulistan) an excellent spring is passed, and water is found in the bed of the Chagru *nala* at intervals during the next 2 miles. The road follows the bed of the *nala* which is at the bottom of a gorge, with precipitous cliffs on the west. At 6 miles the narrowest part of the gorge is passed and the village of Tarkana is reached. The Narik stream joins from the west at this point. (Height 4,575 feet.) The valley of that name has a narrow entrance, but widens rapidly. A road up the Narik valley crossing the kotal at its head at the Akhel village of Saidali leads down to the Khanki nearly opposite Sadarai, but it is not fit for baggage animals. A footpath also leads up to the village of Mir Khan on the crest from Tarkana, but this also is only practicable for footmen. From Tarkana the road continues down the valley, sometimes along the *nala* bed and sometimes on the cultivated banks. This is easy-going. Several Akhel villages are passed. At 7½ miles a gorge is passed on the right bank, up which a footpath leads through the village of Talai, Margharu and Mir Khan to Gulistan (distance 5 miles); this would have to be improved before it could be used by baggage animals. It is much shorter than the road from Gulistan round by the Chagru kotal, and was used by the bulk of the force in the advance into the Upper Khanki valley on the 10th May. At 7¾ miles the Chagru valley widens out and the villages of Karappa are reached. These are scattered and extend for some ¾ mile. They belong to all the sections of the Akhel and are the head-quarters of the clan. There are eight towers, which are better built than usual, and the houses are also loopholed and strengthened for defence. There is a considerable amount of cultivation about and there are several groves of trees. At 9 miles the road reaches the Khanki and then turning to the north-west crosses the Kandi stream, and at 10 miles reaches the camping ground in the angle between the junction of the two streams (*see* Route No. IX). The road throughout from Gulistan to Karappa is practicable for laden mules, but troops for a great part of the way have to move in single file. The Chagru pass is the easiest line of communication between the Upper Miranzai and Upper Kuanki valleys.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. IX.

HANGU TO MAMUZAI *via* SHAHU KHEL AND THE KHANKI VALLEY.

Authority.—DEPUTY ASSISTANT QUARTER MASTER GENERAL, MIRANZAI FIELD FORCE, 1891.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	SHAHU KHEL	7	7	From the camping ground at Hangu (height 2,700 feet) the road runs in a north-westerly direction past the dāk bungalow, and leaving the town on the left strikes across an open plain for 2 miles, when it passes over a low neck between the high hill to the north of Hangu which rises to 4,000 feet and a low detached hillock. After passing over this neck the road again emerges into open level country, with low bushes and trees, and runs across this in a direction north-east to $6\frac{1}{2}$ miles. A broad opening which has been made through the jungle forms the road. At $6\frac{1}{2}$ miles a dry <i>nala</i> is crossed, and the road then ascends to a stony plateau covered with jungle on the right bank of the Khanki Toi, on which is situated the village and border military police post of Shahu Khel. Here there is ground sufficient for a large force to encamp, but the jungle requires clearing. Drinking water is obtained from a spring to the south-west of the camp. Forage and wood plentiful. Height of camp 2,774 feet.
2	KHAORI	$5\frac{3}{4}$	$12\frac{3}{4}$	From the camp the path strikes across an irrigation channel and cultivation for 200 yards into the bed of the Khanki, 200 yards wide, firm and even throughout, of small stones, fit for all arms. There is no defined track, water flows in channels about 20 yards broad, $1\frac{1}{2}$ to 2 feet in depth, and the stream has constantly to be crossed, on an average about three times in a mile. The route follows the bed of the stream through the Mishti settlements which are on both sides of the Khanki, the valley being about $\frac{3}{4}$ mile broad. At $\frac{1}{2}$ mile the hamlet of Mian Mela (20 houses) and at 1 mile the village of Ajmir Mela (50 houses) are passed on the left bank, and at $2\frac{1}{2}$ miles Tari Band (8 houses) is passed on left bank. At 4 miles the bed of the Khanki is 80 yards wide, and is confined between precipitous hills forming a kind of defile. At $4\frac{1}{2}$ miles a small stream enters the Khanki from the north from the Kasha valley in which are situated the villages of Kasha and Ibrahim (see Route No. XI). At 5 miles Tuti Mela (40 houses) is passed on the right bank, the direction of the road being now south-west. At Tuti Mela there is a stony plateau on which there would be room to encamp a brigade. A footpath runs from this place to Hangu over the Samana range, distance about 5 miles, but this is not fit for baggage animals. After passing Tuti Mela the road emerges into a cultivated valley $\frac{3}{4}$ mile long and 600 yards broad. Khaori (30 houses) is reached at the western extremity of this valley at $5\frac{3}{4}$ miles. This is the limit of the Mishti settlements. Instead of following the bed of the stream the whole way a path along the left bank from Mian Mela through Ajmir Mela, which rejoins the bed of the Khanki at 4 miles, may be used. This path which is fit for laden mules is the direct road from Ajmir Mela to Kasha, the distance by this road to that place (which is the largest of the Mishti villages) from Shahu Khel being $5\frac{1}{2}$ miles. At Khaori there is camping ground sufficient for a brigade in the bed of the Khanki and on the cultivation (rice and cotton) on the left bank. This being clay-soil the ground after rain becomes very slippery; drinking water is obtained from springs, and the animals can be watered in the Khanki. Height of camp 3,120 feet.
3	GWADA	6	$18\frac{3}{4}$	From Khaori the route continues to follow the bed of the Khanki stream. At 1 mile Shakar-tangi (10 houses) is passed on the right bank. This belongs to the Rabia Khels whose country is now entered. The hills here close in, and are steep and precipitous on both sides of the

Route No. IX—continued.

stream. At 2 miles Saifaldarra (30 houses) is passed on the right bank. Here there is room for two or three regiments to encamp. At this place the mule road constructed over the Samana from Darband meets the Khanki. This road which crosses the range by the Darband Kotal (4,400 feet) is about $\frac{1}{2}$ mile in length. At $3\frac{1}{2}$ miles Katsa (40 houses) on the left bank is passed. At $4\frac{1}{2}$ miles Narai (40 houses), also on the left bank) is passed. A *nala* here joins from the north, and up this there is a path to Stara Karbogha (*see* Route No. XII). From Narai the route continues along the bed of the Khanki in a westerly direction, and at 6 miles Jandasam on the left bank and Gwada on the right bank are reached. These, as well as the other villages passed during this march, belong to the Rabia Khel.

Jandasam was the head-quarters of Malik Makhmaddin, the principal headman of the Payavi Nmasi section of the Rabia Khel. Here there is a stony plateau 100 yards broad, and around Gwada are cultivated terraces (wheat, etc.) on which there is room for a division to encamp. Water is obtained from the Khanki. Grass and wood are plentiful. Height of camp 3,470 feet. From Gwada a path ascends to the crest of the Samana at Sangar, distance $3\frac{1}{2}$ miles. This path was improved sufficiently to allow baggage mules to use it, but owing to its steepness it was very trying to the animals.

4	KARAPPA . . .	$7\frac{3}{4}$	$26\frac{1}{2}$	From Gwada the road continues up the bed of the Khanki in a westerly direction, crossing and recrossing the stream. Depth of water 12 to 18 inches. Bed of Khanki here about 200 yards wide. At $\frac{1}{4}$ mile a branch <i>nala</i> comes in from the north up which runs a path to Miru Khel in the Daradar valley, which is practicable for footmen only. At $\frac{3}{4}$ mile the village of Malik Nakshband (25 houses with one tower) is passed on the left bank. There is a small amount of cultivation close to the village. At $1\frac{1}{2}$ miles a branch <i>nala</i> comes in from the south-west, and here are the straggling villages of Inzaur. There are six towers in these villages, two of which belonged to Malik Zaman Sbah, Rabia Khel, and four to Malik Makhmaddin, Rabia Khel. (These were all destroyed during the recent expeditions.) Beyond Inzaur the road turns north-west and at $2\frac{1}{2}$ miles the Mamazai village of Adu Garhi (40 houses with one tower, which was blown up) is passed on the left bank at the mouth of the Daradar <i>nala</i> which here joins the Khanki. Up this valley lie the principal settlements of the Mamazai (Daradar) clan (<i>see</i> Route No. XII). Beyond Adu Garhi the road runs in a west-north-west direction, and at 4 miles the Rabia Khel village of Sadakada (one tower) is reached on the left bank. Immediately opposite to this village, a <i>nala</i> comes in from the south-west, and 2 miles up this <i>nala</i> lies Ghuzghor, the largest of the villages belonging to the Rabia Khel. Here there are several hamlets close to each other with altogether four towers, all of which were destroyed by our troops. At Ghuzghor two <i>nalas</i> join, one from the south and the other from the south-west. Up these <i>nalas</i> there are settlements of the Rabia Khel which were visited by the force, and three of their towers were blown up.
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Beyond Sadakada the road continues west-north-west up the bed of the Khanki; the country of the Rabia Khel is here left and Akhel territory is entered. At $6\frac{1}{2}$ miles Karappa, the principal village of that clan, is reached on the right bank at the point where the Chagru stream joins the Khanki (*see* Route No. VIII). At $7\frac{1}{2}$ miles the Kandi stream joins the Khanki from the north, and just beyond, on a stony plateau on the left bank of the Khanki, the camping ground was reached. Wood and grass obtainable; also limited supplies from the villages of Karappa, Khangarbur (Sekhan), and Ghundaki (Sadda Khel). When the force was halted here, the inhabitants of these villages brought sheep, fowls, and eggs, and green fodder for the transport was obtained on payment. Water, muddy, but fit for drinking, is obtained from the Khanki stream. Height of camp 4,300 feet.

The valley now has opened out, and is no longer confined between high hills on each side. The villages of Kandi Mishti lie about $4\frac{1}{2}$ miles to the north-north-west of the camping ground. There are two roads leading to these villages, one *via* Ghundaki, and the other along the bed of the Kandi *nala*. The former, however, is the best and is practicable for laden mules. Ghundaki, which is passed at $1\frac{3}{4}$ miles, consists of three hamlets each with its tower. The villages of Kandi Mishti (height 5,250 feet) lie at the foot of the Sanpagha pass (6,558 feet) leading over the Tsappar range into the Mastura valley, and their towers (three in number) were destroyed on the 10th May 1891.

Route No. IX—continued.

5	SADARAI	5½	32	From the camping ground the road runs west along the left bank of the Khanki, over low lying level, cultivated land for 3 miles. It then enters the river bed for half a mile and passes the village of Ramadan (Ali Khel) on the left bank. Here the road leaves the <i>nala</i> bed and runs along the left bank about 80 feet above the river. At 4 miles the Kot <i>nala</i> is crossed near its junction with the Khanki. A path up this <i>nala</i> leads to the Ali Khel villages of Isa Khel and Kot. From the Kot <i>nala</i> the road runs over stony but easy slopes to the village of Sadarai (Khadizai) on the left bank, which is reached at 5½ miles. No obstacles are offered by the road to the passage of mules or camels, but if required to move the baggage on a broad front it could advance up the bed of the Khanki, in which case the stream which is about a foot in depth would have occasionally to be crossed. The camp was formed to the north of the village of Sadarai, which is a large village with a considerable amount of cultivation. Excellent water is obtainable from a large spring. Supplies are procurable. Height of camp 4,700 feet.
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6	MAMUZAI BAZAR	8½	40½	About ¼ mile after leaving Sadarai the road which still runs along the left bank of the river, has been broken by an irrigation channel. A detour can be made to the north over stony spurs and <i>nalas</i> rejoining the old road further on, or the river bed can be followed. For the next mile the road runs over cultivated fields and patches of scrub jungle, where it might be advantageously widened. No real obstacle, however, is offered. At 2 miles the Khanki valley narrows considerably owing to the hills on the north closing in, but after this it widens out again, and two roads can be taken, the one on the right bank of the Khanki leading through the Alisherzai settlements, and the other on the left through Mamuzai territory. Following the former the river is crossed at 2 miles and the right bank is ascended at the village of Abdul Khel. The road here runs through fields offering no obstacle. At 4 miles Starkili, the head-quarters of the Alisherzai clan, is reached. This is a large village with a considerable extent of cultivation and several towers. At 4½ miles the road passes through a fairly thick wood, and at 5 miles reaches the village of Haji Khel (Alisherzai). At 5½ miles the Minjan <i>nala</i> is crossed just above its confluence with the Khanki and at this point there is a road leading west to the Alisherzai kotal. The road then crosses low stony hills and <i>nala</i> beds for 1½ miles further, reaching Mamuzai Bazar at 8½ miles. For the last 4 miles the direction of road changes from west to north-west and at Mamuzai Bazar it is running nearly due north. At this point the valley is at its widest (about 4 miles broad). A great part of the land is cultivated; water is plentiful; there are numerous groves of trees, including fruit trees, and both on the Mamuzai and Alisherzai sides the appearance of the valley is much more fertile and prosperous than it is lower down the Khanki. Mamuzai Bazar is the head-quarters of the Mamuzai clan, and is a collection of villages lying at the mouth of the Kahu <i>nala</i> , up which runs a path to Maidan of Tirah. The road from Sadarai to this place presents no obstacles to the movement of troops or baggage, and there is an alternative route up the bed of the Khanki by which the baggage could move if necessary. At Mamuzai Bazar supplies are procurable. There are about twenty families of Hindu <i>baniahs</i> here, who did a good trade with the troops while the force was halted at this place; excellent water, grass and fire-wood can also be obtained. Height of camp 5,750 feet.
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As already mentioned, there is a second route which can be followed along the left bank through Mamuzai territory. Although shorter, it is not good as the road on the right bank. There are occasionally breaks and obstacles, which would necessitate a column moving in single file. This road from 2 miles (at the place where it separates from the other) to 4½ miles runs stony slopes, and from this point traverses rice-fields and has to cross several irrigation channels. At 6½ miles it crosses the Khanki and then rejoins the Alisherzai road described above.

The whole of this route from Hangu to Shahu Khel and up the Khanki to Mamuzai Bazar is practicable for laden camels.

From the junction of the Minjan and Khanki there are two roads leading to the Alisherzai kotal, which divides the Khanki from the Kuram drainage. One which is evidently

Route No. IX—concluded.

much used, runs up the Minjan valley through Alisherzai territory and eventually reaches the lowest point of the kotal. This although the most direct route is described as difficult and trying to baggage. The other follows the route to Mamuzai Bazar for $1\frac{1}{2}$ miles, and then turning westward up a *nala* ascends by a steep and difficult path for another $1\frac{1}{2}$ miles, when it meets the direct road from Mamuzai Bazar to the kotal, which is a well marked tract cut out of the southern slopes of the Tembughar. By this road the kotal is reached, $4\frac{1}{2}$ miles further on considerably above its lowest point. The latter is 6,650 feet. The road is stony throughout and is not at present passable for laden animals, but with the expenditure of some labour could be made so. From this kotal a fine view is obtained into the Kurmana valley inhabited by the Massozai Orakzais, the drainage of which falls into the Kuram near Balishkhel.

Route No. X.

(Vide also Route No. 56, N. W. F., Vol. I.)

TORVARI TO STARKILI (ALISHERZAI) BY THE MANDATTI PASS.*

Authority.—DEPUTY ASSISTANT QUARTER MASTER GENERAL, MIRANZAI FIELD FORCE, 1891.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	STARKILI (ALISHERZAI).	$13\frac{1}{4}$	$13\frac{1}{4}$	Torvari is a large village in British territory, inhabited by Zaimukhts and containing some 300 houses. From Torvari the road runs north-west, and at $\frac{1}{2}$ mile the frontier is reached, and independent Zaimukht territory is entered. After crossing the boundary the small hamlets

of Paiodin, Umarai Kila, Sarmir Tapo, Sarmir Kila, and Khushal Khan Kila are passed. The total number of the inhabitants of these hamlets is about 200, who possess sheep and cattle and cultivate to a certain extent. The track to $1\frac{1}{2}$ miles has been cleared through jungle. At $1\frac{1}{2}$ miles the road meets and follows the bed of the Mandzaki *nala*, here known as the Sarobai, in which there is a good stream of water. Direction of road north. At $1\frac{3}{4}$ miles a *nala* comes in from the north-west. At $2\frac{1}{4}$ miles the track leaves the bed of the stream and runs along its right bank. At 3 miles the village of Saleh Kila or Nawa Kila is reached. Height 3,800 feet. This village contains 7 houses, and is on the right bank of the stream. There is here some cultivation, and a certain number of sheep and cattle. The people formerly lived on the opposite side of the stream, but some years ago abandoned that site and came over and built the present village. In 1879 Brigadier-General Tytler's force encamped here for one night. At $3\frac{1}{2}$ miles the road again enters the bed of the Mandzaki *nala*. At about 4 miles the Warmegi Algad (dry) joins from the west, and at this point the road crosses the stream and runs along the left bank. There is a road up the Warmegi *nala* to Chinarak which was used by the force in 1879. At 5 miles the Tarai *nala* (dry) joins from the north-west. To the north of the junction is the village of Zakhi (6 houses) with some cultivation. The road from here runs north-east to $5\frac{3}{4}$ miles when the village of Sparkhwait is reached (height 4,260 feet). This contains 120 houses with 400 inhabitants, and is situated in a small open valley on the right bank of stream. Here there is room for a brigade to encamp, and during the Zaimukht Expedition in 1879 the force was encamped at this place for four days. There is a considerable amount of cultivation and a large number of cattle and sheep. There are three towers in the village. Water is obtained from the Mandzaki stream. On

* This route is chiefly compiled from a report by Havildar Ramzan Khan, 3rd Sikh Infantry, who traversed the route in May 1891.—A. H. M.

Route No. X—concluded.

the opposite side of that stream is the village of Mosam, 70 houses and 250 inhabitants. This also has three towers with good crops and is possessed of cattle and sheep. The road from Torvari up to this point is easy for baggage animals. From here there is a road through Tarai Chingai and Warmegi to Chinarak, which was used by the force in 1879. At 6 miles the road again enters the bed of the Mandzaki *nala* and the valley now begins to contract. The road winds about in a direction generally north-east and at 7 miles the village of Mandzaki is reached. This contains 60 houses and 200 inhabitants. It is built on the hill-side above the right bank of the stream and has three towers. There is no level ground about and not much cultivation. There is a *ziarat* near the village. For about 30 yards the road near here passes over slippery slabs of rock and this place would have to be improved before transport animals could pass. From Mandzaki the road continues up the valley now in the bed of the stream and now along its banks. At $7\frac{3}{4}$ miles the small hamlet of Sarmast (2 houses) is passed on the left bank. At $8\frac{1}{2}$ miles the Zera *nala* joins from the east. There is a small stream of water running down this, and a footpath leads up it over the Zera kotal and then to Sadarai in the Khanki valley, said to be about 5 miles distant. The road now follows the bed of the stream and the hamlet of Maran Shah (6 houses) is passed on the right bank. At $8\frac{1}{2}$ miles the breadth of the bed is 20 yards and three or four large rocks block the passage or baggage animals. Some blasting would here be required. Beyond this the hamlet of Fathe Kotkai (5 houses) is passed on the right bank, and Abdal Algad (8 houses) on the opposite bank of the stream. At 9 miles the Wrasta *nala* joins on the right and just beyond this is the hamlet of Karmai (6 houses). At 10 miles the steep ascent to the kotal begins. This at present is bad in places but could be made practicable for laden mules with some labour. At $10\frac{3}{4}$ miles the Mandatti kotal is reached.

From Torvari to the Mandatti kotal the Mandzaki valley is inhabited by Zaimukhts. As far as Sperkhwait the valley is open, but is confined after that point. Besides the three large villages of Sperkhwait, Mosam and Mandzaki, there are many smaller villages, and there is a good deal of cultivation. In the valley there are numerous trees including walnut, apricot, apple, etc. The stream is never dry and the water-mills are always at work. The stream is clear and the water good. The breadth of the bed varies from 150 yards at Torvari to 10 yards near its head. At some places the banks are sloping, at others steep and overhanging. The average depth of the water in the stream is about 4 inches, but after heavy rain it is much more. Below the point where the Warmegi *nala* comes in, the valley is more generally known as the Sarobai.

Beyond the Mandatti kotal the country of the Alisherzai Orakzais is entered. From the kotal the road descends for the first mile down a ravine in which the road has been cleared through tree jungle. At $11\frac{3}{4}$ miles this ravine opens out into a broad valley, and at $13\frac{1}{4}$ miles Starkili is reached—the Alisherzai villages of Chappar (6 houses), Shaksham (30 houses), etc., being passed *en route*. Starkili lies on the right bank of the Khanki. It is the head-quarters of the Alisherzais, and contains 60 houses and 200 inhabitants. There are six towers and two wells of good water in the village, and about one-fourth of the inhabitants are Hindus. There is good ground for a large camp near the village. On the road down from the Mandatti kotal, and about the villages are numerous fruit trees—plum, apricot, pomegranate, etc. The height of Starkili is approximately 5,000 feet.

Route No. XI.

GWADA TO KASHA (MISHTI) *via* NARAI AND STARA KARBOGHA.

Authority.—DEPUTY ASSISTANT QUARTER MASTER GENERAL, MIRANZAI
FIELD FORCE, 1891.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter- mediate.	Total.	
1	KASHA	7	7	From Gwada the road runs down the bed of the Khanki, the stream having to be crossed. At 1½ miles at the village of Narai (Rabia Khel) the Karbogha Algad comes in from the north. The track runs up this <i>nala</i> , which is very narrow, to 3 miles. For a short distance the bed

of the ravine is dry, but soon after a good stream of clear water is met, which runs down the *nala* and has to be crossed and recrossed. The narrowest part of this gorge is at 2½ miles where it is not more than 20 feet broad with perpendicular sides. At 3¼ miles Stara Karbogha is reached. This is a Mamazai village with one tower. Height by aneroid 3,850 feet. From Stara Karbogha a track goes off to the west over an easy kotal to Kama Karbogha and thence continues to Miru Khel in the Daradar valley, but the latter part of the road is said to require a good deal of work to make it fit for laden mules. At Stara Karbogha the road leaves the Karbogha Algad and turning east crosses a range of hills, the kotal over which is reached at 4 miles. Height by aneroid 4,450 feet. This range divides the Mamazai from the Mishti settlements. From the kotal the path winds down in a general easterly direction, and at 4¾ miles Habib Kila is passed. This is one of three hamlets known collectively as Ibrahimio (Mishti). A tower is in course of construction at Habib Kila. The other Ibrahimio hamlets have no towers. At 5 miles the foot of the descent (3,520 feet) is reached, and the track then runs over fairly level country in a direction east-north-east to Kasha, which is reached at 7 miles. The road from Gwada to Kasha could with very little labour be made fit for laden mules. The ascent and descent near the kotal above mentioned would require improving, but laden country bullocks now traverse the road with ease. Kasha is the largest of the Mishti settlements. Its height is 3,400 feet and it is situated in a valley surrounded on all sides by hills. There are four separate villages, each with its tower. There is a considerable amount of cultivation around. The crops are *jowar*, *makai*, wheat, and barley. There is a large spring of clear water in the middle of the central or largest village. There is room for a division to encamp about here.

The Kasha *nala* drains the small valley in which Kasha is situated, and joins the Khanki stream 1½ miles from Kasha at a spot ½ mile below Tuti Mela. Just before joining the Khanki, the bed of this *nala* is confined in a narrow gorge not more than 15 feet broad. There is also a road from Kasha to Shahu Khel which passes through Ajmir Mela and Mian Mela, on the left bank of the Khanki. The distance to Shahu Khel by this road which is fit for baggage mules is 5½ miles. To the north of Kasha there is a path over the high range separating the Khanki from the Laghardarra. This road appeared steep, and it was reported that it was not fit for laden mules, although country bullocks use it. It leads direct to the village of Laghardarra, which is 3 miles distant.

Route No. XII.

GWADA TO TAKHTAK *via* THE DARADAR VALLEY.

Authority.—DEPUTY ASSISTANT QUARTER MASTER GENERAL, MIRANZAI
FIELD FORCE, 1891.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter- mediate.	Total.	
1	STARKILI (DARADAR)	5½	5½	For Gwada <i>see</i> Stage 3, Route No. IX. The road as far as Abu Garhi, 2¼ miles, is described in Route No. IX. At Abu Garhi (height by aneroid 3,550 feet) the Daradar stream joins the Khanki, and the road lies up the course of this stream. For ¾ mile it runs east-north-east and

then turns north to 4 miles when the villages of Miru Khel (Mamazai) are reached (3,800 feet aneroid). The track lies over the stony bed of the *nala*, here 75 yards wide, and the small stream of excellent clear water (very different to the Khanki water) has to be crossed and recrossed. The depth of water in this stream is about 6 inches. At Miru Khel there are four towers—one on the right bank known as Saiad Khan Mela and three on the left known as Nakka, Surutkai, and Kamar Mela. From Miru Khel the road continues in a northerly direction up the course of the stream, crossing and recrossing it to 5 miles. Here the valley narrows to a *tangi*, not more than 6 to 10 yards broad with rocky sides. Up to this point there is a path on the right bank from Abu Garhi which avoids crossing and recrossing the stream, but in the *tangi* it is necessary to go through the water. Laden mules can traverse the whole route, but it would be necessary to improve one place in the *tangi* before camels could get through. This could easily be done. At 5½ miles, after traversing the *tangi* the road emerges into the open again and Starkili (Daradar) is reached. (Height 4,130 feet.)

This is the head-quarters of the Mamazai clan and consists of a cluster of villages (100 houses) with six towers, all of which were blown up during the second expedition. The head-man is Jan Khan. At this place a copious spring of clear water comes out of the ground and forms the stream flowing down to the Khanki. A *nala* comes in from the north-west, up which is the small Mamazai village of Momani, ½ mile distant.

The road to Dran *via* the Khara (*see* Route No. XIII) branches on to the east at Starkili.

There is room here to encamp a brigade. Water from the spring already mentioned, excellent. Fire-wood plentiful. Grass obtainable and a few supplies could be procured from the villages around.

2	TAKHTAK . . .	6	11½	From Daradar (Starkili) the road continues up the Daradar <i>nala</i> (now dry) in a north-north-east direction. At 1 mile the village of Jan Khan Kila with one tower (afterwards destroyed) is passed on the left bank of the <i>nala</i> . This is the last of the Mamazai villages in this direction, the territory of the Shekhans being now entered. Beyond Jan Khan Kila the road still continues up the bed of the <i>nala</i> in the north-north-east direction but at 1½ miles this changes to north-north-west. At this point a path goes off in a north-east direction and crosses a kotal leading into the head of the Laghardarra. This is said to be as easy if not easier than the Kharai kotal, but there was no time to examine it.
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The road continues north-north-west to 2¾ miles, when the Shekhan village of Torsmats is reached. This village has one tower (afterwards destroyed) and is not of any size, the inhabitants migrating in the winter to Dran. Water is obtainable from a small stream in the *nala* below the village. Height of Torsmats by aneroid 4,730 feet. From Torsmats the ascent to the Nakata kotal lying west of the former place and leading into the Takhtak valley commences. This is steep and rough and would require improving before it would be fit for

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Route No. XII—concluded.

baggage animals, but the mules of the sappers and miners and the *pakhal* mules did manage to get up even in its present state. At $4\frac{1}{2}$ miles the kotal is reached. Here there is a tower (Shekhan) which commands the road, and this was destroyed during the second expedition. From the kotal (height by aneroid 5,820 feet) the track descends the *nala* on the other side in a westerly direction, and at 6 miles the first of the Takhtak villages (Shekhan) was reached. The tower of this was destroyed, but the troops did not go beyond this point. With the exception of the ascent from Torsmats the road from Starkili to Takhtak would present no difficulties to baggage mules.

From Takhtak a road said to be passable for laden animals mules leads down to the Kandi *nala* and thence to Kandi Mishti.

Route No. XIII.

SHAHU KHEL TO STARKILI (DARADAR) *via* THE LAGHARDARRA VALLEY.

Authority—DEPUTY ASSISTANT QUARTER MASTER GENERAL, MIRANZAI FIELD FORCE, 1891.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Interme- diate.	Total.	
1	DRAN	12	12	From Shahu Khel the road runs north-east, crosses the Khanki Toi (water $1\frac{1}{2}$ to 2 feet) and then a low spur into the Kachai valley. At $3\frac{1}{4}$ miles the village of Jangal or Kachai is passed $\frac{1}{4}$ mile to the right. At this point the route leaves the road to Marai (<i>see</i> Route No. XIV),

and turns off in a north-west direction across cultivation to Mir Ashgar, and at 4 miles a large spring of clear water rushing out of the side of the hill is reached. Here there is a good camping ground among the trees and on the cultivation. Excellent water is to be had from the spring already mentioned, and grass and firewood are obtainable. This is a very pretty spot. The Border Military Police post is about $\frac{1}{4}$ mile to the north-east and the village of Mir Ashgar $\frac{1}{4}$ mile to the north-west of the camping ground. Mir Ashgar is the last village in British territory on this route. Height 2,550 feet by aneroid. After passing Mir Ashgar the road proceeds across the valley and then ascends to a stony plateau (2,800 feet) covered with bushes and jungle, across which it runs in a north-west direction to 7 miles, when it descends to the bed of the Shega *nala* at the mouth of the Laghardarra. Here there are some caves known as Thali inhabited by Bar Muhammad Khel *saiads*. At this point British territory ends. Just before arriving here on a small level plateau there is room for a camp, and the force on its return from Dran during the first expedition did encamp here for one night. This camp was called Gara in the reports. Water, wood, and grass are obtainable. Beyond the Thali caves the road follows the Laghardarra up the bed of the stream which it has to cross and recross. The water is about 1 foot deep and very clear. At $7\frac{1}{2}$ miles the small hamlet of Piara is passed. This is situated on a cliff above the right bank of the stream and is now deserted. From here the road continues up the valley, which is narrow and winding and most picturesque, in a direction generally west. The sides of the valley are covered with bushes and grass. Fig, vine, oak, mulberry, pistachio, and other trees abound. At 9 miles the village of Pitaomela is passed on the left bank of the stream. This belongs to *saiads* of the Bar Muhammad Khel, and has one tower. It is situated at the mouth of the Pitao *nala* which joins the Laghardarra at this point. At $9\frac{1}{2}$ miles the Siri *nala* comes in on the south. Here is the village of Sirimela, which is now in ruins, having been destroyed in 1890 by the people of Pitaomela. It belongs to the Taggi Nmasi *saiads*. There is a good stream of water in the Siri *nala*, where it joins the main stream, and there is some cultivation about Sirimela as well as around Pitaomela. From Sirimela the road continues (still west) up the Laghardarra which now begins to open out. At 11 miles the road passes through the Shekhan village of Laghardarra on the left bank of the stream, the tower of which was subsequently blown up. One mile further Dran is reached. This consists of six villages with, in all, five towers. These latter were destroyed during the second expedition. Dran is the head-quarters of the Shekhan clan. The Lag-

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XIII—concluded.

hardarra valley is here open and there is a considerable amount of cultivation, chiefly *jowar*, but a small amount of wheat is also grown. There is ground about Dran to encamp a division. Water abundant and excellent from the stream. Grass and wood are obtainable and cattle and sheep could be procured. The road of Shahu Khel to Dran is practicable throughout for laden mules and it could be made passable for camels with some labour. In the narrow part of the valley between the Thali caves and Sirimela the road had to be improved a little before the baggage mules could pass. A track leads from the village of Laghardarra over the range on the south to the village to Kasha (distance 3 miles), but this road is very steep and in its present condition reported unfit for baggage mules. Height of camp at Dran 3,560 feet.

2	STARKILI (DARADAR)	7	19	After leaving camp the road continues west. Just above Dran two <i>nalas</i> meet—one comes in from the west north-west, and the other from the west-south-west. Up the former leads the direct road to Torsmats, 6 to 7 miles distant. This is said to be practicable for mules, but there was no opportunity to examine it. Up the former leads the road to the Kharai kotal which was followed by the force. This road does not keep to the <i>nala</i> bed, but runs along the side of the hill to the north of it for 2½ miles to the Shekhan village of Mirchina. Up to this point the path which runs through bushes and undergrowth is quite easy for laden mules. At Mirchina (height by aneroid 4,250 feet) there is a good supply of water from a perennial spring. From here the ascent to the Kharai kotal is made. This path which was improved by the sappers is steep and zig-zags up 800 feet, the crest being reached at 4 miles. The track then runs across a plateau for ½ mile in a westerly direction when the true kotal (5,400 feet) is reached near the small hamlet of Saidan Shah Garhi. This is a Mamazai village, the territory of the Shekhan clan only extending as far as a tank in the middle of plateau above mentioned. This plateau affords a good camping ground for a brigade. Water, however, is a difficulty. This would have to be brought up from Mirchina, as the small spring to the north of the plateau would only afford a scanty supply. There are two small tanks on the plateau itself. Wood and grass are obtainable in the neighbourhood. From the Kharai kotal the road leads down the Arkhi <i>nala</i> running along the face of the hill on its north side. At 5½ miles the large Mamazai village of Arkhi (100 houses) was reached. The descent had been improved and was easy for laden mules. From Arkhi the road ran still west across cultivation and enter the Daradar valley at the point where the Arkhi <i>nala</i> meets it, and at 7 miles, Starkili (Daradar) was reached. This place has already been described (see Route No. XII). The whole of this road from Dran to Starkili was made, with a little labour, practicable for the baggage mules of the column.
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Route No. XIV.

HANGU TO SHIRAZ GARHI (STURI KHEL) *viâ* THE ZERA PASS.

Authority—DEPUTY ASSISTANT QUARTER MASTER GENERAL, MIRANZAI FIELD FORCE, 1891.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	SHAHU KHEL	7	7	<i>Vide</i> Route No. IX.
2	BAR MARAI	12	19	The road runs north-east from Shahu Khel, crosses the Khanki Toi (water 1½ to 2 feet) and then a low spur into the Kachai valley. At 3½ miles a road branches off to the left to Mir Jangal is passed on the right, and the Kachai

Ashgar and the Laghardarra valley. Here

Route No. XIV—continued.

thana 400 yards on left. The road then crosses a shallow stream and 150 yards beyond runs east till 200 yards north of Landi, where, meeting a path from that village, it runs north over a wooded plain broken by several *nalas*, branches of the Kuriez. At $10\frac{1}{2}$ miles route drops into Kuriez *nala*. Kuz Marai is passed here on left bank of *nala*. The route runs up *nala* 400 yards, and then by winding path to Bar Marai, which is reached at 12 miles. This road is 5 to 8 feet wide and passable for laden mules or camels, but for the latter the longer route *vid* Bazar between Shahu Khe! and Landi would be preferable, as the gradients are easier. Bar Marai (3,255 feet) is a large village and there is here a post for Border Military Police. Camping ground for a brigade north of village on stony ground partially covered with jungle and on cultivation. Good water is brought down in a channel 2 feet wide from springs in the hills to north. Grass and wood plentiful.

At Kuz Marai also is a large village, and there is camping space for a considerable force on the left bank of the Kuriez *nala* south of village. Water from springs in the hills and in bed of *nala*. Grass and wood plentiful.

3	ZERA	5
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24 | The road over the Zera pass was made fit for mule transport in February 1891. It is 5 to 6 feet broad. It gradually ascends north-east from Bar Marai for $1\frac{1}{2}$ miles, then winds up side of steep wooded ravine. At 3 miles is the kotal (4,260 feet). It then descends north-west

by an easy gradient through a wooded ravine. At $4\frac{1}{2}$ miles the cultivation in the Mastura valley is reached. A path traverses the cultivation (chiefly rice) to Zera (5 miles), crossing the Mastura (or Orakzai Bara) stream just before that village is reached. The main route trends more to the west and crosses the stream at 5 miles when it meets the road along the left bank of the Mastura from Zera to the Sturi Khel villages at a point $\frac{1}{2}$ a mile from Zera.

Zera (3,890 feet) is a Sipaya village, of about sixty houses, on the left bank of the Mastura in a cultivated basin half a mile broad. The camp was pitched on the right bank of stream where there is sufficient space for a considerable force to encamp. The stream is about 2 feet in depth and affords an unlimited supply of good water. Grass and wood are plentiful in the neighbourhood.

There is another road from Bar Marai, which was also made fit for mule transport in February 1891. It branches off from the road above described at 1 mile from Bar Marai. It crosses the range at a point (4,450 feet) west of the kotal proper, and joins the other road again $\frac{3}{4}$ mile below the crest. This road is steeper than the one already described and is not so good.

There is yet another road which is at present unmade, which starts from Kuz Marai. It is 4 to 5 feet wide and ascends along a spur in a north-west direction from Kuz Marai by a fairly easy gradient. At $2\frac{1}{2}$ miles it joins the road first described from Bar Marai to Zera. 1 mile south of the kotal. The distance from Kuz Marai to Zera by this route would be $5\frac{1}{2}$ miles, but the ascent being more gradual, it would afford the best line for a permanent road, should such ever be constructed. At present it requires to be cleared of jungle and repaired to make it fit for a baggage column.

From Zera a road goes to Maidan of Tirah (see Route No. XV A).

4	SHIRAZ GABHI	7 $\frac{1}{2}$
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31 $\frac{1}{2}$ | The road, 4 to 6 feet wide, runs south-west from Zera on the left bank of the stream. At $\frac{3}{4}$ mile it enters a wooded rocky defile known as the Gudor Tangi defile. This defile is only 20 to 50 yards broad and the sides are steep and in places precipitous. The stream is 10 to 15

yards broad, the water being about 2 feet deep and said to be impassable for a few hours after very heavy rain. At 1 mile route is in bed of stream for 300 yards, then crossing from left to right bank it trends north-west. At 2 miles it crosses from right to left bank. At 3 miles is a rocky gorge. Route is here in bed of stream for 50 yards, then along the left bank trending north. At $3\frac{1}{4}$ miles defile ends and path emerges into the cultivated Sturi Khel valley. Altogether the stream has to be crossed some dozen times in the defile, but the greater part of the road lies on the left bank. This defile is a formidable one and it would be very difficult to force it in the face of determined opposition. The sides are high and precipitous, and there are large boulders and falls in the stream which would prevent animals using its bed as a road. The scenery in the defile is very grand. After issuing from the

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XIV—concluded.

tangi at $3\frac{1}{4}$ miles the route runs up the bed of the stream, here 150 to 300 yards broad, with water about a foot deep in channels 15 yards broad. At $4\frac{1}{2}$ miles the Sturi Khel hamlet of Andkhel (thirty houses) is passed on the right bank. Height by aneroid 4,150 feet. There is also a deserted hamlet on the opposite bank, which was formerly peopled by the present inhabitants of Andkhel. After passing the village the route turns towards the west. At 5 miles track runs along the left bank in south-west direction. Valley is here half a mile broad with rice cultivation near the villages. At $5\frac{1}{2}$ miles is Bar Andkhel (50 houses) consisting of two hamlets with three towers. At 6 miles is Tazi Khel (30 houses) on left and Kodkai (10 houses) on right of road. *Jowar* and rice cultivation. Route here trends west. At $6\frac{1}{2}$ miles is Chanjanni (with a tower and about 20 houses) on left, and at 7 miles is Anjanni (50 houses) on right of road. Valley here is 1 mile broad. From here the Uchpal pass to the north is visible. At $7\frac{1}{2}$ miles is Shiraz Garhi (50 houses), called after the principal Sturi Khel *malik*. Closed to it is Bandi Ali, a small hamlet where he lives. This is the limit of the Sturi Khel settlements. The highest of Shiraz Garhi was estimated to be about 4,400 feet. On the opposite (right) bank of the Mastura stream is Sultanzai (Abdul Aziz Khel) consisting of three villages with eight towers. A mile further up the valley is Kharsbah, a large Abdul Aziz Khel village with a tower. This village as well as Sultanzai are the property of the young Orakzai chief (Aminulla Khan) who holds a *jagir* from Government and lives in the Peshawar district.

The road through the defile is, in its present condition, not fit for baggage animals of any sort, but by blasting and re-making several short rocky bits and constructing ramps it could be made passable for laden mules by a company of sappers in two or three days. Beyond the defile the path on the left bank would be fit for mules or camels with a few slight repairs, or the bed of the stream could be followed.

A large force could encamp anywhere at or beyond Andkhel on the cultivated ground or on the dry portion of the bed of the stream. Forage and wood are procurable. Beyond Andkhel there was a foot of snow lying in the valley on the 11th February 1891.

Route No. XV.

ZERA TO KOHAT *via* THE UBLAN PASS.¹

Authority.—DEPUTY ASSISTANT QUARTER MASTER GENERAL, MIRANZAI FIELD FORCE, 1891.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	Usi	11	11	The road from Zera runs in a south-east direction through cultivation for half a mile. It then enters a rocky gorge 20 yards wide, which gradually opens out until Daulatmusa, a Sipaya village of about 20 houses, is reached at $1\frac{1}{2}$ miles. The valley here is cultivated and $\frac{1}{2}$ mile

broad. The road then crosses the Mastura stream and runs through wooded country. The valley gradually closes in until the deserted village of Mandatti is reached at $3\frac{1}{2}$ miles. Valley here 300 yards broad. At $4\frac{1}{2}$ miles track enters a rocky gorge 15 yards wide. The road then bends to the south-west and runs along the bed of the stream for 150 yards, then along the right bank to Khar Khusta, a Sipaya village consisting of two hamlets and containing about 40 houses, which is reached at $5\frac{1}{4}$ miles. The valley is here 100 yards wide. From Khar

¹ This route was only traversed by our troops as far as Khar Khusta ($5\frac{1}{4}$ miles). The route beyond that point is compiled from the report of Havildar Bamzan Khan, 3rd Sikh Infantry, who was sent back to Kohat from Zera by this road on the 12th February 1891.

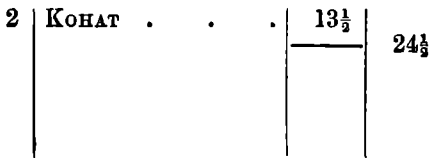
Route No. XV—continued.

Khusta a footpath leads to the east over the Istarghar range to Kuz Marai. The road from Zera requires making for baggage animals, commencing at $\frac{1}{2}$ mile from the village of Zera to Daulatmusa (two hours' work for 400 men) which portion is a rough path. Remainder of road is good for animals (mules or camels), 5 to 10 feet broad, except in six or seven places, where for short distances the road requires making.

The stream itself is 10 to 20 yards broad, and the bed which is from 25 to 60 yards wide is gravelly between banks 15 feet high. The depth of water in the stream is 1 to 2 feet, but after heavy rain is as much as 3 feet. At the time of the autumn harvest the water (owing to the rice cultivation) is said to be bad for drinking purposes.

Beyond Kbar Khusta the road turns to the south-east through a wooded defile 50 yards broad. At 6 miles it crosses to the left bank. At 7 miles owing to the number of trees the road is confined. Here a small vineyard is passed. At $7\frac{1}{2}$ miles the inhabited village of Mir Asghar Mela which lies on high ground is reached and at 8 miles the road which skirts the hill for 300 yards requires some repairs before it would be passable for laden mules. From half a mile this side of Zera up to this point, the valley may be described as a defile, and there are several places which even footmen have some difficulty at present in passing, but with a few hours' labour these places could be made passable for mule transport. From 8 miles the hills begin to open out and the going is better. At 9 miles the village of Toi Mela is reached. From here the stream turns eastward. Beyond this point the road is very good. Here the track leaves the stream and at $9\frac{1}{4}$ miles the village of Timar Mela is reached. At 11 miles the road again meets the stream at the Sipaya village of Usai (20 houses) which is situated in a small basin with patches of open ground near the village, which would afford a good camping ground for a small force. Water obtained from the stream.

From the village of Timar Mela the road *viâ* the Dablai pass to Alizai and Sherkot branches off, the kotal being 4 miles distant. From Timar Mela this road passes through Palosai at 2 miles. This village is in an open plain, suitable for an encamping ground. From Palosai a road runs directly to the Muhammadzai post. The Sipayas are reported to bring laden bullocks by this road. The distance from Palosai to the Turakhpa Kandao, where the road crosses the range before descending to the plains, is said to be about 5 miles.



After passing Usi the valley begins to contract again and the road lies along the bed of the stream. The hills which close in the valley are steep and difficult of ascent. At 1 mile these hills are some 300 yards apart and the breadth of the stream is 60 yards. At about 2 miles

the village of Ganderai (Bizoti) is reached and the road, leaving the stream, skirts the hills on the right bank. From here a track branches off and crosses the Mauleghar range to the Firoz Khel settlements.

At 3 miles Danakhula (Bizoti) is reached. Between Ganderai and this place, the road is bad in several places and would require improving. At Danakhula the Ublan route leaves the Mastura stream which here takes a bend to the north and runs between the Firoz Khel and Utman Khel settlements and then joining the Bara debouches into the Peshawar district near Fort Bara. Near Danakhula on the banks of the stream there is a small level plain which would be suitable for a camp. After leaving Danakhula the path enters a ravine, and at $3\frac{3}{4}$ miles the road is bad for a distance of 400 yards, and this would have to be improved before it would be passable for laden mules. After passing this place the road traverses fairly level ground, well wooded, but without water, the hills on either side being easy. At $6\frac{3}{4}$ miles the village of Ublan* (Bizoti) is reached. From here two roads lead to Kohat—one *viâ* the Uch Kandao, which is generally known as the Ublan kotal and was the one used by Lieutenant-Colonel Keyes's force in 1869, and the other follows the *nala* which runs past the village of Ublan and then cuts through the hills until it reaches the plain near the Muhammadzai post. By the former route the Ublan kotal, which is about 4,000 feet, is reached at $8\frac{1}{2}$ miles, the descent to the plain on the south side being steep. The Muhammadzai post is reached at $10\frac{1}{2}$ miles and Kohat at $13\frac{1}{2}$ miles.

At present the road over the Ublan kotal is not practicable for laden mules, but there would be no difficulty with little labour in making it passable for mule transport. On the summit of the kotal there is a tank where rain water remains collected.

* This apparently occupies the site of Gara destroyed by Lieutenant-Colonel Keyes in 1869.

Route No. XV—concluded.

The other road from the village of Ublan is about $1\frac{1}{2}$ miles longer. At $10\frac{1}{2}$ miles the road enters a deep ravine, in which large boulders are strewn, but the road with little labour could be made passable for laden mules. The ravine is very narrow, at one place not more than 20 yards, with precipitous sides rising to a height of 600 or 700 feet. At 12 miles the Muhammadzai post is reached.

The following Sipaya villages were passed *en route* after leaving Zera :—

Daulatmusa.—Contains 8 houses; *malik*, Akhbar; situated in a large plain well suited for an encamping ground.

Mandatti.—Contains 6 houses; deserted. No open ground near it.

Khar Khusta.—Contains 30 houses; *maliks*, Ghulam Jagar and Ali Baz. No open ground. There is an inhabited village on the opposite side of stream.

Mir Ashgar Mela.—Contains 10 houses, but on account of *malik's* death it is deserted. No open ground.

Toi Mela.—Contains 60 houses, of which half are uninhabited. No open ground.

Saya Mela.—Contains 5 houses; *malik*, Habibulla. No open ground.

Timar Mela.—Contains 12 houses. Built on a hillock about $\frac{1}{2}$ mile from the stream; *malik*, Amir Ali. Open ground near it.

Palosai.—Contains 100 houses, situated in a large plain. In the village are several tanks in which rain water is collected. When these tanks are exhausted water is obtained from the Mastura stream which is 2 miles distant; *maliks*, Mir Ali, Ali Ghulam and Fakir Jan.

Usi.—Contains 20 houses. It is situated in a small basin; *maliks*, Marghawi and Darash. Patches of open ground round the villages, suitable for encamping ground.

The above villages are all situated near the banks of the Mastura stream with the exception of Palosai, which is 2 miles distant from it.

The following Bizoti villages were passed *en route* after leaving Usi :—

Ganderai.—Contains 30 houses. The houses are built in excavations from the hill-side; *malik*, Jafat Husen Kazi. Situated on left bank of Mastura stream.

Danakhula.—Contains 300 houses, built in excavations from the hill-side close to the stream. On the banks of the latter there is a small plain suitable for a camp.

Ublan.—Contains 300 houses built in excavations from the hill-side. For drinking purposes the inhabitants have constructed a tank to hold the rain water, and there is also a well, depth 15 feet. When the tank is exhausted, all use the well which never runs dry. In the Ublan *nala* water makes its appearance in places and then disappears under ground again.

The Bizotis have very little cultivation. They come down to these lower settlements in the winter and in summer migrate to Tirah.

Route No. XV. A.

Supplementary to Route No. 55, N. W. F., Vol. I.

FROM KOHAT TO MAIDAN OF TIRAH *via* THE LANDUKI PASS.

*Authority**—CAPTAIN GRAY, 4TH PUNJAB INFANTRY, 1891.

FROM KOHAT TO BAR MARAI, *See* ROUTE NO. 55, N.-W. F., VOL. I.

The road from Bar Marai to the mouth of the Karez dara—about $3\frac{1}{2}$ miles—is level and might be improved to any width as it runs over an open plain. A few small *nalas* have to be crossed. Soil clayey, bad in rain, and would be very dusty in dry weather.

From the mouth of the Karez dara to Sanna, where the ascent of the pass is commenced, the road follows the direction of the stream (up-stream), sometimes along the bed, sometimes over the stratum of conglomerate through which the water has cut its way.

Gradients gentle throughout, or could easily be made so. Soil stony. Little work would be required to make this part of the road fit for all arms except wheeled artillery, and all transport but carts.

* Captain Gray did not traverse the route beyond Mani Khel plain. Information regarding remainder of route he obtained from natives, supplemented by distant observation.

Route No. XVA—continued.

A defile throughout.

From Sanna to the summit of the Landuki pass. Road bad, very stony in parts, and near the summit over shaly soil. Very steep; ascent about 1,770 feet. The baggage of a brigade would take days to cross the pass in the present condition of the road. Altitude of Landuki pass 6,565 feet (aneroid).

A fair road could be made without very great labour or expense, but one or two "very steep" gradients could hardly be avoided.

A defile throughout.

There is no place to rest at the top of the pass, which is a very narrow ridge.

A force crossing the pass should be divided into several echelons.

From the summit of the pass to Kalaya. The path descends for the first 400 yards by a "steep" gradient. It then follows the course of a *nala*, falling by gentle gradient, for some 2 miles to Nanawar Ziarat. In March 1891 all this was under deep snow, the path showing only in parts. The soil is rocky, but a fair road for a force with mule transport could easily be made.

After Nanawar Ziarat the path enters the "Mani Khel dara," a well-wooded and populous, though narrow, valley; with many substantially built villages, and fields terraced with much care. The road is very bad and stony, but the gradient gentle. A defile throughout.

From the debouchure of this glen into the Mani Khel plain, the road runs through open country, falling by an almost imperceptible gradient, over fair soil, to Kalaya. Altitude 5,336 feet.

A road for a force equipped with mule transport could thus be made without difficulty from Bar Marai to Kalaya; but it must be remembered that the pass is liable to be blocked with snow in a severe winter for months at a time.

No *bridges* are required, and the few *fords* over mountain streams are insignificant.

The *rate of marching* would be perhaps 2 miles an hour for infantry; 1 to 1½ mile for laden mules.

Each laden mule would have to be led separately, and there should be in addition special parties to remove or re-load fallen animals.

Water.—A large spring of beautiful clear water exists, in the river bed, a few hundred yards up-stream from the mouth of the Karez dara; the water being stored in a deep and apparently natural tank.

Another good spring comes from the rocks of the right bank a very short distance further up-stream.

These two springs would suffice for two strong brigades; animals being watered in the river. Both springs and river are said to flow perennially, and it is in all likelihood the case.

Up to Karez the river and its tributaries give a supply, probably inexhaustible in any season, of good water.

There is a very small spring, whose water is stored in a dirty mortar tank at Sanna.

Beyond (west of) the pass, the stream in Mani Khel dara, probably perennial, would supply good water above the villages; but when reconnoitred it was turbid from the melting snow. (March 1891.)

At Kalaya itself, the Mastura river gives an unfailing supply, but it would be better to fetch drinking water from two springs at the Ainposh ruins, one situated immediately under the tower, the other about 150 yards to the west, under a rock on the right bank of the stream from Mani Khel dara. These two springs are said to diminish very little in the driest seasons; the water is of very good quality, and with management would suffice for two brigades of all arms (men only).

Crops produced are wheat, barley, millet and rice. *Grass* would be procurable from the hills, though of inferior quality and limited amount. *Wood* plentiful.

Parallel and lateral movements, except to crown the heights flanking the route, would be impossible, and this operation would be one of considerable difficulty. A great number of men would have to be employed and much time would be occupied.

The view is closed nearly throughout.

Many of the slopes are covered with thick oak forest.

It will be remembered that the road from Bar Marai over the Zera pass and thence up the Mastura valley furnishes an *alternative route*. It is probably a long and difficult road, and the tribes would certainly be hostile. (*See Note B.*)

Route No. XVA—continued.

The *Rivers*, except as water supply, hardly merit consideration. The fords would to some extent delay progress. The river bottoms are all good.

The Mastura river is fordable by all arms everywhere in, and up-stream from, the Shiah territory; though it is probable that floods may occasionally render it impassable for a time. Its bed is of shingle and varies in breadth up to 150 yards. Banks in some places as low as one foot; in some places, as at Kilaya, 50 feet high and of friable soil. Current "ordinary."

Its principal tributary valleys are Mishti dara, Firoz Khel dara, Waran valley on the left and the Mani Khel dara on the right.

Halting places.—Karez (where it would be very advisable to spend a night); Sanna (where the force would have to halt in column of route); Nanawar Ziarat.

Shunts should be made wherever possible in constructing a road, especially on the zig-zag which would lead up to the pass from Sanna. Others could be cleared in tributary *nalus*. No shunts exist at present.

Camps and bivouacs.—Outside the mouth of the Karez dara there is room to camp a very large force. Water from river and springs above described. Hill picquets could be dispensed with. Wood and grass should be arranged for through the Kohat district authorities. Soil bad in wet weather. Ground level.

Among the Karez villages two brigades of all arms could be camped, with a little arrangement, on the fields. Soil dusty or muddy according to weather. Wood and grass should be brought by the tribesmen. Water supply from rivers ample and good. Precautions would be taken against the pollution of the river. This camp should be used if possible to shorten the morrow's march over the pass. Although the people are friendly hill picquets could not be dispensed with.

In the Kalaya plain many brigades could camp. The soil being cultivated would be muddy or dusty; fairly level. Wood and grass through tribesmen. Water (see above) good and plentiful. The camps should be chosen as far east as possible to be out of range of the breech-loaders of the hostile tribes on the left bank of the Mastura. Strong picquets to north and west necessary; small ones east and south.

There are no *positions* favourable to an invading force. Hostile persons could harass the march from the entrance to the Karez dara as far as Haidar Kili, and though the inhabitants are friendly, it would be necessary to feel the way with care, crowning each height.

The pass should be taken by an advanced infantry force.

Many points on the road east of the pass can be observed from the summit. There are a few places from which parts of the road on the far (west) side of the pass can be seen, especially the spurs of Nanawar mountain.

The entrance of a force into the Mani Khel plain would be visible from a very large track of hostile country to the west.

There are no *cross* or *branch roads* or *paths*, except cattle tracks.

This march, even after the road had been repaired, would be a trying one, and it must be remembered that it may, at any time, become impassable to troops in winter. Every endeavour should be made to get the road as far as the summit of the pass ready without drawing the attention of the enemy.

The main body marching across the pass should be divided into echelons.

Troops would be located in the Mani Khel plain with comfort.

The only villages of any notice between Bar Marai and the Landuki pass are the group of cave dwellings at the mouth of the Karez dara and a cluster of small hamlets further up the valley which are known as Karez. Inhabitants, Muhammad Khels. They could be defended easily when gained; but they are commanded by hills on either side. Not inflammable.

From the Mani Khel plain the easiest and most important route to Maidan is *via* the Arhanga pass. Leaving Mani Khel, the path runs for some 10 miles along the Mastura valley. If the condition of the river admitted of it, and this would nearly always be the case, the shingly bed would be adhered to as far as possible. Otherwise the path would run through fields (heavy in wet weather). Few natural obstructions. *Gradient* an almost imperceptible rise. As long as the road follows the Mastura river there are no *defiles*. Road a mere country track, but it would require little more than marking out.

Between where the road leaves the Mastura valley, and Maidan, it is probable that several *defiles* exist. The distance is however short, perhaps 5 miles; it is unlikely that any steep gradients would be found; and the Arhanga pass itself is stated, trustworthily, to be

Route No. XV A—continued.

insignificant both in length and gradient. It is probably stony and enclosed by low and somewhat cut-up hills.

At about 8 miles from Kalaya road goes up the Mishti dara to the Firoz Khel dara (see Note A) and at about 2 miles before reaching the Arhanga pass a road branches right to the Tangai pass.

The Mastura river would have to be frequently crossed, if not by the main body at least by bodies moving for tactical purposes; but, as before observed, it is fordable everywhere as a rule.

The *rate of marching* would be perhaps 2 to 2½ miles an hour were the country unoccupied; but as each of the many villages would have to be taken, and as the main body would have to wait on flanking guards on the hills, the advance would occupy some days, and troops should be prepared to bivouac where they might be at nightfall.

Villages.—Many and strong, but easily breachable by artillery. All hostile. Of low inflammability. Pakha Kila has been in ruins for many years. Each of the existing villages undoubtedly contains a large store of grain and other foods.

Water supply ample, and of fair quality, from the river. Probably several springs would be found *en route*.

Cultivation.—Extensive; a few small water-courses in the rice-fields; but in the corn-fields, which occupy by far the greater part of the valley, there are few, if any, *obstacles*, except occasional small *nalas*.

Lateral movements would be practicable to the north of the valley by cattle-paths.

View.—Open. Observation parties detached to the hills, such as Dapahghar, would be of great use.

Halting places are probably numerous and good. Villages would be occupied at night.

The breadth of the valley would render *shunts* unnecessary, except, perhaps, when nearing the Arhanga.

Camps and Bivouacs.—Probably numerous and good (except in muddy weather); but the existing villages would perhaps invariably be used for quartering troops.

Positions for covering the advance or withdrawal of the column in the valley are to be found on the spurs running down from the mountains on either side of the Mastura.

These positions would, however, be equally favourable to those opposing the advance, and would have to be carried. By occupying them, and moving slowly, a force could operate with elasticity, though doubtless considerable losses would be sustained.

The whole route can be *observed* from innumerable points on the surrounding mountains.

As far as could be ascertained no *cross* and *branch roads* and *paths* exists except those above referred to, and numerous cattle-tracks; but there must be many *paths* leading into the Mastura valley from the south.

It is improbable that any easier route for a force marching to Maidan could be found than the one above described.

Note A.—*Alternative route from Kalaya.*

The Mishti Kandao route *via* the Firoz Khel dara, Firoz Khel Kandao, and across Mishti dara to Mishti Kandao, is generally speaking, of the same character as the Arhanga route. The breadth of the Firoz Khel dara is however much less, and the gradient somewhat less easy, than in the main valley of the Mastura. The Firoz Khel and Mishti Kandao are both believed to be very easy passes.

This road connects with the Arhanga route by the broad plain of the Mishti dara. It is the more direct route of the two, but more difficult, and tactically less desirable, from the narrowness of the Firoz Khel dara.

Note B.—Another route leads to Maidan from Zera (see Route No. XIV) *via* the Waran valley. It is believed to present no great difficulties, and the character of the country must be much the same as that above described.

Note C.—The mountain range to the north of Waran valley, and that to the south of the Mastura, both considerably more formidable than the hills between them, define the *rayan* of operations which could be undertaken by a force advancing by the Landuki and Zera passes against the Suni tribes of Tirah.

The hostile clans to be dealt with, after passing the Shiah territory, are—

On the Arhanga and Tangai routes, Shekhan, Mishti, Mulla Khel, Ali Khel;

On the Mishti Kandao route, Firoz Khel, Mishti;

On the Waran route, whichever way it be approached, the Firoz Khel, Bizoti, Utman Khel, Aka Khel;

If Maidan were entered, the Zakha Khel, Kambar Khel, Malikdin Khel.

Route No. XVA—concluded.

All other Afridi and Orakzai tribes would doubtless combine to help the above clans.

There are probably no communications, *perpendicular to the line of operations* more important than those above described or alluded to.

Well armed and warlike, as are the inhabitants, they are yet very ignorant about the use of their arms, and ammunition is procured with difficulty.

The country is remarkably suited to military operations, except for the difficulty of the Landuki pass.

The Mani Khel plain offers a site for a convenient and capacious *entrepôt*.

The valleys beyond are well open both to traverse and to view; the passes between and beyond them present no formidable obstacles, as far as can be ascertained; there are many spurs and hills which, once gained, would form positions from which the manœuvres of columns in the valleys could be covered. The country is extremely productive. Ample cover from weather already exists in the villages; and there is plenty of room for camps if desired. The climate, though rigorous in winter, must be magnificent in summer and autumn. Water is plentiful. Timber and fuel are within easy reach.

Route No. XVI.

FROM JANI KHEL TO GABAR HILL—(Gabarghar).

Authority.—CAPTAIN BELLEY, 1888.

For Jani Khel *see* Route No. 74, N. W. F., Vol. I.

Along the frontier road to Skatu pass, and at $1\frac{1}{2}$ miles leave the Skatu road near a graveyard in trees, and strike off along cleared road straight on small bunch of hills seen at skirt of Gabar hill with a few trees.

Reach mouth of stony *nala*, passing Khai, dry; among low undulations called Khai Algad (?), turn up it through a few trees, towards a small spring in bed which supplies surrounding villages, or rather poor hamlets, among low conglomerate hills perfectly bare. Small Tori Khel village of Nekbal $2\frac{1}{2}$ miles away among trees up stony skirt of hills. Khai (Khoi) appears to be the name for this small tract containing villages of Madar Khel and Bahadur Khan. Up to low hills on southern skirt of which Madar Khel, a collection of huts, with rough stone walls and reed thatches, very mean-looking. Signalling communication from this hill to Bannu.

On along very stony, sloping *daman* of little Gabar (Ziarat in maps). At $5\frac{3}{4}$ miles reach Shamla Algad, said to be one way up to Ziarat hill. Cross broad stony Ucha Saroba, $\frac{3}{4}$ mile below its exit from hills, 2,000 feet. On a cross narrow *doab* of Ucha and Tanda Saroba to the left bank of latter at $7\frac{3}{4}$ miles.

Up the stony bed; pace $2\frac{1}{2}$ miles per hour. In the first $\frac{1}{2}$ mile the bed closes in from 60 yards to 15. Perpendicular cliffs, on right 106 feet, on left 50 feet, both quite sheer down and impracticable.

Height gradually increases as the *nala* is ascended; after two or three twists to right and left through this narrow enormous chasm, it opens out about 350 yards further on to a breadth of 40 yards and on the left side for a short distance is just practicable for infantry to climb up. The cliffs then recede, leaving stony plateau on each bank. View opens out and Gabar is seen ahead through the widening gap. Coarse reedy grass on each side. For 400 yards the *nala* winds through the opening gorge and the pass is traversed. The western face of the hills is broken and irregular, and apparently quite impracticable, being everywhere detrited and eroded into enormous precipitous steps, very different to the smoother slope on their side towards the plains.

Probably flankers, after clearing the height and guarding the top of the chasm while column passed, would have to descend to the mouth and pass through after the column.

Total length of pass about 1 mile.

At $8\frac{3}{4}$ miles reach small Wargarah Batanni hamlet of Gareeh (lower) on right, inside hills—2,409 feet. Azad is the chief *malik* of all these Batanni villages about here.

Leave Gareeh on right and up a valley, 200 yards broad, between irregular hills, gradually winding round to right. Gap of the Tanda Saroba seen $\frac{1}{2}$ mile to left across a level *doab*. Enter a broad valley ($\frac{1}{4}$ mile) bearing 280° with the head of the Ucha Saroba down the

Route No. XVI—continued.

right (north side), and the Tanda Saroba on left; some attempt at clearing stones for cultivation on the centre. Gradually cross this valley, at head of which Ziaratghar stands out boldly, and drop into the broad stony Tanda Saroba.

At $10\frac{3}{4}$ miles each Batanni *burj* and village of Upper Gareeh under high cliffs on plateau to left of *nala*, here 150 yards broad. Here the *nala* takes a bend to left (south-west). Path along cliff leads to right to Shamla *nala*. Cliffs gradually close in to 250 yards, and finally to 30 yards near a tank full of good water. The stony bed of *nala* also closes in from 180 to 10 yards leaving narrow plateau on either side.

At $11\frac{1}{4}$ miles reach tank. Here Captain Browne bivouacked two or three nights when visiting the Gabar in 1878. Excellent water, filled by small rivulet flowing from spring in bed of gorge $\frac{1}{4}$ mile up. (3,370'.)

From the tank the narrow gorge (10 to 4 yards wide) winds up at a good gradient. Shingly bed. The walls of the gorge 10 to 20 feet high with cliff towering behind them. Path to Ziaratghar leaves chasm to right, and a little further on the track to the main Gabar reached, winding up from the ravine steep to left. (3,570 feet.)

Climb up this steep path to top of spur 300 feet above (3,900 feet), from which the top of Gabar ridge visible, with steep zig-zag path leading up to it. Total distance 12 miles.

From this spur large extent of Bannu and Marwat plain visible. Bannu is distant 25 miles in a straight line.

Said to be no water above the spring except on opposite side of hill at a cutting called "Parikari" near top, where small spring. Batannis said if necessary to stop night at top they would take up water in *mushaks*.

Note.—In returning, the route by the Tanda Saroba *nala* was taken in order to compare the two.

From the *burj* $\frac{1}{2}$ mile below the tank, instead of crossing the broad basin mentioned before to the Ucha, the Tanda Saroba *nala* was followed down its whole length.

At $1\frac{1}{2}$ miles down below the *burj* it is 300 yards broad, opposite the Ucha pass and abreast of Lower Gareeh. No crags on either bank. Half a mile down it widens to 400 yards, where several ravines join it from right, and in the centre are isolated crags. Wind round to left of these crags where it is 50 yards wide, and again opens out; 900 yards on it closes to 500 yards at the actual entrance to the chasm through the hills.

Enter the chasm, varying between 50 and 20 yards wide. Enormous precipitous cliffs sheer down 400 feet or 500 feet high. Good water springs out of the stony bed in places.

The exit is a straight bit, about 800 yards long, widening from 50 to 100 yards until it leaves the hills and traverses their skirt.

This route is thus $1\frac{1}{2}$ miles longer, from the exit of the chasm to the tank, than that by the Ucha. The chasm itself is much deeper and longer, and the track perhaps more stony, as it never leaves the stony bed.

Half a mile or so below the exit the path leading from the Ucha to Wali is struck.

Summary.

From Jani Khel to the base of the *daman* of the hills, it is stony and crosses *nalas* (the frontier road).

From opposite Wali to the mouth of the Ucha Saroba is an ascent of from 4° to 5° , very stony, and may be likened to the ground about Tank Zam post, and the hilly portion of the road between Girni and Jatta.

The ascent of the Ucha Saroba and the upper portion of the Tanda Saroba to the final ascent of the hill is very rough and stony, and like the bed of the Tank Zam itself, but with a steeper gradient.

The final ascent on leaving the Tanda Saroba is by a very steep path, apparently practicable for mules and hill ponies. The top appeared to have a smooth grassy slope.

The Wargarah Batannis, through whose country the route lies, appear quiet and well disposed.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XVIIA.

FROM TANK TO KANIGURUM *via* THE ZAM AND THE SHAHUR ALGAD.

Authority.—MAJOR DAVISON; LIEUTENANT C. H. M. SMITH;

WAZIRI EXPEDITION, 1881.

No of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter- mediate.	Total.	
1	ZAM	7½	7½	Road improved by sappers and pioneers, small bridges over water-cuts widened. Cross Zam river (swollen rapid in April 1881) but no difficulty experienced in passing over laden mules.

First part of road, as far as Mian Bagh, open and free from stones: thence to Zam road stony; crosses many small water-courses. Good for all arms. Camp ½ mile west of Zam post. Grazing for camels sufficient. Grass little or none; but said to be plentiful at times on low hills west of camp. *Khasil* crops at 1 mile south of camp. Water of Zam good. Supplies *nil*. The force took 16 days' with them. Altitude 1,350 feet. Maximum temperature 94°. Minimum temperature 74° 5." (The temperatures throughout the whole of this expedition were those taken in a Kabul tent with both ends open).

2	KOT KHIRGI	5½	13	Road from Zam along bed of river, constantly crossing it. About 1½ feet water; never more than 2½ feet; passable everywhere by laden animals. Artillery went by zig-zag (Girin) route over low hills west of camp. Camping-ground on the right bank of the Zam river and on the Khirgi plateau some 150 feet above river. The room on the latter is unlimited: ground stony; but not sufficiently so as to cause inconvenience. Good natural drainage; soil sandy and dotted with tufts of grass. Plateau partly covered with "prophet-flower." Water supply more or less a difficulty.
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From Zam post, about 200 yards south, two good roads lead down to Zam river, distant about three-fourths of a mile; north of it are two bad tracks down to the water, about 1½ miles. Firewood none, except what is brought in by contractors. Green crops in Kachi below post. Camel fodder sufficient. Signalling communication with Sheikh Budin, distant 35 miles from hill 300 yards north of post.

Altitude 2,150 feet; maximum temperature 96°; minimum temperature 72° 5'.

3	JANDULA	5½	18½	Road from Khirgi post divides into three tracks, one along bed, one on each bank of river. From camp the stream has to be crossed to get into the regular frontier road. Water varies from 1½ feet to 3 feet, sufficient to cause considerable delay to baggage animals, especially mules and ponies. The following are the roads: (1) Main road along bed of stream crossing it some 15 times. (2) "Ghanni" road along right bank; crowns heights on that side to a considerable extent. Stony hill road, good for infantry, practicable for mules and mountain guns. Infantry in places must go in single file. This road is used by Bhattanis for laden mules, bullocks, and even camels when the Zam is much flooded. It joins the Zam route close to "Innis Tangi." This is a defile, about 100 yards broad and 400 long with precipitous sides, that on the right bank rising to 1,100 feet above the stream. The heights on both sides can be crowned without much difficulty. (3) The Sibi road. This branches off from the Zam just below Chakran 1½ miles from Kot Khirghi. Chakran is a narrow defile running out of the Zam on the left bank. The road was much used by Waziris for carrying off plunder. Difficult road, only
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Route No. XVII A—continued.

fit for foot passengers. It debouches at Jandula, west of the Innis Tangi, into the Chapt Waja *nala*. Camp on Chinchin Kach about 1 mile past the Innis Tangi, on the left bank of the river, irregularly shaped flat ground under grass, another level a few feet above it; width 220 yards, considerable length from east to west. North of this stony plateau on the top of hill 60 feet to 100 feet high; room for large force. Grass plentiful; firewood sufficient, a few trees dotted here and there. Signalling communication with Sheikh Budin (through intermediate post on hill 3,500 feet high south of Innis Tangi), some 40 miles. Altitude 2,400 feet; maximum temperature 91° 5'; minimum temperature 62° 5'.

4	HAIDARI . . .	9	27½	Road as far as Shahur Tangi, along bed of river stony and rough, but broader than it is lower down. At 3 miles is Dotak, the junction of the Shahur and the Shingi Kot, which is the upper part of the main Zam stream. The latter is said to bring down two-thirds of the water. Beyond junction, Zam river muddy and 2 feet to 3 feet deep. Shahur water bright and shallow. At about 2 miles beyond Dotak enter Shahur Tangi, a defile about 2 miles long with average width of 50 yards, varying from 20 or 30 to 250 yards. Road bad, requires pioneer work to make it passable by laden animals. Sides of pass precipitous, but easily crowned. Road crosses bed of river very often. After passing the Shahur Tangi there are three camping grounds, first on plateau on spit between junction of Shahur and Splita Algad. Excellent ground, 200 feet above water; perfect defensive position for large force. Second below this in bed of Splita Algad, sufficient for large force. Third, at Haidari Kach, open space on right bank of Shahur, south of above-mentioned plateau: good camp, but requires strong picquet to watch range of hills which hems it in on the south. Grass, camel fodder, and <i>khasil</i> plentiful. No trace of life or of human habitations during this march. Signalling communication with Sheikh Budin, 46 miles from summit of Char Gundi. Over Char Gundi a road goes to the Gumal. (See Stage 5, Route No. XX). Char Gundi is about 2,000 feet above camp and 2 miles south of it. Altitude of camp 3,050 feet. Maximum temperature 95°. Minimum temperature 61°.
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5	TARUN CHINA . . .	5	32½	Road at first out of the <i>nala</i> over stony plateau on left bank; at about ¼ mile descends into bed of stream near Bambar Kach, a small cultivated patch on left bank. Here Char Gundi <i>nala</i> runs in on the right bank. This forms an easy communication with the Gumal. Then along bed of Shahur for half a mile; right bank rising gradually to a stony plateau, left precipitous and high. Then ¾ mile further on the Danaoti Algad runs in on right bank. This forms a connection with the Gumal by two roads; first by Khwajma; second, by Madijan (through Spin). Both fairly easy; the latter the better. Water plentiful along both. Country on banks of Shahur now opens out. Large piece of cultivation, called "Shahur Kach." Road hence to Tarun China: the Shahur passes through a gorge (formed by the high ranges on each bank) about 200 yards wide and 100 long; after this the country on each side opens out into an extensive plain. Camp ample on right bank of stream. Water, about 1,000 gallons per minute (after improvement by engineers) from Tarun China spring. Water for cattle from stream about 1 mile south of camp. Wood sufficient, camel grazing plentiful. Green crops close to camp. Small mud fort. Sheikh Budin clearly distinguishable from Tijal Khel hill (about 4,000 feet) some ¾ mile south of camp. Altitude 3,450 feet. Maximum temperature 91° 5'. Minimum temperature 62° 5'.
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6	BARWAND . . .	7	39½	Road quite easy throughout. About 1 mile from camp reach broad level, treeless, waterless, plain about 2 miles in breadth; parts of it apparently at times under cultivation. Then drops again into Shahur, and passes along bed of stream. Two good camping grounds, one on each side of stream. Water and camel grazing excellent. Firewood and <i>khasil</i> sufficient. Altitude 4,150 feet. Maximum temperature 65°. Minimum 58° 5'.
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Route No. XVII—continued.

7	TANGI RAGHZA	5	44½	<p>Road crosses plain, upon which camp is pitched for half a mile; then drops into bed of river and follows it to Jangi Khan Kot about 3 miles. At about 2 miles from Barwand, river bed narrows and country becomes more confined. Spurs of Kundigarh run down towards right bank of river, extend into stony plateaux and finish abruptly in high precipitous cliffs. Jangi Khan Kot is a ruined building, destroyed by Chamberlain in 1860 and not since repaired, perched on cliff on left bank. At 5 miles reach Nari Tangi; banks high and steep, several small patches of <i>khasil</i> in bed of stream: on each side precipitous cliffs with stony plateaux at top covered with <i>ilex</i> and olive bushes as far as foot of high hills. Pass villages of Khel and Para Khel (both small and deserted) on right bank. Good deal of <i>khasil</i>. The Narai Tangi being impracticable for laden animals and the road on the left bank impassable by camels without much labour, the 1st column of the Waziri Field Force in 1881 camped on a high plateau or "Raghza," east of the Tangi. The Narai Tangi is so narrow that a laden camel can scarcely pass through it. It has, moreover, been blocked by a large rock rolling down and sticking fast at a height which will just allow of a mounted man passing under it. The normal depth of water is about 3 feet. Ample space for camp on right bank of Shahur some 200 feet above water: road down to latter, bad. South face of camp requires picquet some distance out on hills which command it. Other sides secure. Water and camel grazing excellent. The hills have become much rounder in form and easier for infantry than they are near the frontier. Altitude 4,750 feet. Maximum temperature 77°. Minimum 56° 5'.</p>
8	NARAI RAGHZA	4	48½	<p>Road constructed by Engineers in 1881 leaves bed of river by zig-zag up left bank, then passes north-west over plateau and round hill which forms east side of Narai Tangi, through a gorge, over a "col," and then turns south-west through a thick mass of <i>ilex</i> and olive bushes and down again by a zig-zag into the bed of the Shahur. Then up to the Narai Raghza by a road constructed by the Engineers. Excellent camp; large, flat, and spacious; a certain amount of grass. Water good and abundant. <i>Ilex</i> and olive in plenty. Camp sufficiently distant for safety from hills on right bank of stream. Altitude 5,450 feet. Maximum temperature, 79°. Minimum temperature, 52°.</p>
9	KUNDIWAM	6½	55	<p>Road down steep descent into and then along bed of Shaniwana <i>nala</i>; for first 2½ miles sandy bed with little trickling stream, easy gradient. Banks easily crowned, but cover in ravines for ambush parties. Road, even after improvement, very narrow. In places, camels had to go in single file. Then turn up to the Shaniwana kotal. Road ascends altogether, from bed of river near last camp, some 600 feet, some 300 of this being the rise in the last three-fourths of a mile from the <i>nala</i> to the kotal. Hence road with a few repairs is practicable for half a mile or so into the Shani Zawa <i>nala</i>; sandy bed, trickling stream, broad easy descent for some 2 miles into Kundiwam hollow. The road direct along the bed of the Shahur is much shorter, but impracticable for laden animals. Camp on west end of hollow near two small Shabi Khel villages, overlooking Kissara stream some 200 feet below. Camp covered with <i>khasil</i>. Water abundant from Shahur (here called Kissara) in which are trout, small, but plentiful and good. Grass scarce, camel fodder good, wood sufficient. Altitude, 5,550 feet. Maximum temperature, 77°. Minimum temperature 48°.</p>
10	SHAH ALAM RAGHZA	6	61	<p>Road very easy along sandy bed of stream requires a little improvement for camels. Camp excellent with the exception of there being too much underwood and rather a scarcity of water. A small quantity of the latter procurable from a spring. Plenty in a <i>nala</i> a little distance north of camp. Camp fodder scarce, except <i>ilex</i>, which some camels eat greedily and some will not touch. Altitude, 6,500 feet. Maximum temperature, 79°. Minimum temperature, 56°.</p>

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XVIIA—concluded.

11	MOGHAL KHEL or NANA SALAI.	6	67	Road through dense forest of ilex bushes. First over plateau, then down into bed of stream and up to Shauranga kotal, where road is rough and narrow, and requires much improvement in the way of removing boulders and lopping branches. Ground on right of road
<p>more densely wooded and more difficult than on left cross kotal at elevation of 7,350 feet, descend into Badar Algad valley, slope easier, and less thickly wooded than on west side. Bed of Badar stream reached at 2 miles from top of kotal. Two fine grassy plateaux on east side of right bank. The Badar Algad varies in breadth from 150 to 200 yards between its banks which are generally high and steep. Nana Salai is a raghza on right bank of Badar, with the ruins of an old fort. Moghal Khel is on the left bank. Camp on level ground; wood, water, and grazing, plentiful. Altitude 6,800 feet. Maximum temperature, 83, Minimum temperature, 53°.</p>				
12	KANIGURUM . . .	3½	70½	Road with a little labour, excellent from bed of Badar Algad to plateau on bank of Salai Ragh stream about half a mile short of town. Camping ground excellent in all respects. For further details see Stage 9, Route No. 73, N. W. F., Vol. I.

Route No. XVIIIB.

FROM TANK TO KANIGURUM *via* MARGABAND AND THE KARWAN KOTAL.

Authority.—MACAULAY, from *Native Information*, 1881.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	ZAM	7½	7½	} <i>Vide Stages 1 to 3, Route No. XVIIA.</i>
2	KOT KHIRGI . . .	5½	13	
3	JANDULA	5½	18½	
4	MARGABAND . . .	9	27½	<i>Vide Stage 6, Route No. 76, N.-W. F., Vol. I.</i>
5	AMADWAM	8½	36	Pass Kot Shingi at 1 mile and turn left up the Hinjor Tangi. This defile is wide, and branches off into two <i>algads</i> . The left is the easier of the two. The one to the right is called Ucha Khwara (<i>see Note A</i>). On the Umar Raghza road there are three tanks, one of

which is dry. They are about 15 yards long, and 8 yards wide, with about 1½ feet of water; depth 3 feet. No village is passed. Midway a path goes to Uspalectoi, thence to village of Abdurrahman Khel. Waziri bullocks go over it.

Amandwam is enclosed by hills near the camping ground, no forage.

A difficult track goes up the Trey *algad* to Allezai Kiris.

N.B.—No mention is made of water, so it may be presumed to exist,

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XVIB—concluded.

6	TIBONI KARAMA . . .	8½	44½	Up the Shinkai <i>algad</i> for about 2½ miles, passing an Allezai <i>Kiri</i> , which contains 25 houses and about 50 men, and arrive at the Do Shinkai Khulla, where the <i>algad</i> divides into two branches. The right hand route passes 4 Allezai <i>Kiris</i> , and is not difficult, though it requires to be ramped in one place to be made easy for laden camels. The <i>Kiris</i> can turn out some 200 fighting men. The left branch passes Ibrahim Khel, Malik Din, and Gadi Khel, all Allezais. About 200 fighting men. This route has two defects:—(1) From Do Shinkai the pass is very narrow in several places with large stones in the way; (2) near Karama there is an ascent for about a mile.
7	KANIGURUM . . .	4	48½	Road easy all the way, crossing Karwan kotal. The ascent is about 2 miles and the descent about the same. Some work required in order to make the road easy for camel traffic.

Note A.—From Margaband to Kanigurum via the Ucha Khwara.

Follow the Ucha Khwara (the right hand route) from Hinjor Tangi for about ½ mile and then either continue in the Khwara and reach Badar Khel by a very zig-zag road, or take the shorter route leading over the Urma Raghza. No water on either route. Badar Khel is reached at 8 miles. Water. Cultivation. Leaving Badar Khel, Yarik's village is passed at 10 miles. From here to Karama the road is very difficult. In some places the pass is narrow and impracticable for camels. Water abundant at Karama which is reached at 16 miles or 1 mile less than the road by Amadwam.

Route No. XVIC.

FROM KHAJURI KACH TO KANIGURUM.

Authority.—MACAULAY, 1881; MR. DONALD, 1891.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	ZARE OBA . . .	10	10	Road quite easy; ground open and level. Camel fodder. From here a road goes to Wana (Route No. XVID).
2	DARGAI . . .	7		
3	BABWAND . . .	8	25	From Sarwaki (?) road branches off in two directions. One goes through the Sarwaki pass, which is easy; the other goes over open country and much shorter; but there are several ascents and descents, and it is comparatively more difficult.
4 to 9	KANIGURUM . . .	31		
			56	<i>Vide</i> Stages 7 to 12, Route No. XVIA.

Route No. XVII C—concluded.

Starting from Khajuri Kach at 4 A.M., I went up the Karkan *nala*, which leads to Spin, for about 3 miles. Then turning slightly to the right I followed the bed of the Soe *nala* until I reached the Soe kotal which is about 12 miles north of Khajuri Kach; 3,000 feet, ascent easy. From the top of this kotal the road descends to the Maddejan plain, which is at the foot of Kundigar. On reaching this plain I again turned to the right and took an easterly course along the bed of the Siri Chowdi *nala*. Following this *nala* for some distance I passed through the Kanga Tangi into that portion of the Shahur plain which is called Palosi. Here I met numbers of Tagi Khel Darwesh Khels, who were returning to Wana with their flocks and herds. It appeared that they were returning through Shahur with the permission of the Mahsuds.

From Palosi to Shahur Tangi the country is very open, and I should think that the plain is about 15 miles long, with an average breadth of about 4 miles. From Palosi the track leads over a plateau between the Dhanot and Shahur streams, the Dhanot being to the south and the Shahur to the north. From this plateau I got a very good view of Barwand or Nanikhel Kot, which is situated on the right bank of the Shahur some miles below the Khaisara Tangi. The fort is now in ruins, but there is a good deal of cultivation near it. It belongs to the different sections of the Mahsuds, and I was told that in ancient times the Powindahs used to come by this route, and to protect themselves and crops from these people, the Waziris built this and other forts. As the Mahsuds increased and got powerful, they got the best of the Powindahs, who then abandoned this route and took to the Gumal. Some miles below Palosi I passed a great number of kachis on the Dhanot all under wheat. As I proceeded east I passed through settlements belonging to the different sections of the Mahsuds. Near the head of the Shahur plain I came upon a Garri Khel Kirri which was encamped temporarily here. Lower down there were some Nanikhel *kirris*, as large number of the Mahsuds had moved down to graze their flocks in the plain. They come every year for a month in spring and then retire to the hills further north.

Note A.—Extract from Mr. Donald's Gumal Diary for 2nd April 1891.

Route No. XVII D.

FROM KHAJURI KACH TO NANIKHEL KOT.

Authority.—MACAULAY, 1881.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	ZARE OBA . . .	10	10	<i>Vide</i> Stage 1, Routes No. XVI C., and No. 79 of Vol. I.
2	KUTAN (?) . . .	8	18	Road easy. No hills. Water on the way; camel grazing plentiful. No permanent village at Kutan.
3	KARAP KOT . . . (KARB KOT).	8	26	Road easy; ascends about 500 feet. Karap Kot is a Zali Khel village.
4	TAJARZE KHULE . . .	6	32	No cultivation. Water abundant. Road good.

Route No. XVII—concluded.

5	KOT NANA KHEL	9	41	Road not difficult. A slight ascent through a defile.
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Note.—The Hakim states that there is a good road through Wana along the Menza Oba stream, first to the head of the Bermal valley, the rise over the watershed being imperceptible. There is an easy kotal between the Khwaja Khidr and Maratai hills over which a road goes into Shawal, from whence to the western ascent of the Bash Narai is about 10 or 12 miles. There is a good deal of cultivation in the eastern half of Wana; none in the west. In spring there are a large number of *Nomads* in low thickly-wooded hills, etc., about the head of the Bermal and Wana valleys. From Karap *viâ* the Menza Oba and Niza Narai to the foot of the Bash Narai is not less than 60 miles. An objection to this route into Mahsud country is that it passes within 6 or 7 miles of the Khartotis of Shakin, and also runs across the head of the Kabul Khels in Bermal.

From Kotkai (Stage 7, Route No. XVIII) a road goes to Wana. Follow the Wana Toi and cross the Pir Ghwazhah kotal. No difficulty as regards gradients for laden animals, but route very stony. (Native information.)

Route No. XVII.

FROM DERA ISMAIL KHAN TO CHAUDHWAN, *viâ* GANDI UMAR KHAN, AND ALONG DERAJAT BORDER TO UCH KHUI, SPARA RANGE, AND KOT ASHAK KHAN.

Authority.—CAPTAIN BELEY, 1888.

Leave camp near dâk bungalow, pass west gate of city and turn off sharp left by mill over bridge to Daraban road.

Perfectly open plain. Good, sound *kacha* track. Small bushes and clumps of large "karir" bushes scattered about plain.

At 3½ miles pass ruined village and shortly after come to fork of roads. Keep straight on by left one, which is only a narrow path.

Small *nala*, steep banks, 12 feet high, 30 yards wide, and then for ¾ mile along bed of small *nala* (4 yards broad), which drains to a broad *nala* on ahead.

Thirty yards broad—old brick approaches of a bridge—beyond which a broad embankment in very good order, about 10 feet at top and 6 feet high, marks the road for some distance. Few holes in places scoured by rain-water.

Still perfectly level plain, with thin *jao* jungle, in and out of more small *nalas* which have washed through the embankment.

Embankment ceases and track is a mere footpath along *bunds* through fields carrying poor crops.

At 9 miles reach Rukh or Luk among *farragh* trees. Water from a well about 1½ miles off on left of road just traversed.

Here the direct road to Daraban is left. Through fair cultivation by very faint track to small village of Mutti or Mitti.

Water from well or tank 1 mile away.

The track here marked by two plough furrows passes ½ mile north of Mutti at 13 miles.

On. *Jao* jungle thicker as the deep Saggi *nala* is approached.

Through Sohag-ki-Garha. Water from a small *nala* (stagnant) beyond.

Cross this *nala* (near village of Jandi) across an earthen causeway. Water rapidly drying up.

Reach Saggi *nala*, 20 feet banks, 100 yards broad. Dry firm bed. Lot of *jao* jungle on bank and steep ramps.

Jao jungle gets thinner, and Gandi Umar Khan seen far ahead across open *pat*.

At 20 miles reach Gandi Umar. Water from deep wells sunk in alluvial and sandy strata outside village, sweet but muddy.

Leave along high *bunds*, past patches of cultivation; pass ½ mile to south of two low mounds (conspicuous), then across 2 miles of perfectly bare *pat*, and then among cultivation; no trees. Pass to north of Garah Ali and reach Kikri, a very small village of some 12 houses.

At 30½ miles pass Tarkhoba (or Gul Mahomed's village). Water from irrigation-cuts near.

Route No. XVII—continued.

Reach irrigation-cuts and flooded ground from wastage of water. Open plain; few trees. Wooded. Chaudhwan is reached at $35\frac{1}{2}$ miles.

This road from Dera Ismail is very direct, and easy for pack animals and troops, if required to rapidly reinforce Chaudhwan in two marches. Water is the difficulty at all times, much more so after long drought. Gandi Umar has the most water, but supplies only obtainable with notice, there being no gram, *bhusa*, or grass, and very few articles of human consumption.

From Chaudhwan to Uch Khui.

Leave along frontier road crossing broad sandy *nala*, wet in places from overflow of irrigation-channels which go off from it.

On to dry level plain and turn sharp to right up the cleared road straight to Torzoi pass. Good going.

Reach base of slope of *daman*. About 3° ascent.

Enter pass, 150 yards wide at mouth, where the cliffs play outwards, 40 to 60 feet high (1,450 feet). Stony bed, but not so rough as many of these Suliman passes. The usual enormous conglomerate cliffs, 12 yards apart at narrowest, winding; general direction 240° west-south-west.

Leaving the actual cliff-bound gorge and the *nala*, reach a small basin in the lower hills behind, in which a small pool of water from spring. From here a path leads north into the Inzari Wam (about 4 miles). Shekh Mela, the Oba Khel Sherani village, being 4 miles more up the pass, and to the left over a low kotal goes the track to Khui.

At 6 miles on to left (south) over kotal, and into a valley, 300 yards broad, with many bushes for firewood. Parallel range on right. Stony. Pace $2\frac{1}{2}$ miles per hour.

Over a second kotal forming watershed between Torzoi and Gajistan drainage, and descend narrow stony ravine.

Turn sharp to right and enter a narrow stony gorge leading through the parallel range. Same character as former pass. Conglomerate cliffs, but lower, narrower (at one place 3 yards), tortuous; general direction south-south-west.

At $8\frac{3}{4}$ miles emerge from this gorge, but only to find a third parallel range beyond. The widening stony valley turns south along the skirt of this range. Easy going, not so stony; firm sandy bits. Firewood abundant.

At $9\frac{3}{4}$ miles little pool of water. Torrent bed 100 to 200 yards broad. Near this, another cleft on left, through which another track leads from Torzoi; direction south-east; easier going. 3 miles per hour.

At 12 miles southerly turn and broad open basin with green bushes seen ahead—Gajistan.

At $12\frac{3}{4}$ miles small spring of sweet water oozing through stones under left bank.

On again along the broad sandy bed, the native officer and sowar of the post keeping to left through the broad gap of the Gajistan to return to Chaudhwan, keep to firm sandy *kachi* on right bank. Good galloping ground; only few stones. Hills on each side, loose conglomerate character, and are of sandstone, making the water-courses easier and less stony.

Cross stony Gajistan *nala* and leave its valley by a narrow sandy ravine leading over a kotal.

On through narrow sandy ravines. Good going in single file; general direction south; second range on left lower; becoming a confused mass of low hills.

Ravine opens out.

At $17\frac{1}{2}$ miles reach a sandy basin in which a pool of good water (*Karkanna nala*) and bend round to left (east) along an open sandy *nala*; track goes partly in *nala* bed and partly in *kachi* on side. Getting near the back of the outer range; turn south and reach stone ruins of old Ramak on banks of broad sandy Ramak *nala* at 20 miles. Large dip in hills shews the pass to be open and easy. On along a broad *kachi*, good going. Splendid view to right of Mizri Koh, up to this hid by hills.

Leave Ramak bed and up a stony narrow ravine, through conglomerate, which strikes out here again for some distance, but ceases again before reaching Khui.

Broad basin of the Uch Khui seen ahead with wooded village on the right bank. Pass cemetery with two huts on a stony *doub*.

Route No. XVII—continued.

Cross 300 yards of sandy bed and reach village, partly Ahmadzai and partly Gagalzai. Good, clean, substantial houses. Except for the trees the appearance most sandy and desolate, and must be an oven in the hot weather. Pass through the hills seems sandy, broad and easy.

The valley is half a mile wide at the village, which is reached at $24\frac{3}{4}$ miles. (1'050'.)

From Uch Khui to peak on Spara range.

Leave village and up sandy *nala* due west and through low hills. Good easy track along *nalas*.

Reach under-features of range. Track winds up ravines. All sandstone; good footing. Small springs of water in many places. Typical hills of the Suliman range with steep scraps to west. Grass all dried up. Hills almost bare, a tract of country to be avoided by troops, as it leads only to range upon range beyond. Dip of strata 15° to 25° .

At $5\frac{1}{2}$ miles reach edge of enormous scarp, from whence a splendid view, 2,810 feet.

Looking east a mass of sand stonehills scraped towards the observer, the gap between them and the outer range towards the plain, along which the track from Ramak to Khui goes, appearing fairly open, in comparison. The Ramak and gaps of the two Khuis through the outer range appear broad, open, and sandy, and mark the easiest routes into the Ushtarana hill-country. White streak of Indus plainly visible. Wooded Vihoa visible.

Looking east, in the foreground, a great breadth of utterly bare and useless sandstone ridges stretching up to skirt of outer range of Mizri Koh flanked on the south by the broad basin opening east of Kot Ashak Khan (the Guzai) and north by the broad Ramak basin marking the two practicable routes into the Zumarai country. The first appears to come through a great gap in the snow-topped Mizri Koh, the latter to come from the middle of Mizri Koh through a gap in a lower contiguous parallel range. Mizri Koh stands up majestically. Trees plainly visible through the glasses up to the top.

Kot Ashak Khan not visible, but broad plain near it seen. A little plot of green cultivation and trees of Ber (Zumarai) high up on the Ramak basin is the only thing seen to relieve the dreary aspect.

Water plainly seen in the bed of the Ramak, which bed appears stony. North towards Sheranis nothing but hills distinguishable, and a dip marking the Dhana Chuarkhel. Kot Mogal and Baska hidden. Torzai pass not distinguishable. To the south nothing but hills distinguishable.

The position of this peak not clearly marked on map; it bears 268° from Uch Khui.

A look from it sufficiently establishes the fact that any route or facilities for military operations in the quadrilateral—Ber, Ashak Khan, Pewar Khui, Ramak—do not exist, and that any movements must be confined to its northern and southern flanks, in which camel grazing is abundant; grass *nil*, except after rain; fuel abundant, water scarce and probably brackish.

From Uch Khui to Kot Ashak Khan.

Leave Uch Khui up the sandy *nala*, and turn to left up a narrow sandy torrent-bed between scraped hills. Good going.

Cross low watershed.

At $3\frac{1}{4}$ miles reach broad, sandy Pewar Khui *nala* and Ramzan Khan's village on its left bank. The Pewar and Murghani *nalas* join here, and make a broad sandy bed, $\frac{1}{4}$ mile wide. Trees in the village; water from holes in the bed.

Murghani valley closes in, and becomes a narrow gorge between low hills known as Jarwanga.

In a winding gorge, 80 feet hills on each side. Ravine 4 yards broad, sandy, good going in single file.

Head of Jarwanga, stony *kotal*, and down by a winding stony path through gorge (the worst bit yet passed).

Leave gorge to left and see green bushes of Guzai stream ahead.

Reach broad gap through which the Guzai flows before finally winding through the outer range of hills towards Daulatwala, etc., in the plains. Turn sharp to right, and by a bare, hard, sandy *kachi* on left bank, reach the stony bed of the stream where the gorge is

Route No. XVII—continued.

200 yards wide. Sandstone cliffs on each side 80 feet high. Tamarisk jungle in the bed which is stony. Round the cliff and cross the bend, which here bears 330°, 150 to 200 yards wide. Small stream of brackish water near right bank. Cliffs practicable to climb up in places 60 feet high.

On round bend to west, the gorge winding in all directions, cliffs increasing in height and narrowing in places to 30 yards apart. Stony but perfectly practicable route except during heavy rain, and much used by *kafilas*: it is in fact the *kafila* route mentioned in Gazetteer, page 2036, under "Vihwa" as the alternative route to the Vihwa, and joining that at Kohi between Kaiwahan and Nishpe. (See also Stage 2, Route No. XXXVII.)

From the height of the cliffs here, this appears to be the centre of the Spara range.

The gorge becomes more open, and a view of the Mizri Koh is seen ahead.

Along a *kachi* on right bank and reach a small plot of cultivation on left bank called Surwal, where *kafilas* encamp, there being usually rain-water in a groove in rocks there.

Still on through widening gorge.

Reach an open valley at 15½ miles.

Leave the stream and over low, stony, rolling hills, to avoid a bend of the stream to right.

Drop down to the Guzai again, here ¼ mile wide. Little cultivation on left bank. Keep along *kachi* on right bank.

At 17½ miles reach Zmarai and Ushtarana Kiri in the middle of the bed, with some 60 grass-roofed huts; 600 yards wide, 2,000 feet. Hills low and undulating.

Mizri Koh ahead.

The practicability of the Guzai as a route into the southern Zmarai country (Mahmud Khel or Ayub Khel section) is confirmed by this day's march, the Ramak being, as seen yesterday, that leading to the northern or Injra Khel section.

Up the broad stony *nala*, keeping in close to the cliff on left bank and at 19½ miles leave *nala* bed and up by a steep stony path to bush-clad plateau, 100 feet above.

The hills on the opposite (right) bank of the Guzai are irregular but practicable by avoiding cliffs. *Nala* bed 200 to 400 yards broad.

The deep chasm of the Guzai is here about 100 yards wide, the bed of stream being confined to 20 yards in places; in others the sides slope up easily and give room for cultivated terraces with huts scattered about.

The chief bit of cultivation below is some 500 by 200 yards with huts in a semi-circle round it. Above, on the edge of the steep cliff along which the road goes, are huts uninhabited, with stone walls and rough grass-roofs, used in the spring and summer, and the ruins of an oblong fort with stone walls—the actual *kot* built by Ashak Khan against the Bozdars and Sheoranis, now dilapidated. It was only a walled enclosure 100 by 50 yards on the edge of the cliff.

Reach a few more stone huts among which the circular mud tower of Ashak Khan is conspicuous on a promontory under hill at about 25 miles from Uch Khui.

Along the stony face of the hill overhanging the chasm, and at 300 yards or so drop down to the bottom of the chasm by a steep stony zig-zag, cross the thin stream of water in the shingly and bouldery bed, and rise to a small level space in the gorge where there are some 30 huts, the upper village apparently. Gorge varies from 200 to 400 yards in breadth. Up on to a jungly plateau like that below Ashak Kot.

Along the plateau to the *tangi*, is formed by the contiguous range to the Mizri Koh, of blackened limestone crags.

Bottom of cleft about 12 yards wide.

The path is along the face of the cliff; only goatsmen can go—at one place 1 foot wide only, along a small gallery of sticks and stones. Through the cleft and along the rugged path on the inside to the point of junction of the ravine coming from a *tangi*, with the Guzai, which comes down from the right from Amir Khan's village of Garhai between Mizri Koh and the contiguous range.

Houses of Ragzi (Nassarzai village) seen ahead across the chasm under main hill, and many more said to be to the right up the Guzai. The surveyor went up a branch of the Guzai coming out of the main hill to right (north of Ragzi).

Up to this point sufficient was seen to make sure that it could not be used as a road for troops. The track used occasionally by cattle and men is across the Guzai chasm and past Ragzi to a *tangi*. Camels could not possibly go, and only the most lightly laden bul-

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XVII—concluded.

locks. Another time to thoroughly explore this part and get to the top of the hills bounding the *tangi* and see beyond, a halt should be made at Ragzi village.

The other side (west of Mizri Koh) are said to be the Musa Khel tracts of Sinzai, Ramazan, and Numz Kai, and further north Lwara (half Sherani and half Zamarai), and Tsappar Zamarai. Mizri Koh is $2\frac{1}{2}$ miles from Ashak Khan Kot.

Route No. XVIII.

FROM DERA ISMAIL KHAN TO KANDAHAR *via* THE KUNDAR RIVER AND THE RAH-I-MARUF.

Authority.—STAGES 7—8,—O. C. KHAJURI KACH FORCE, 1892; 12—30,—
NATIVE INFORMATION.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter- mediate.	Total.	
1	POTAH	16	16	} <i>Vide</i> Route No. XX.
2	HATHALA	10		
3	TANK	16	26	
4	MARTAZA POST	18	42	
5	NILAI KACH	11	60	
6	KHAJURI KACH	15	71	
7	KOTKAI, OR DOBANDI, OR DOTOI	12	86	
			98	Cross the Zhob at starting and follow the Gumal; sometimes along its bed, sometimes along its high banks, in places very rocky and stony. Encamping ground for 3,000 men. Wood scarce; water from Gumal.
8	GULKACH	12	110	Fully laden camels travel. Road leaves the Gumal at once. At $5\frac{1}{2}$ reach the foot of the Kanjuri kotal, ascent and descent easy. No water between Dotoi and Gulkach. A foot-path takes off for Spin at $1\frac{1}{2}$ miles from the summit of the kotal. The Gumal is again struck at camp; ground ample; grass plentiful; wood scarce, but obtainable some 7 miles off. Water from Gumal. Mir Ali Khel is distant 22 miles S. S. E.
9	DOMANDI	10	120	} <i>Vide</i> Stages 1 and 2, Route No. XXVI.
10	HUSEIN ZIARAT	$8\frac{1}{2}$	128 $\frac{1}{2}$	
11	SARMAGO KACH	10	138 $\frac{1}{2}$	} <i>Vide</i> Route No. XLI.
12	SARA DARGA	$12\frac{1}{2}$	151	

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XVIII—continued.

13	NAKHAL, OR MAKAL, OR SPOLE LOARA . . .	11	162	Vide Route No. XLI.
14	TRIKHGAZ . . .	9	171	
15	LARI . . .	10½	181½	Makal to Trikhgaz, 6 kos. The road passes through a long defile, the country being hilly and barren. The place itself consists of 30 or 40 houses of the Jamiran tribe. It was in the days of the Mogul Empire famous for the manufacture of weighing-scales, made of raw hides; and although this trade has almost disappeared, yet the manufacture still exists. Water procured from a small stream. (See Route No. XIX A.) Trikhgaz to Lari, 7 kos. Lari is the name of a plain where <i>kafilas</i> usually encamp. It is occupied by a poor and inoffensive tribe of Kakars. Water from springs. At Lari the road turns off to Kandahar.
16	} SPINWARI . . .	60	241½	} Spinwari, on the road from Kandahar to Quetta, about 60 miles. No reliable information regarding this route. But see No. 128, Vol. I.
17				
18				
19				
20	} MARUF . . .	30	271½	} See stage 27, Route No. 83, N.-W. F., Vol. I.
21				
22				
23	} A STAGE . . .	15	286½	
24				
25	AMIN KALA . . .	15	301½	Pass Arvat, Muhammad Aslam, and Mezkin Khan, distant 10½, 11, and 12½ miles, respectively, from the last stage. On leaving Mezkin Khan the road passes through low stony hills, and close to Amin Kala crosses the Wandoz <i>nala</i> , the left bank of which is very steep. Amin Kala is a large village, with a

fair encamping-ground. The water-supply is close at hand, and grain and *bhusa* are plentiful. The villagers do not keep a large supply of wheat on hand, but there are mills on the river at frequent intervals, where wheat can be ground. The Wandoz *nala* here joins the Arghastan. On this *nala* are situated the villages of Abdul Latif and Mir Aslam. On the Wachanakar *nala*, which joins the Wandoz about 1 mile from Amin Khan, is Saifula. From these villages, and also from Mezkin Khan, supplies could be collected for a force encamped at Amin Khan. There is good grazing for camels in and along the river-bed. See also Route No. 85A, N.-W. F., Vol. I.

26	ATA MUHAMMAD . . .	9	310½	At intervals of about ½ mile are Muhammed Husen, Abdulla Khan, and Pir Muhammad. From Pir Muhammad to Ata Muhammad (about 6½ miles), the road passing round the north of the high hill above the latter place becomes more difficult for wheeled traffic. In
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a few places it would be necessary to leave the road and pass through the low gravelly hills to the north, owing to the rocky and dangerous nature of the path along the river bank. Between Pir Muhammad and Ata Muhammad is the village of Fakir-ud-Din, and on the left bank close to Fakir-ud-din is the Lahar *nala*, 3 miles from the mouth of which is the village of Smailai. Between Amin Kala and Pir Muhammad, on the left bank of the

Route No. XVIII—concluded.

river, is Sajao, to the south-east of which are the villages of Muhammad Khan, Loe Karez, Kaohnai Karez and Imarat. To the four latter villages there is a rough road from Amin Khan. Good supply of water near encamping ground.

Supplies might be collected here from Sagzai, Khogani, and Fakir-ud-Din. There is very good grazing for camels close at hand.

27	MURGHAN KECHA .	16		326½	The road proceeds westwards along the right bank of the river for about 12 miles, when it turns northward and leaves the valley of the Arghastan over a low kotal, which offers little difficulty for the passage of guns. It then proceeds in a westerly direction towards Murghan Kecha.
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The right bank of the Arghastan, along which the road runs, slopes, with a few exceptions, gradually down to the water. The opposite bank is steep and only accessible at intervals to guns and cavalry.

Sagzai, Karwan, Katzi, and Babar are passed at 3, 5, and 7 miles respectively.

Before reaching Sagzai the Sodani and two small *nalas* are crossed. On the former is situate the village of Khogani, which consists of three hamlets about half a mile apart.

The *nalas* present no difficulty to the passage of guns. The drainage from the hills on the right of the road falling into the river crosses and cuts up the tract at frequent intervals, but most of the *nalas* thus formed can be made practicable for guns with a few minutes' labour.

The road is commanded on the right throughout almost its entire length by low undulating hills. An enterprising enemy might seriously annoy convoys, all the ground being very favourable for the concealment of large bodies of men.

Murghan Kecha is a large village of some 200 houses, and supplies are plentiful. There is a good camping ground to the east of the village. The water-supply is obtained from a small stream about half a mile to the south. Another very small stream runs through the village. The water from both these sources is brackish. There is good grazing ground for camels in the neighbourhood.

28	MANDI HISSAR .	7		333½	Between Murghan Kecha and Mandi Hissar two <i>nalas</i> are met, —the first of which is about one mile from Murghan Kecha. This <i>nala</i> would be difficult to cross with guns during rainy weather, owing to the swampy nature of the ground near the road, and a slight detour
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to either bank would be necessary: otherwise the road, which passes through a stony undulating country, is good.

Camping ground confined by cultivation. Water from *karez*. Small post, the garrison of which was 30 sabres and 40 rifles. Grain and *bhusa* procurable.

29	KANDAHAR . . .	10½		344	North-west towards the low kotal of Shorandan, the Tarnak river is crossed at 1 mile 3 furlongs. Its bed is about 100 yards broad, and generally contains water in pools. At 2 miles 7 furlongs the crest of the kotal broad and flat; thence steady but easy descent
	(BAR DURANI GATE CAMP) . . .	1½		345½	for nearly a mile. Shorandan village lies off the road to the right, and is about four miles from Mandi Hissar. After getting on to the plain, the road is crossed by numerous irrigation canals, which might be troublesome to artillery. The soil is also soft and cuts up with traffic. At 6 miles 1 furlong cross dry bed of Shorad river. It is broad and shallow. At 8 miles 7 furlongs pass a ziarat on the right, at which the Kalat-i-Ghilzai road comes in from the east (right rear); at 8 miles 7 furlongs the suburb of Deh Khwaja, lying along the left of the road for nearly half a mile. Irrigated fields on the right. The roads leads straight to the Bar Durani gate, but there is a broad track all round the walls outside. The Idgab, or north gate, is reached at 11½ miles, and the centre of the former British cantonment, north-west of the town, at 12 miles from Mandi Hissar. The best camping ground is on the <i>maidan</i> , north of the city between the graveyards and the hills, and also about 12 miles.

NOTE A.—The above route is fairly corroborated by information supplied to Major Macanlay, from which it seems that Kandahar is 34 easy marches from Dera Ismail Khan. This road is said never to be closed by snow.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XIX.

FROM ZHOB TO KANDAHAR.

Authority.—BROADFOOT.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Interme- diate.	Total.	
				From Zhob there are four marches through the Kakar country.
				No cultivation, but water and grass are procurable.
1	ZABI DAGAR	} Good water and grass.
2	LAWAN KAREZ . . .	...	...
3	GODAH WATAH . . .	...	...
4	CHAHAN KOWBAH	Bad water.
5	GHAZAH (Khorasan district).	} Good water and grass.
6	KACH (Khorasan district).	...	...
7	GHANDI KHAZANA (Khorasan district).	...	...
8	JANDAR MADAT KHAN (Khorasan district).	...	...
9	TOB TANGA (Khorasan district).	...	...
10	SPIN-O-BIALA (Khorasan district).	...	...
11	KANDAHAR	

The above are short Powindah marches. This route is, however, very little used or known. From Razani in the Kakar country it is described as a good road.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XIXA.

FROM TRIKH GAZ (KUNDAR VALLEY) TO KANDAHAR.

Authority.—SIR PETER LUMSDEN.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Interme- diate.	Total.	
1	LARI	10½	10½	Lari is the name of a plain where kafilas usually encamp. It is occupied by a poor and inoffensive tribe of Kakars.
2	G HARIBA-I-DABA .	9	19½	The road is through a long defile, flanked by low hills. The halting-ground is just beyond the pass.
3	LOWANA KAREZ . .	9	28½	This is a small village surrounded by cultivation.
4	TOPAN	9	37½	Road over a plain. The country is inhabited by wandering Barbars. Here the road to Kalat-i-Ghilzai turns off.
5	KIRSHUTU KAKALAH	9	46½	Road over a plain. Country as in last stage.
6	STUBANISA	9	55½	Road good. Country level. This spot belongs to Tokhi Ghilzais. No cultivation. Deserted villages.
7	SARKHEL	10½	66	Road over an undulating plain country, tolerably well cultivated. A village belonging to the Tokhi Ghilzais.
8	KATT	10½	76½	A Ghilzai encampment, and the first halting place in the Kandabar district.
9	SHARKZAI	9	85½	The road crosses the Ghwanza Kotal, which is neither high nor difficult, and descends to the bed of the Arghastan river.
10	CAMP	9	94½	Along the bank of the Arghastan river, over a country hilly and undulating. The banks of this river are here and there cultivated, and have a good sprinkling of villages.
11	CAMP AT THE FOOT OF THE SARGHAZ MOUNTAIN.	9	103½	Gradual ascent from the Arghastan; then over an undulating broken country. The encamping-ground is at a spring at the foot of the Sarghaz mountain. No village, but some trees.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XIXA—concluded.

12	SABGHAN KOTAL	9	112½	This, though not a long march in actual measurement, is a most tedious one. The ascent and descent of the mountain take the greater part of the day. This mountain separates the two branches of the Arghastan river. The camp is at the foot of the kotal. In the neighbourhood are a few small villages and patches of cultivation.
13	LOBA	9	121½	Road is down the bed of the steram, which is broken and rugged. Lora itself is situated at the junction of a stream coming down from above Mukur with the Arghastan.
14	JANDAR MADAT KHAN	9	130½	Road follows the bed of the Arghastan. Jandar is a village in the midst of a well-cultivated tract on its banks.
15	WILGAI	7½	138	Road good. A halting-place only, no provisions being procurable.
16	TARUK	7½	145½	A small kotal has to be crossed on this march. The halting-place is on the bank of the Tarnak river, which, except during floods, is fordable.
17	KALA MOMAND	9	154½	Road over a sandy plain. A little cultivation in the neighbourhood of this village.
18	KANDAHAR	9	163½	Road over the Kandahar plain.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XX.

FROM DERA ISMAIL KHAN TO QUETTA AND PISHIN, *via* TANK, THE GUMAL, AND THE ZHOB VALLEY.

Authorities.—STAGES 1—4, DERA ISMAIL KHAN ANNUAL RECONNAISSANCE REPORT, 1892; STAGE 5, CAPTAIN MASON, 1888; STAGES 6—9, CAPTAIN CAREY, 1890; STAGES 10—12, ZHOB EXPEDITION REPORTS, 1890; STAGES 13—26, CAPTAIN SERJEANT, 1891.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter- mediate.	Total.	
1	POTAH	16	16	From Dera Ismail Khan to Tank can be done in two marches, halting at Budh (<i>see</i> Route No. 76, N.-W. F., Vol. I.) Camping ground opposite Potah village to north of road; water obtained from Gumal <i>nala</i> close to camp: quality good; any number of horses can drink at bend of <i>nala</i> ; camp on level ground. Dak bungalow. Road is liable to become impassable after heavy rain.
2	HATHALA	10	26	Camp on level ground opposite staging bungalow; water from the Gumal <i>nala</i> . Horses can be watered at any point of <i>nala</i> . Shade from Gumal banks. From here a road goes to Kulachi.
3	TANK	16	42	Military post; telegraph and post offices; supplies plentiful.
4	MARTAZA POST	18	60	Camping ground on right of the road close to Martaza post. Water from three <i>nalas</i> which run through the camp; no wells. Horses can be watered south-west side of camp. Hills three miles off. Jatta is passed at 15 miles, where is plenty of open ground for encampment. Numerous water channels are crossed which are bridged, but the bridges are narrow and weak.
5	NILAI KACH	11	71	At about one mile cross a branch of the Gumal stream; thence the road runs in a westerly direction. Just beyond the Gardao Narai there is a small open space known as Nishpa Mela. Pass Spulmai Kach on the right of the river, from which a track runs south by the Spulmai

Narai and *nala* to Indai Kuram and Manji (*see* Route No. XXII).

Before reaching the Spulmai Kach, the Urmana Khor is crossed; up this Khor (*nala*) a road goes to the Waziri country. It is stated that this road is practicable for laden camels. (*See* Stage 4, Route No. XVI A.)

From the Urmana another road branches off and crosses by the Charkundi Narai, but although shorter, is said not to be so easy.

From Spulmai Kach the road again crosses the Gumal, passes over a small kotal called the Khirgi Narai, and then descends to Spinkai Kach. This is a Powindah halting place.

A little further on is the Khuzuna *nala*. Up this *nala* another road, similar to the Urmana track, goes into the Waziri country.

At 2 miles from Spinkai Kach commences the Narai Kach.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XX—continued.

Beyond the Mashkanai *nala* (usually dry) the road crosses a stony plain for $\frac{1}{2}$ mile until it reaches Nilai. The plain is covered with Mashkanai grass, and is suitable for the encampment of a large force; water from a spring in the Nilai *nala*, slightly brackish (*see* also stage 14, Route No. XLII.)

6	KHAJURI KACH	15	} <i>Vide</i> Route No. XLII.
7	KUCHMINA	13 $\frac{3}{4}$	
8	MOGHAL KOT	7	
9	MIR ALI KHEL	14 $\frac{1}{4}$	
10	SAPAI	11 $\frac{1}{2}$	
11	BARUNJ	10 $\frac{1}{4}$	
12	FORT SANDEMAN	13 $\frac{1}{4}$	
13	BADENZAI	15	
		171	
		156	
		142 $\frac{3}{4}$	
		132 $\frac{1}{2}$	
		121	
		106 $\frac{3}{4}$	
		99 $\frac{3}{4}$	
		86	

At first the track runs south-west across a stony plain, then ascends into the plateau, descends for some distance and ascending a *nala* crosses a kotal at about 11 miles.

The track is for the most part rough and stony and bad-going in the *nala* bed. Suitable for pack transport only; camping ground good on the bank of the river; water and camel grazing abundant; forage and fuel scarce; supplies from Badenzai; elevation 4,650 feet. Supplies of wheat, hoosa, and wood are procurable at all stages between Apozaï and Murgha.

14	MINA VIALA	11	} 182

Pass Badenzai village at half a mile beyond the camping ground. From the plain ascend somewhat south and reach a kotal at 5 miles. From here descent to the foot of Smakhwal, a detached hill rising 1,000 feet on the left bank of the river. Thence the track goes west along

the foot of the hills. For the most part the track is good and suitable for pack transport. Camping ground for a division; water excellent and plentiful; fuel and camel grazing scarce; forage plentiful.

15	MUSAFIRPUR POST	7	} 189

Across the Mena plain, passing a single detached tree near to which is water, at the foot of the spur coming down from Mena Bazar, and cross a dry river bed.

At 2 miles water is again met with near twelve large mulberry trees (place called Aghwara).

Camping ground with shelter afforded by a low line of rocky hills.

From here ascend steeply crossing a kotal at 3 miles, and descend gradually to an open plain.

One-and-a-half miles further on cross another small kotal and descend between two rows of hills to the river.

Camping ground for a division near the Musafirpur post. Water, forage, and camel grazing plentiful; fuel scarce; elevation 4,750 feet.

16	TANG HYDERZAI	15	} 204

Along a somewhat rough track by the river bank and over a small kotal at about three quarters of a mile; thence in a straight line from spur to spur to the Ismailzai plain which is reached at 6 miles.

Cross a dry river bed at the foot of the spur, and proceed south-west, crossing two or three dry *nalas*. About here is a passable camping ground near a few detached trees; water is met with east of the track coming down from the hills.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XX—continued.

Pass through cultivation across the plain in a south-west direction till the 14th mile is reached, thence follow the stream through the *tangi*, passing between two villages. Track is suitable for pack transport and is good.

Camping ground for a brigade; water abundant, but brackish; camel grazing plentiful; fuel and forage scarce; elevation, 4,750 feet.

17	GWAL HYDERZAI POST	10	214	From the head of the <i>tangi</i> , ascend to a kotal at 2 miles, crossing one or two small ravines, thence descend gradually following along the base of the hills to the 4th mile. Here cross obliquely a dry river bed 70 feet wide, and, passing two small hamlets, cross an open plain in a south-west direction and over a kotal between two hills just before reaching the Post. Track suitable for pack transport and good. Camping ground for a division; water in river abundant, but brackish; fuel and grazing plentiful; forage scarce; elevation, 4,900 feet.
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18	KALU KILA . . .	8	222	Passing round a detached hill leave the river at 1 mile thence between detached hills, passing a large village, probably Marozai, to the east. No water near the track. At 4 miles a large grave-yard and deserted villages.
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The track now goes through cultivation and is in places some 3 feet below the surrounding country.

At 6 miles Alikhel is reached. Two wells, water good; said to be inexhaustible; but for a large force they would have to be enlarged. Track suitable for pack transport; camping ground for a brigade; water abundant, but brackish; forage and fuel scarce; elevation, 5,000 feet.

19	AKHTARZAI . . .	13	235	The road is a camel track suitable for pack transport only. At first, where it crosses cultivation, the track is heavy and probably impassable in wet weather, owing to its being lower than the surrounding country. Across a maidan for the first 4 miles; then proceeding through cultivation for some distance again enter a maidan.
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At about 9 miles pass the deserted village of Alozai, a karez, at present filled up. Excellent camping ground here.

Continue west across the open plain to Akhtarzai. At the end of a spur is good camping ground for a brigade; water and camel grazing abundant; forage and fuel scarce; supplies plentiful; elevation, 5,100 feet.

20	SAIFULLA KILA . . .	11	246	From the end of the spur descend slightly, following along the foot. Pass between some detached hills, with water in a stream, for some 2 miles. Cross three large lines of <i>karezes</i> and proceed west over an open plain; camping ground for a brigade; supplies plentiful; water and camel grazing abundant; forage and fuel scarce; elevation, 5,150 feet.
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21	KAZHE . . .	11	257	The road is a camel track and heavy going through scrub jungle near the river but good in other parts.
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In the first mile cross several lines of *karezes*. From the foot of the hills cross an open plain; thence north-west through low scrub jungle for 4 miles. The river banks are between 40 and 50 feet high.

Cross the river and proceed due north; camping ground for a brigade, very dusty and uneven; water, fuel, and camel grazing abundant; forage scarce; elevation, 5,250 feet.

22	SHINA KHULA . . .	19	276	By a track difficult to find in places quit the sand-hills at 2 miles, and, proceed west across cultivation, past a low range of hills and a large stream of water with water-mills. Detached houses at 5 miles. Track is sandy and heavy going for the next 2 miles; beyond this
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is 4 miles of stony maidan.

Route No. XX—continued.

At 11 miles a detached hill and a small hamlet to the south.

Still west across the open plain.

At 15 miles water is met with, but the supply is uncertain, as it is used for irrigation purposes.

The track is now excellent over shaly ground along the foot of the *daman*.

Camping ground on cultivated fields for a brigade; good water in a stream from the hills; fuel and camel grazing abundant; forage scarce; elevation, 5,250 feet.

23	HINDUBAGH . . .	10	286	The track goes nearly due west over stony ground and crossing dry <i>nalas</i> here and there, about 6 feet deep, which require ramping down. Following the course of the river pass some outlying villages of Hindubagh at 7 miles. Water at the Tehsil good; camping ground for a brigade; forage and camel grazing plentiful; wood scarce; elevation, 5,950 feet. Post office.
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24	MURGHA . . .	13	299	For the first 3 miles the road is fairly level. At 1 mile cross two good <i>karez</i> s. At 3 miles ascend gradually from the foot of the <i>daman</i> to the 9th mile; thence along the foot of the detached hills proceed almost due south to Murgha. Road is good and suitable for wheeled transport. Camping ground for a division; water and camel grazing abundant; forage and fuel scarce. Elevation, 7,100 feet.
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25	KHANZAI . . .	16	315	Ascend in the first mile to Kan Mehterzai kotal; pass to the north the village of that name at 2 miles, and ascend to the kotal at Ulgai. Here there is good water from two streams coming out of the hills above the village. Descend from the kotal for 1½ miles by the left bank of the <i>nala</i> to a small hamlet called Murgha. Here there is water in <i>nala</i> bed.
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Ascend between low hills to the 9th mile, and cross another kotal. Between this kotal and the 11th mile water is met with in abundance. The village of Dilsur is passed about 2 miles to the west, the road now going nearly due south.

At the 11th mile cross the Surkhab river by a ford, and gradually descend along its left bank to Khanzai.

The road is good and suitable for wheeled transport, but would be impassable in places in wet weather where unmetalled, and the ground is naturally soft and clayey. Camping ground for a brigade; water, fuel, and forage plentiful; camel grazing as at Kuchlack. Bhoosa obtainable, and barley and wheat at the time of crops. Other supplies are brought from Bostan and Pishin. Elevation 6,500 feet. Road bungalow.

For road to Pishin—see Route No. 88, N.-W. F., Vol. I.

26	KHANAI . . .	15	330	Cross the Dera Ghazi Khan-Pishin Frontier road near the rest house and reach Zergun <i>karez</i> at 3 miles. Here is an abundant supply of water and open ground suitable for encampment. At 5 miles cross a kotal, thence the road runs parallel to the river with a gentle descent to the 9th mile, passing Gwal village 1 mile to west, where water is procurable. Cross the Pishin-Garkhai road at 11½ miles, and proceed south-west to the camping ground ½ mile north of Khanai station. Water good. The road is good and suitable for wheeled transport. Supplies as at Khanzai.
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27	KUCHLACK . . .	16	346	Passing Khanai station cross to south of railway at 1½ mile from camp. The track, which is merely a rough clearing of the main stones, then runs roughly parallel to the railway to the 6th mile, where Manzakai is passed. There is water in the <i>nala</i> ½ mile west of railway, but brackish. No water at the village east of railway.
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ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XX—concluded.

At 7½ miles pass Bostan railway station about 2½ miles to west, thence slowly descend the *daman* to a *karez* with abundance of water. Open *daman* to east of road suitable for camping ground.

Passing Kuchlack village the track goes south-west and joins the main road at the level crossing ¼ mile south of the railway station.

Three quarters of a mile further on is the camping ground on the east of the road; soil, clay; water, abundant and good, comes from a rock close to the road; camel grazing good and plentiful in summer; none from 1st November to 1st April; fuel, *nil*. Bhoosa and barley plentiful.

28	QUETTA	11½	357½	The first mile has a gradual ascent over stony country crossing several <i>karezes</i> , which, however, are deep down. At 1½ mile cross an open <i>karez</i> of good water. At about 500 yards to left is the village of Malozai.
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Pass several small villages of Baleli, through the Baleli defences, and over the railway by level crossing at 3½ miles.

Ascend into the Quetta-Lora cutting, about 20 feet broad, and reach Baleli railway station at 4½ miles. Several streams of good water are passed between Baleli and Gul Mahomed.

At 5½ miles the road again crosses the railway by a level crossing.

Gul Mahomed is passed at 9½ miles, and the outskirts of Quetta are reached at 11 miles.

Route XXI.

FROM DERA ISMAIL KHAN TO APOZAI, *via* DRAZAND AND THE ZAO PASS.

Authority—DEPUTY ASSISTANT QUARTER MASTER GENERAL, ZHOB FIELD FORCE, 1890.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	KHULI	13	13	} <i>Vide</i> stages 1 to 3, Route No. 88, N.-W. F., Vol. I.
2	SAGU	6		
3	DABABAN	16	35	
4	DRAZAND	11	46	} <i>Vide</i> stage 9, Route No. XXXII.
5	MURGHA	7	53	

3 miles villages commence on both sides of the valley which is well cultivated. At 7 miles (road still up river bed) reach the village of Murgha on high ground looking down on terraced ground on which camp was pitched. Forage and water abundant. Wood scarce. Road from Drazand stony but passable for all arms, wheeled artillery included, with a little improvement at descent into river.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XXI—continued.

6	SUB KACH . . .	8	61	<p>After leaving camp the road proceeds in a northerly direction along the bed of the Drazand Zam for $1\frac{1}{2}$ miles, when the river bed itself turns west and leads to the Gat defile. The path then leads up a <i>nala</i> north through a bed of red sand which it only follows for a few hundred yards before ascending a steep clay kotal, elevation 1,720 feet, leading to the village of Malik Palak Khan, called Wazir Kot. The path then runs in a north-westerly direction over a stony plateau for $1\frac{1}{2}$ miles crossing four small stony <i>nalas</i> at right angles. Bad going for the camels which should make a circuit beneath the hills to the west and join the path again further on. The road then descends down a good but steep path into the broad bed (now dry) of the Surkhozai <i>nala</i>. From here the road runs for 4 miles in a northerly direction over sandy soil only leaving the river bed once to make a short cut for $\frac{1}{2}$ mile on the east bank. Several small <i>nalas</i> come in from the west, but none from the east. At about 8 miles the Khalilzai stream flows in from the west through a ravine, and the camp was pitched here. The name of this spot where the Surkhozai and Khalilzai <i>nalas</i> meet is Sur Kach. Grass, wood, and water abundant. Room here for a brigade. Height, 1,460 feet (aneroid).</p>
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7	GANDARI KACH . . .	7	68	<p>Leaving camp the path runs north-east for about 1 mile along the river bed (apparently that alluded to in Route No. 88 N.-W. F. Vol. I, as the Sta-wi-war) till the latter flows into the Sawan through a rift in the vertical strata. From this point the road leads through the valley of Chalwaskai. Remainder of route described in Route No. 88, N.-W. F. Vol. I, but at 3 miles from Chalwaskai an encamping-ground on the right bank of the Zao should be noticed, which would be available when water was in the river. There is a good camping-ground for a brigade, but tents should not be pitched too close to the hills as falls of earth and stones from them frequently take place.</p>
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8	KAMAL KULIA . . .	9	77	<p><i>Vide</i> Route No. 88, N.-W. F., Vol. I. The mouth of the Zao defile is abreast of Gandari Kach, but it should not be entered at this opening for the reasons given below, although it is as well to describe this first portion of it. On entering the defile the sides soon become precipitous. At the first hundred yards a waterfall is met about 8 feet high over black shale; this could easily be worked with a pick if required. At $\frac{1}{2}$ mile is met a small shelf about 3 feet high over which the water falls. At $\frac{3}{4}$ mile the bed is blocked by a blackish conglomerate mass of rock which forms a very good landmark, as on the north side the rock is bold and overhanging, some 20 feet high, forming a cavern underneath. On the south side it is slippery, steep, and sloping, but only about 10 feet high, over which the water rushes. This would have been a very difficult place to make anything permanent over, especially as the rock is very hard and not easily worked. Any ramp constructed there must have been washed away by the first heavy flood. An alternative camel track was found leading from camp at Gandari Kach over the left bank of the river, and after several days' work was made passable for camels at all times. This track ascends the left bank beyond the small hill in the Gandari Kach camping-ground, by a zig-zag to a height of 60 feet and passing through a gateway cut in the hills runs along the hill for a few hundred yards and descends into the river bed by another artificial zig-zag beyond and avoiding the obstacles last alluded to. From this point the river bed must be followed. The direction is south-west by west for about 400 yards, when the first obstacle is reached. This is a large boulder which blocks the whole pass with the exception of a narrow passage on each side. It is 15 feet high on the left side and 10 feet high on the right. Through the passage on the left bank the water flows. On the other side the rock was blasted and a ramp constructed. This ramp is likely to be permanent. Immediately on surmounting this obstacle a long slippery black rock occurs for about 40 yards, some 10 or 15 feet high, the water dashing along the south side. On the north side a path was blasted and picked out 1 foot deep and 2 feet wide, the bottom being roughened and forming an easy and permanent path. The next 200 yards lead across flat</p>
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Route No. XXI—continued.

black rocks, two vertical rocks about 4 feet high being ramped out of reach of floods. Here the valley opens out, the sides being masses of loose rocks lying about in confusion on the clay hillsides, while the river bed is choked with boulders of great size. Through these for some few hundred yards the path meanders, having been carefully picked out so as to be as much as possible unaffected by ordinary floods; ramps, and one level crossing as level as possible were built, though very few are required, and those which are are small. All tight places were blasted till a laden camels could pass without difficulty. One hundred yards from the level crossing is a narrow passage 20 to 30 feet wide, the walls of which rise precipitously on either side. On the left bank is a curious overhanging mushroom-shaped rock, forming a very noticeable landmark. After passing through this passage one of the most difficult obstacles is met with, a rise of some 12 feet in the river bed, several huge boulders choking the waterway. This was found impassable except on the left bank, where a four-foot passage was left between the boulders and the wall down which the water dashed over small rocks. The water was diverted to the centre of the river bed a passage for it being blasted between two rocks and the old channel filled up till higher than any other part of the bed. Up the old waterway a solid ramp was built and the rocks blasted till a laden camel could pass with ease. About 300 yards further on a large white boulder is met, forming a sort of door to a narrow passage, 15 feet broad and 50 yards long, between perpendicular rocks. From here onwards the pass is more open and good going for about 1,000 yards, when a *nala* comes in on the left bank leading to Kashmir Kar. Two hundred yards beyond this in a south-west direction the passage is blocked by the Siri rock. This is a rock some 25 feet high and two smaller rocks rest against it on the south side, through and over which the water falls, having been diverted from the north side where the rock was blasted and a good ramp made. This ramp will always require some repair, as a few paces east of the Siri rock the walls narrow to some 10 feet, so that the water when in flood, after falling over the rock, dashes through the *tangi* and scours away the foot of the ramp, continuing the process until the upper portion falls. This was practically ascertained after the heavy flood on the night of the 29th November 1890, when it was found that the ramp was swept away, though some of the stones, used in building it up, were 3 feet by 2 feet by 1 foot. The Siri rock is of hard white limes tone, and it would take a long time to destroy it altogether. Even if removed the drop of 20 feet would still remain, whilst as it is the ramp on the north side, if repaired when required to be so, offers all that is wanted for a practicable roadway past it. About 50 yards beyond the Siri rock on the left bank is a curious cave some 50 feet deep and 10 feet broad; dangerous on account of falling stones inside it. From here the *nala* bed opens out considerably for 600 yards and the path only requires a little arranging till the *nala* again narrows, entering a sort of gateway of vertically stratified rock and at $3\frac{1}{4}$ miles from Gandari Kach the rocky sides come down and meet in two saucer-shaped falls about 5 feet high, one being about 50 yards beyond the other. Roads were blasted through the rock in each case and ramps built up to them, out of the reach of anything but extraordinary floods. From here onwards to Kamal Kulia no difficulties occur. It was found impossible to make an absolutely permanent road as owing to the nature of the pass the ramps are liable to be damaged by the water after heavy floods, and would require repairs. Except for this the road is now perfectly easy, as all close places were widened by blasting; but any force passing through should send on a party one day ahead to execute repairs. A working party of 150 men in six hours' time should be sufficient for all purposes. During or after heavy rain the pass should be traversed with caution. Masses of conglomerate and of rock and boulders are frequently precipitated from above and occasionally require agility to avoid, whilst the water rises rapidly and would in flood carry all before it. It should be noted that no thoroughly reliable description could even be given of such a defile as the Zao, for it is constantly liable to be blocked by fresh rocks and boulders, either precipitated from above or washed down by the floods, and these would of course form fresh obstacles to be dealt with.

9	MAZBAI KACH	10

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This route is sufficiently described in Vol. I. It should be noted in addition that at about $\frac{1}{2}$ mile from the camping-ground a path leads on the left bank over the hills to Kashmir Kar. It is distinguished by two great boulders of rock which stand on the right of the path a

little way up the hill.

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Route No. XXI—concluded.

10	AMANDI DAR . . .	11	98	As in Route No. 88, N.-W. F., Vol. I. It should be added that at about 3½ miles the ravine on the right leads direct from the Zhub valley. Through this flows the Sheranna stream which here mingles with that of the Khaisor (up which the road to Amandi Dar lies), the two flowing together through the Gat defile and forming with other affluents the Drazand stream.
11	BARKHARDAR'S FORT.	15	113	The valley (called the Khaisor) opens out and becomes broader, the low hills which have shut it in gradually disappearing. At ½ mile pass a <i>nala</i> on the left bank. At 2 miles the river bed turns south-west passing through the village of Karam Ghala. There is a short cut for infantry over some cultivation at this point. At 2½ miles the river bifurcates, one arm turning west to Kuria Wasta (some 2 miles distant) and the other south. This latter branch the path follows on the left bank till at 3 miles it debouches on to the plain or broad open valley. At about 9 miles one or two hills are met in the centre of the valley. A village lies at the foot of the largest hill at some distance from the road, name not ascertained. Leaving the <i>nala</i> the path runs along the western foot of these hills till it strikes the gravelly bed of a small <i>nala</i> along which it continues till the hills cease, when the path runs across the plain till at 15 miles it reaches Barkhardar's fort. This is a mud walled enclosure with four towers in the corners. Wood, grass, and water plentiful near the village. The water, which is dammed above the fort, can be run down in a small irrigation channel through the camping-ground. The camping-ground at Mani Khwar is about 2 miles south-east of this. Height of camp 5,190 feet (aneroid).
12	KAPIP KACH . . .	16	129	} <i>Vide</i> stages 1 and 2, Route No. XXXII and Route No. XXVIII.
13	APOZAI . . .	8½	137½	

Route No. XXII.

FROM MANJI POST TO NILAI *via* SHERANNA.

Authority—CAPTAIN MASON, 1888.

From Manji Post (height 975 feet) the road crosses the stony *daman* in a westerly direction for two miles to the foot of the hills. It then drops down into the bed of the Sheranna *nala*, which is here narrow, but widens out gradually until, at 3 miles from Manji, Indai Kuram is reached. From here a track takes off to Nilai Kach by the Spulmai *nala* (see Stage 5, Route No. XX). Follow the *nala* which now runs south, and pass to the right of the place called Zmaraikar where there is a spring of good water. This place is about a mile off the road. Caravans halt here, as this is the only place where water is to be obtained on this route. There are numerous pools, but the water in them is always brackish; and between Manji and Nilai, with the exception of this place, no water is obtainable. At 7 miles reach Chinjan Kuram and at a mile further on arrived at Wuchepista (literally "dry and soft"), where there is a level but stony piece of ground, which is used by Powindahs as a camping ground. The objection to its use is the absence of good water. The natives say that this brackish water is not bad for cattle, but could not be used without ill-effects

Route No. XXII—concluded.

by men for more than a day or two, as it produces diarrhoea. From here there is a road, said to be fit for laden camels, leading to the Zao pass. It is first known as Khwazob (sweet water) and then as the Kharonni. Two or 3 miles on this road good water is obtainable. Zao is said to be distant 9 miles. Height of Wuchepista, 1,450 feet. The road leaves the Sheranna *nala* and runs in a north-west direction for 5 miles to the top of the kotal (2,150 feet). At first the rise is almost imperceptible, but on reaching the kotal it increases to about 3°. From the kotal descend at a slope of 4° for nearly a mile to Tsirai Tangi.

Here the road is very narrow, just room for laden camels in single file. From the *tangi* descend steep to Mashkanai *nala*. This part of the road requires widening and the gradient improved before being fit for wheeled traffic. Down this *nala* for a mile, cross a low kotal, and descend into the Nilai *nala*, reaching the camping ground on the other side (1,700 feet). Another road leads from the foot of the Tsirai *tangi* up the Mashkanai *nala* a short distance, and then runs in a south-west direction, until it meets the road from Nilai (see Stage 5, Route No. XVIII) to the Gwaleri. This road is said to be fit for laden camels. Near Nilai camping ground is a spring, but the water is brackish. There is an alternative road from Wuchepista, which is used by Powindahs, by which the Tsirai Tangi is avoided. It is fit for laden camels. In the event of the Sheranna route being used by a force, it would be necessary to crown the heights on either side. This would not be difficult. For the first-half of the way along the Sheranna there is no road, properly so called, but it would be a very simple matter to make a road by clearing away the stones. From Wuchepista, with the exception of Tsirai *tangi*, the road is excellent. The first 2 miles are rather stony, but beyond that the road is wide and free from stones and could easily be made into a good permanent one fit for wheeled traffic. It is only when the Gumal is impassable, or owing to the hostility of the Mahsud Waziris, that the Powindahs use the Sheranna route. During the winter months the Zalli Khel pasture their flocks here. There is a coarse kind of grass, which is eaten by sheep and cattle, but the supply is scanty and not to be depended on. The Nasar Powindahs are responsible for the pass. Total distance from Manji Post to Nilai is 15 miles.

Route No. XXIII.

FROM AHMDANI TO SAURA (NILI) *via* THE MAHOI PASS.

Authority—DAMES, 1890.

No. of stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	DAWAGAB . . .	16	16	The route leaves the Ahmdani encamping ground on the Dera Ghazi Khan-Dera Ismail Khan road and proceeds over a plain partly irrigated from hill torrents and partly sandy to the Mahoi post, distance about eight miles. Fresh water can be had here from a well.

Thence it follows the bed of the Mahoi torrent for five miles, to Tahlanck, a patch of cultivated ground situated at the point where the Rai Takh (a long valley running north and south through the hills) crosses the Mahoi torrent. There is running water in the torrent, but it is brackish at this point. Fresh water can occasionally be obtained from a tank. A mile above Tahlanck the route crosses the ridge joining Mount Bindar with the Bozdar Safed Koh by a kotal practicable for camels. The torrent passes through this ridge in a precipitous gorge called Tahlanck Dahar. The path over the kotal requires a little work to make it good. Along the gorge for two miles the route follows the stream. The water

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XXIII—concluded.

here is only slightly brackish, and after some sulphur springs, a mile above the gorge on the right bank of the stream are passed, it becomes perfectly sweet. Dawagar is the first good open place for a camping ground after the sweet water is passed. There is here a route through the hills to the Sangarh *nala* below Garmaf (*see* Stage 1, Route No. XXXV). Water, wood, and camel grazing abundant.

2	BARTHI	12	28	On leaving Dawagar the route leaves the bed of the Mahoi on the south side, but rejoins it a mile further on, and follows it for some miles. At about 5 miles a lofty cliff named Hamir Drang is passed on the right and just above this point the Shakalo stream from the north joins the Mahoi. Its water is permanent and of excellent quality. There are clumps of palm trees, and wood is abundant. Shakalo would make a suitable halting place between Mahoi post and Barthi. The permanent supply of water in the Mahoi ceases shortly after leaving this place, and the torrent bifurcates into two branches. That to the right (the northern one) must be followed and leads to the watershed separating the Mahoi drainage from that of the Sangarh. This <i>sham</i> affords no difficulties, and the route then descends the Rainal <i>nala</i> for about 5 miles, its junction with the Sangarh at Barthi. This part of the route is very easy, and water can be obtained at two or three points from wells sunk in the bed of the stream. Barthi is a fertile <i>kach</i> in the bed of the Sangarh river. Water is good and abundant, wood and camel grazing plentiful. This place is the head-quarters of the Bozdar <i>Tumandar</i> .
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3	SAURA	10	38	The route from Barthi follows the Ludhriwar plateau, which is thickly covered with <i>ber</i> jungle and (in the autumn) <i>jowar</i> and <i>bajra</i> fields. The descent into the bed of the Sangarh is the same as is described in Stage 2, Route No. 91, N.-W. F., Vol. I. The name Saura is better known than Nili.
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Route No. XXIV.

FROM DRAZAND TO RAGHASAR.

Authority.—DEPUTY ASSISTANT QUARTER MASTER GENERAL, ZHOB FIELD FORCE, 1890.

No. of stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	RAGHASAR	11	11	Leaving camp the road runs south-west along the plateau to the village of Drazand, which is passed on the right at 1½ miles. At 2 miles the road descends into the Drazand Zam. Up to this point the going is good and the descent into the <i>nala</i> is easy. From here the road changes its direction to west, and runs along the bed of the <i>nala</i> till at 3½ miles a <i>tangi</i> is reached. This <i>tangi</i> is about 300 yards broad, on the left of which is the village of Zor Shahr, on the right the ziarat of Pirghundi. At this point the Sussa <i>nala</i> , also known as the Sultanzai Khwar, from Raghasar meets the stream from the Gat pass, both combining to form the Drazand Zam. From this <i>tangi</i> the

From here the road changes its direction to west, and runs along the bed of the *nala* till at 3½ miles a *tangi* is reached. This *tangi* is about 300 yards broad, on the left of which is the village of Zor Shahr, on the right the ziarat of Pirghundi. At this point the Sussa *nala*, also known as the Sultanzai Khwar, from Raghasar meets the stream from the Gat pass, both combining to form the Drazand Zam. From this *tangi* the

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XXIV—concluded.

road runs up the *Sussa nala* in a south-west direction for about 1 mile, and then ascends by a gentle slope on the left to a plateau on the right bank of the stream. Up to this point, along the *nala* bed, the road is rough and stony. From here the track runs almost south. At 8 miles there is an easy descent into the *nala* bed suitable for camels, but the mule track continues along the plateau to the village of Girdghun, which is passed on the left at 9 miles. From here, on the left bank of the stream, can be seen the villages of Khaisara, Maidan, and Kharam Mirzai. Maidan is inhabited by a colony of *Sayyids*, who showed themselves hostile on the 30th October 1890. The road continues along this plateau for $\frac{1}{2}$ mile and then drops into the *Sussa nala* again by a gradual descent which is stony but practicable for mules. From here the road runs along the bed of the stream in a south-westerly direction for $1\frac{1}{2}$ miles, till at 11 miles the village of Raghasar is reached. The village is situated on a cliff overlooking the right bank of the Sultanzai Khwar which, about a mile from Raghasar, makes a right-angled bend in a westerly direction, and thus the village is not visible till one gets close to it, as it is hidden by a projecting spur. Raghasar is a large village and is the capital of the Sultanzai section. The camp was pitched on the left bank of the *nala* close to a small outlying hamlet. Some maize is grown here and water was obtained from a running stream in the bed of the Sultanzai Khwar. The march is generally easy and practicable both for laden camels and mules. Camels can also proceed the whole march up the *nala* bed, but this would be somewhat longer. Height of camp, 2,675 feet.

Route No. XXV.

FROM GANDARI KACH TO KASHMIR KAR POST.

Authority.—DEPUTY ASSISTANT QUARTER MASTER GENERAL, ZHOB
FIELD FORCE, 1890.

No. of stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter- mediate.	Total.	
1	KASHMIR KAR	$7\frac{3}{4}$	$7\frac{3}{4}$	The road on leaving camp leads off from the Zao defile some $2\frac{3}{4}$ miles west of Gandari Kach and follows the bed of a <i>nala</i> which turns sharp north from the Zao defile for 50 yards, and then turns north-west through a sort of natural gateway formed by vertically stratified

rocks extending into the *nala* bed. For 200 yards the valley is an open river bed about 30 yards wide with low hills on either side. It then turns suddenly south-west and enters a *tangi* with precipitous sides some 20 feet wide. After 100 yards it narrows to 10 feet and the water flows through the centre in a rounded saucer-shaped fall not more than 3 feet high. From here it slightly widens and winds generally north-west for another 200 yards, when the gorge is blocked by a black slippery rock 18 feet high—a serious obstacle for man and impassable for any animal. The gorge having precipitous sides there is no way round. This obstacle once climbed the bed is good going, the rest of the way being dry, wide, and stony. Grass grows in abundance. The bed rises very steeply, the incline being quite perceptible to the eye, and passes through low broken hills, receiving many smaller *nalas* on either side. This rock passed, the general direction is north-west for $\frac{3}{4}$ mile, where a small *nala* joins from the north. The river bed then turns west and is about 50 yards wide. After one mile a large *nala* from the south is met. Water is met with $\frac{1}{2}$ mile further on. At $5\frac{3}{4}$ miles a smaller *nala* runs in from the north-west, while the main stream narrowing very much runs south. Three hundred yards beyond this some rocks with a fall of about 4 feet block the road, though a path can be made on the south bank. A little water here. At $6\frac{1}{2}$ miles

Route No. XXV—concluded.

the path leaves the *nala* bed, and turning abruptly north up the hillside leads up a very steep zig-zag on the hill-side for $1\frac{1}{2}$ miles, and at $7\frac{3}{4}$ miles the post of Kashmir Kar is reached on the hill top. The post is garrisoned by Miani levies; is built of mud, and has an officer's room. Water slightly aperient but quite drinkable. From here a good road leads in a north direction to Nilai Kach in the Gumal, distant about 11 miles, and a rough path runs to Khaj uri Kach. Height of Kashmir Kar, 4,800 feet.

Route No. XXVI.

FROM HUSEIN ZIARAT TO APOZAI *via* DOMANDI AND GARDANI.

Authority.—DEPUTY ASSISTANT QUARTER MASTER GENERAL, ZHOBI FIELD FORCE, 1890.

No. of stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	DOMANDI . . .	$8\frac{1}{2}$	$8\frac{1}{2}$	<p>Leaving the camping-ground near the ziarat of Husein enter the hills immediately to the south-west and ascend by a steep track. At $\frac{3}{4}$ mile reach a kotal 250 feet above the camp. This ascent, though short, is difficult, and it took the camels two hours to get up it. There is another way said to be easier though longer and there is an alternative route along the bed of the Kundar; and it is probable that this last is preferable to either of the other two roads. Before again undertaking this march a careful reconnaissance should be made of the different routes. From the kotal after a short and gentle descent the track runs over the plain in a north-east direction. This plain, which is open, and is called Manzaraguna, stretches away from the Shinbaza kotal on the right to the other side of the Kundar river on the left. This plain belongs to the Nasars, but owing to their dread of the Suliman Khel, they do not go there, the Suliman Khel using it occasionally as a grazing ground. At 3 miles the track drops down into the bed of the Inzara Khwar. This, with its branches, drains the Manzaraguna plain. It was quite dry, but some water was found in its bed near the place where Colonel Nicolson's column halted. After 3 miles the track follows the Inzara <i>nala</i> in a north-east by east direction. The <i>nala</i> is a deep cutting through conglomerate, with high perpendicular sides, and has a width of about 100 yards, narrowing at 5 miles to about 30 yards. If there is likelihood of opposition a force should not move by this route without the sides of the <i>nala</i> being crowned. Several feeders come into the Inzara <i>nala</i> on the right, and at 6 miles the Inzara itself joins the Kundar. Just before this junction a spring called Sasandai is passed on the left, the water from which is excellent. From 6 miles the track follows the bed of the Kundar in a north-east direction to Domandi, which is reached at $8\frac{1}{2}$ miles. The Kundar here is from $\frac{1}{4}$ to $\frac{1}{2}$ mile broad. The stream has to be crossed several times, and the going is heavy over sand and stones. At Domandi the camp was pitched on the right bank of the Kundar close to its junction with the Gumal which here joins it from a north-west direction. The country on the left bank of the Kundar throughout this march belongs to the Suliman Khel. The camping-ground at Domandi is in the bed of a <i>nala</i> and is sandy. There is room for a considerable force. Water is abundant from the Gumal or Kundar and should be taken from the former for preference. Wood and grass are obtainable from the adjoining hills, but camel-</p>

Route No. XXVI—continued.

grazing is scanty. Sheep and goats could generally be obtained from the flocks grazing in the neighbourhood. No other supplies are obtainable as there are no villages or habitations of any sort near Domandi. General direction of march north-east. Height of camping ground 3,375 feet (aneroid).

2	KURMA	10	18½	<p>Leaving the camp in an easterly direction, follow the bed of the Gumal (which has now been joined by the Kundar water). The valley is here shut in by perpendicular cliffs. At 2 miles it opens out to nearly a mile broad and Maricho Kach is passed. This belongs to the Nasars, but is not cultivated by them through fear of the Suliman Khel. After passing Maricho Kach the valley narrows again, and at 3 miles is only 150 yards broad. Here the direction is east-south-east. On the left is the Zarmelan plain and on the right Manzaraguna, the same plain that was crossed during the previous march. Both of these are claimed by the Nasars, but they do not occupy them on account of their enmity with the Suliman Khel. The latter, however, come down here with their <i>kiris</i> in the winter to graze their flocks. At 4½ miles valley again begins to open, and at 5 miles Gul Kach is reached. Up to this point the stream has to be crossed and recrossed several times and the going is bad for men and animals, the bed of the <i>nala</i> being sand and boulders. The stream is now a strong current with deep pools in places and the river cuts through a sort of half-formed conglomerate. Gul Kach is a long stretch of open ground intersected by the stream. It is about 4 miles long, and at its widest part 1 mile broad. It is stony and covered with long coarse grass. It is claimed by the Nasars, but, for reasons given above, is not occupied by them. The track crosses Gul Kach diagonally in an easterly direction, and at 7 miles reaches the right bank of the river bed. The track then continues in the same direction (east) over a level plain which skirts the river bed and has an average width of ½ mile. This plain is known as Kanzur. The track runs over this to 9¼ miles, when a graveyard is passed on the right and the valley then opens out, and ½ mile further on the track again strikes the Gumal. This place is called Kurma, and here the camp was pitched. It is at the mouth of the <i>nala</i> of the same name. There is no village here, nor anywhere along this march. The Nasars own the land on the right bank of the stream, and the Zalli Khel and Dotanis inhabit the hills on the opposite bank. The former are Darwesh Khel Waziris, and the latter Powindahs. The Zalli Khel live in these hills all the year round, but the Dotanis go up towards Kabul in the summer, leaving only a few of their number behind to look after the crops, etc. At the camp at Kurma there is abundant and good water from the Gumal. Grass is plentiful; wood is obtainable in the vicinity, and there is a small amount of camel-grazing but not much. No other supplies, except perhaps sheep and goats, are procurable. General direction of the march east. Height camp 2,950 feet (aneroid).</p>
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3	GARDANI	18	36½	<p>On leaving the camp at Kurma the track crosses the open plain at the mouth of the Kurma <i>nala</i> in a southerly direction, leaving behind the Gumal river. At 1 mile the path crosses a small <i>nala</i> in which there is much grass. The track then runs over stony undulating ground until at 3 miles it drops into the bed of the Kurma <i>nala</i>. This is here about 150 yards broad and is quite dry. The track then follows the sandy bed of the Kurma in a south-south-east direction. At 3½ miles water in two small pools is passed under the left bank of the <i>nala</i>. This water is good. At 4 miles the direction is south by east, the track still following the bed of the Kurma. At 4½ miles the <i>nala</i> narrows to about 40 yards and the direction changes to south-south-west, and although the <i>nala</i> winds about a good deal, this remains the general direction for the next 5 or 6 miles. After 4½ miles the <i>nala</i> continues to be confined between hills up to 7 miles. Here it begins to open out again, and at 8 miles the track is running over an open valley nearly a mile broad on which there is much grass. At 10 miles the watershed between the Gumal and Siritoi is reached. The height here is 3,600 feet (aneroid). The track then runs across the open Gardao plain in a south-east direction for 3 miles and then south-south-east for 2 miles. This plain is quite level and covered with grass, chiefly <i>dumb</i> grass. Like the valley of the Kurma, the Gardao plain is almost deserted, owing to fear</p>
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Route No. XXVI—continued.

of Waziri raids. The land properly belongs to the Mando Khel, but the only people who frequent these parts are the Suliman Khel who use this as a grazing-ground in the winter. There is no water on the Gardao plain, but after rain it collects in pools, and water is said to be obtainable in the neighbouring hills. At 15 miles the track drops into the Gardani *nala*, which drains the eastern side of the plain, and follows the bed of the *nala*, which here enters the hills in a south-east by south direction. At 15½ miles the Gardani has narrowed to 150 yards with precipitous hills on either side and the track follows its bed, which winds about among the hills in a general south-east direction, until the camping-ground at the junction of the Gardani with the Siritoi is reached at 18 miles. Here there is water sufficient for a brigade, in pools in the bed of the Siritoi. There is no water passed during this march except at the one place already mentioned 3½ miles from the last camping-ground. The march although long is fairly good going; the only parts that are heavy are those where the track follows the bed of the Kurma or Gardani *nalas*. The general direction of the march for the first 10 miles is south-south-west, for the last 8 south-south-east. There is an abundant supply of grass all along the route. The camping-ground at Gardani is on the right bank of the Siritoi among *tamarisks*. Here there is an abundant supply of grass. Wood and camel grazing obtainable in the neighbourhood. No other supplies procurable, but these could be sent out from the Mir Ali Khel post which is about 3 miles distant. The hills round belong to the Mando Khel, who are British subjects. There is no village at this camp, nor are any passed along this day's march. Height of camp 3,450 feet (aneroid).

4	SAPAI	9½	46
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Leave camp at the junction of the Gardani and Siritoi streams and follow the bed of the latter in a south-east direction for 1½ miles to its junction with the Zhob. The Siritoi, from the camping-ground to its mouth, contains a small stream of clear water. The

hills through which this *nala* runs gradually open out as the Zhob is neared, and the *nala* is about half a mile broad at its mouth. From this point the post of Mir Ali Khel is distant about 1½ miles in a north-east direction. This post occupies an admirable position to watch the Zhob valley and the entrance to the Siritoi, and will allow the Mando Khel to cultivate their lands, which before they were afraid to do owing to their turbulent neighbours, the Waziris on the north, who were constantly raiding on them. The road from the mouth of the Siritoi runs up the bed of the Zhob in a south-south-west direction, but turns more south soon afterwards. The general direction to the camp at Sapai being almost south. The Zhob, where it is joined by the Siritoi, is ½ mile broad, and the valley is enclosed by high hills. This is its character to within about 2 miles of Sapai, where the valley opens out a little and the hills are not so steep. The bed of the Zhob here is covered with *tamarisk* and grass, and these are obtainable throughout the march. The track crosses and recrosses the stream, which has a rapid current, and is as much as 2 feet deep at some of the crossings. At 5 miles the Uzba Khwar comes in on the right (left bank of the stream), and on the opposite side the Landai Khwar joins the Zhob. At 6 miles the Barar Khwar comes in on the left, and several smaller *nalas* join the Zhob during this part of its course. None of these, however, are important, as no roads lead up them and the only use they serve is as grazing grounds for the camels of the Mando Khel. At 6½ miles rice cultivation is met with on the left bank of the stream and a mile further more is found. This rice cultivation belongs to the Mando Khels, and they have some houses, now disused, to look after it. At 8 miles pass the new road from Apozai to the Gumal. It here runs above flood level on the right bank of the Zhob. At 9½ miles the camping-ground at Sapai is reached. Here there is no village nor habitations of any kind, but there is a deserted redoubt used by Mando Khels to protect their crops. The camp was pitched on ground used for rice cultivation, at present quite dry. At Sapai camel-grazing and grass are abundant. Firewood is also obtainable. The supply of water is practically unlimited from the Zhob stream on the right bank of which the camp was pitched. No other supplies are procurable. Height of Sapai 3,600 feet (aneroid).

5	BARUNJ	15	61
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On leaving camp the road proceeds across a stony plain for ½ mile, where the new road is met, which is then followed. This road was made at the beginning of 1890 during Sir Robert Sandeman's expedition. The road is now being re-aligned and converted into a really good

Route No. XXVI—concluded.

camel road 12 feet broad. The direction of the road is generally south, and a gradual ascent is made round the spurs of the hills on the right bank of the Zhob to $2\frac{1}{2}$ miles. At this point is a small Mando Khel village called Khatol Kot containing from 10 to 20 houses. The height of this point is 3,900 feet (aneroid). From here the road turns south-east descending for a short distance and then re-ascending the hillside until at 4 miles the highest point is reached 3,850 feet (aneroid). From here a descent is made to open ground on the right bank of the Zhob. The road runs over this for $\frac{1}{4}$ mile and then enters some low hills and winds about for $\frac{1}{2}$ mile when a broad stony *nala* is reached at $5\frac{1}{2}$ miles and a temporary Mando Khel village is passed on the right. The Zhob is now left behind and the tract runs up this broad *nala* (which comes down from Shinghar and drains the northern part of the Haripal country) for 2 miles in a south-east direction. At 7 miles a small Mando Khel village with two towers called Nili is passed on the left. At $7\frac{1}{2}$ miles a gentle ascent is made to a kotal which is passed at 8 miles (height 3,950 feet). From here the road enters the head of a small *nala* and winds about among low hills for 3 miles. General direction south-south-west. At 11 miles a small well of water is passed, and the *nala* here opens out and the made road is again met. This had almost disappeared throughout the previous 3 miles. At $11\frac{1}{2}$ miles the Zhob is again seen about 1 mile distant. From here the road runs behind some hills on the right bank of the Zhob, and at 14 miles drops down into the valley again. Passing the village of Barunj and crossing a wide *nala* known as Bailol, the camping-ground is reached at 15 miles. Barunj is a Mando Khel village. It contains 60 houses and has two towers. The Bailol *nala* where it meets the Zhob is dry, but when rain falls the drainage of the south part of the Haripal country comes down it. There is a good deal of cultivation about Barunj, and all long the river between Sapai and Barunj where there is any space rice is cultivated and a considerable quantity would appear to be grown. The road throughout the whole of this march remains on the right bank of the Zhob. The camp is here pitched on the same bank. The new road when finished will make this march shorter, as it is being constructed along the river instead of making a long detour as it does now. At Barunj grass is obtainable, also firewood and camel-grazing in the neighbourhood. Rice is also procurable from the village, but no other supplies can be obtained in any quantity. Numerous sheep and cattle were passed on this road, and these could be purchased if notice were given. Water is good and abundant from the Zhob stream except during the floods, when it is very thick and muddy. Height of camp 4,100 feet.

6	APOZAI OR SANDEMAN.	FORT	13	74
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On leaving the camping-ground at Barunj follow the new road which is now finished between Barunj and Apozai. The road skirts the sides of the hills and rises for $1\frac{1}{2}$ miles where it is 200 feet above the camp at Barunj. It then descends, and at $2\frac{1}{2}$ miles again reaches the

river bank. There is some rice cultivation on the opposite bank of the river here. The road then enters some low hills, and at $5\frac{1}{2}$ miles passes the villages of Mir Baz and Haji Ali, known as the Vaila villages, on the left. There is a good deal of cultivation near these villages on the right of the road. This is principally rice, wheat, and a little barley. Water is obtained from a *karez* and from small springs. From the Vaila villages the road runs over an open plain south-south-west all the way to Apozai or rather to Fort Sandeman, the name given to the cantonment which is built $1\frac{1}{2}$ miles to the north-east of the village of Apozai. The drinking water here is now brought in by an open channel from the Siliaza stream and is not good. Pipes, however, will be laid down shortly at Apozai. Supplies of all kinds can be obtained. General direction of march south-south-west. Height of camp 4,450 feet. See also Route No. XLII.

Route No. XXVII.

FROM HUSEIN ZIARAT TO GARDANI *via* THE SHINBAZA KOTAL.

Authority.—DEPUTY ASSISTANT QUARTER MASTER GENERAL, ZHOB
FIELD FORCE, 1890.

No. of stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter- mediate.	Total.	
1	INZARA	3 $\frac{1}{4}$	3 $\frac{1}{4}$	The road which is well defined goes in a south-east direction through some low clay hillocks and turns up a <i>nala</i> to the right, following it for about $\frac{1}{2}$ mile; it then begins to ascend a narrow kotal, rather trying for camels; top of kotal is about 150 feet above Husein Ziarat;
2	GARDANI	20 $\frac{1}{2}$	23 $\frac{3}{4}$	Road goes along the bed of the main <i>nala</i> in a general direction of south-east till at 3 miles it enters low clay hills and by a narrow path ascends the Shinbaza kotal, $\frac{1}{2}$ mile to the top; height 5,320 feet; grass and wild pistachio on the hills around. A good view can be had from

thence the road descends on to a broken plateau called Surwakai on the north-east of the Speraghar mountain; at about 2 $\frac{1}{2}$ miles it leaves the plain and descends into a stony *nala* about 100 yards wide, descent rather rough but improved by sappers. Up this *nala* for about half a mile to a point where the Inzara *nala* joins in from the right (south-west). This is the usual halting place, but the only water lies about 1 $\frac{1}{4}$ miles up the latter *nala*. It is good and plentiful and after rain would no doubt be found nearer camp. Camping-ground on the plateau above the right bank, rather stony and undulating but sufficient for a brigade or more. The plateau is dotted with bushes of a long sort of broom, called in Pushto, *bararar*, which is very fair camel forage. There is also a little grass and *pish* (dwarf palm). A few flocks of sheep and goats seen grazing in the neighbourhood. Height by aneroid 4,275 feet.

this point of the ranges on the far side of the Gardao plain, the Shinghar, Takht-i-Suliman, etc. The descent is easy, and the open plain is reached at 4 $\frac{3}{4}$ miles. Here on the right of the road is a small graveyard, and by it a path goes in a north-westerly direction to Nawa Oba and Apozai. (See Route No. XXX). Road now goes almost due east down a stony and gravelly plain with here and there a few sharp crags rising out of it. At 6 miles reach a small brackish stream in the bed of the Shinbaza *nala*, called by guide Qwottawe, which is also the name of this part of the plain. On the left (north) the plain is called Surwakai. From here road keeps to the right of the *nala* along the plain which is covered with tufts of sheep bitten grass; at 7 $\frac{1}{2}$ miles it goes through a low ridge or crag and again enters the plain; at 9 miles guide pointed out a grassy spot about a mile to the right of the road (south-west) where he said was a well of good water. A 10 $\frac{1}{2}$ miles cross dry *nala* full of coarse grass, where the column halted for an hour, thence still east on hard flat gravel till at 12 $\frac{1}{2}$ miles the road turns round a small hillock and goes in a south-east direction along the Gardao plain, here covered with short grass. The plain varies in width considerably, but it is nowhere less than three-quarters of a mile. This part of the plain appears to become at times a lake or swamp, for it is thickly covered with grass, reeds, and here and there is small driftwood, which seem to indicate that periodically this part of the plain is under water. At 14 $\frac{3}{4}$ miles road changes direction to the south, and at 15 $\frac{1}{2}$ miles some stone enclosures are passed on the right; the valley here begins to decrease in width and at 16 $\frac{1}{2}$ miles road begins to enter a range of hills, following the bed of a watercourse called the Gardani. At the entrance this pass is about 250 yards wide with high craggy peaks on both sides. The path

Route No. XXVII—concluded.

goes along the bed of this stream and over its banks to the camping-ground, which is reached at 20½ miles and lies at the junction of the Siritoi coming from the west, with this stream. A good stream of water rises here and drains down the Gardani to the Zhob river. Camping ground good and extensive—some fine tamarisks lie along the Siritoi valley, and there is abundance of coarse grass and reeds. The former can be used for forage, but it is not good. This is Mando Khel country, but the inhabitants seem to live in a state of fear of the Waziris who raid here occasionally. A small plot of cultivation and a few fruit trees called Bagh, watered by a good spring about 12 miles to the north-east of this camp, has been abandoned by the Mando Khels, as it appears to have been a perpetual source of temptation to their more powerful neighbours.

Route No. XXVIII.

FROM APOZAI TO BARKHARDAR KILA.

Authority—COLVIN, 1890.

No. of stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	BARKHARDAR KILA .	26	26	Leave Apozai in a due east direction, and working round the foot of the hills, turn a little south of east, till at 6 miles the bed of the Siliaza river is reached. The route then goes straight up the bed of the stream till about 9 miles; at 8 miles the path from the Babar

villages and the Babar *nala* are passed. About the 9th mile the route leaves the river bed and goes up a smaller *nala* in an easterly direction emerging on an open country with hills and a very large olive grove on the left. The road continues along a well-beaten track, which has evidently been at some time or another a popular *kafila* route, then, skirts the olive grove, gradually turning more towards north till it goes straight away north-east over an open country towards low hills in the distance. At about the 14th mile, the road passes the foot of a low hill which juts out into the plain; at 18 miles it turns slightly more north, and at 20 miles reaches the low range of hills above referred to, which it crosses by a kotal about 1 mile in length. There are two pools on the kotal; the water is not good, but sufficient to water a small detachment. There is no other water on the road between the Siliaza stream and a place 2 miles beyond Barkhardar Kila.

The route after passing through the kotal emerges on a large open valley, studded on either side with olive trees and presently turns almost due north. Barkhardar Kila is visible on the west slope of the valley, shortly after the kotal is passed, and it is reached about the 26th mile, the last 5 miles being over open country presenting no difficulties whatever. The valley, which is known as Spasta, is about 5 miles wide at the broadest part, with an average breadth of perhaps 1½ miles. See also stages 1 and 2, Route No. XXXII.

Route No. XXIX.

FROM FORT SANDEMAN (APOZAI) TO TOI MUSA KHEL AND BACK.

Authority—MACIVOR. MAY 1890.

No. of stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	GARDA (BABAR VIL-LAGE).	17	17	Started at 6-15 A.M. from Fort Sandeman taking escort of 50 sabres, 12th Bengal Cavalry, and 50 rifles, 34th Pioneers; arrived at Garda (Babar) at 10 o'clock. Road described in stage 7. Route No. XLII.
2	RADZANNA	12	29	Started 5-30 A.M. down bed of Garda river in east by north direction. The water comes to the surface every here and there, and is led off to irrigate land on each side. At 1 mile, pass village of Landian (Babar) on right bank of stream. At about 1½ miles leave bed of

stream, which turns here gradually more north and circles down through a *tangi* between high hills to meet the Siliaza some miles above where the road from Apozai to Garda leaves that stream.

At about 3 miles, pass between summer and winter villages of Malik Kashmir Babar, where the valley opens out wider, and shortly afterwards drop into the bed of the Radzanna stream, which joins the Babar lower down. Proceed up the bed of this river turning gradually more south into a tangle of hills covered with excellent grass and quantities of stunted olives with a few pistachios, ash, etc. Three or four miles up this *nala*, which contains water every here and there, is a small plot of old cultivation named Khuna on right bank of stream and a little further up another on the left called Radzanna. These plots are said to belong to the Babars, but owing to the *badi* with the Musa Khels, the Babars have not been able to cultivate them.

At about 7½ miles from camp turn to the right out of the main *nala* into a tributary, and ¼ mile further on cross a kotal easy on the north and a trifle steep for about 50 yards on the south. Within 100 yards or so get into another *nala* also called Radzanna which contains a good flow of clear water and comes down from the higher hills to the west. Proceeding down the bed of this stream about 2¾ miles meet another larger river bed coming from the north-east at a place called Da Memkhar. This larger river bed is known as Spast Wasta and from this spot up eastwards is said to be within Marhel limits. Shortly after meeting this *nala* the water drops rapidly through beds of shale rock. Reached camp just below these rapids where the bed of the river opens out into a kind of amphitheatre immediately to the west of and under a hill called Zhjezhbaghar. Road comparatively easy; water, wood, and grass very abundant.

An excellent *rakh* for both wood and grass could be found between Khana and the present camp on both sides of our road with the kotal about the centre, distance from Mount Sandeman about 26 miles. [Only about 20 miles by the return route *vid* Tungai described below.]

3	TOI SIB	20	49	Started 5-30 A.M., road nearly due south at first then a little inclined to east, following the <i>nala</i> bed and twisting about through hills. At 4 miles the Tunday <i>nala</i> from the east joins the Radzanna and the bed opens out, and is thickly clothed with acacia (<i>Palos</i>) bushes
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from this on. At about 6 miles the Spast Wasta *nala* from the west joins the Radzanna. Ali Muhamad, whose summer quarters are up this *nala*, met us here. The road leaves the *nala* near this, and leads over a sloping stony plain between the Radzanna *nala* and

Route No. XXIX—concluded.

another large *nala* running almost parallel to it on the west. The latter is named Shiukozaï, and is also thickly wooded with acacia trees, as are all the small *nalas* which run down from the hills on both sides into this Toi Sir plain. At 11 miles passed Wah about 2 or 3 miles to the east. There is a fort at Wah with considerable *khushkaba* cultivation, part of it already out. The cultivation is owned partly by the Hasean Khel Musa Khels and partly by the Murgzans. Immediately to the east of the fort in the Zam Tangi leading to Saddo Khan Isot's place on the Chappar mountain. Saddo Khan's place is said to be only 6 or 7 miles off. At 14 miles passed village of Khundai also to the east about $1\frac{1}{2}$ miles off the track, immediately under the hills (Chappar) with cultivation, partly *khushkaba* and partly perennial water, and a couple of miles further on camped at the Toi Sir, just where the river from Sabra turns sharp east and enters the hills between the Chappar and the Toi Ghar. There is a considerable flow of water here, and I caught some fish over 2lbs. weight in it. The Toi cultivation is to the east on *kaches* lower down the river between the hills. From this place to Musa Khel Bazar, which is said to be only one long march, there is a continuous broad plain, but the river is dry after the first couple of miles, and water is only to be obtained from wells. Water, however, is said to be procurable from wells at no great depth. The Toi is the same given to the Sabra river which rises in the Kakshai plain, from the place where the latter turns almost due east and flows down between the mountains to join the Vihoa. Just at this point also the river is joined by the Radzanna, the Shinkozai and other tributaries. The cultivation extends down for some 6 or 7 miles, after which the river route becomes impassable owing to falls and rapids through rocky cliffs.

(From Toi Sir to Vihoa, see Stage 2, Route No. XXXVI.)

4	RADZANNA . . .	20	69	Returned by same route.
5	FORT SANDEMAN . . .	20		
			89	Started 5-20 A.M.; crossed kotal as before and down the northern Radzanna stream. Instead of leaving this and turning west to Garda Babar, keep on down the stream nearly north to where it meets the stream from Garda almost opposite the small Babar village

of Sar Wam. Cross this stream at small village of Khundai and ascend a kotal over a low hill, thus cutting off a bend of the river. Descending into a sloping plain, near the centre of which is the old ruined fort of Mano Babar, get into the river bed again at the village of Tungai about 2 miles from Khundai; total distance from Radzanna camp about 12 miles, direction of road all the way north by west. After breakfast proceeded down the river, which, after passing Tungai, turns almost west and is known as the Siliaza, and at about $3\frac{1}{2}$ miles reached the place where the road from Garda joins the Siliaza. Thence to Mount Sandeman by the Public Works Department road is about 8 miles.

Route No. XXX.

FROM APOZAI TO THE KUNDAR RIVER AND BACK.

Authority—MACIVOR. 1890.

No. of stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	NAWA OBA	17	17	Our party escorted by 100 cavalry and levies marched from Apozai (height 4,510 feet) at 7 A.M. in north-westerly direction across plain. At 5 miles crossed Zhob river (height here 4,170 feet), and passing through Deragai, a Mando Khel village of 8 or 10 houses on the west bank of the river, proceeded up a sloping stony plain intersected by small <i>nalas</i> for 7 miles to Wala (height 4,450 feet). Here there is a small quantity of wheat cultivation (watered by a <i>karez</i>) and a few fruit trees—mulberries, pomegranates, etc. Wala is the village of the Mando Khel chief, formerly Khanan Khan, now Akram Khan, and contains some 50 or 60 houses roughly built of stone and mud and many of them roofed with black tent cloth. It is usually deserted in summer, the inhabitants moving up with their flocks to the highlands on the Kundar river and to Tirwah. Turning nearly due north we proceeded up the dry bed of a <i>nala</i> behind Sanjighar reaching the water, parting about 2 miles from Wala at Lwara. This water parting is a <i>sham</i> , i.e., it is almost a plain, sloping very gently both ways. Continuing north we descended gradually for about 3 miles over good soil to camp at Nawa Oba (height 4,830 feet). At Nawa Oba there is sufficient water for a small force springing out of the bed of the river Tora Sir, but quickly disappearing again; wood and grass abundant.
2	KACHAI	16	33	Marched about 7 A.M. in northerly direction over very small kotal and down small subsidiary valleys for a mile into the bed of the Tora Sir <i>nala</i> again (height here 4,740 feet). At 1½ miles passed a small patch of cultivation (Mando Khel) on the right bank called Pakhra, and at 4 miles came on Safi settlement of 40 or 50 black tents. Then on down the river bed for another ¾ mile where we turned sharp to the west over the high bank into the small valley of Kakra. Ascending this crossed small kotal and descended through beds of shale rock on end, the pathway at places very narrow and twisting until we entered the main Siritoi valley. Proceeded across this to the Siritoi river (altitude here 4,260 feet), about 9½ miles from Nawa Oba. Water is here fairly abundant in pools containing small fish. Had we continued down the Tora Sir <i>nala</i> past the Safi village, we should have had an open road into the Siritoi valley and right away, we were told, across a gentle kotal at Shinbaza to Husein Ziarat near Domandi. (See Route No. XXVII). There were, however, said to be some Suliman Khel nomad settlements on the way, so we turned west to avoid them. After breakfast continued west up the Siritoi valley for about 2 miles to where the river emerges through the Spiraghar range of hills at Tangiwar. Close to Tangiwar we joined the <i>kafila</i> road, a well-beaten track, leading to Kandahar from the Punjab through any of the Suliman range passes (the Zao, etc.). At Tangiwar the road lay through the bed of the river, which from this for 12 or 13 miles is known as Tangai, and contains a good flow of water. The river winds about between beds of rock, and the lower ranges of the hills, at times very narrow and again opening out with small <i>kaches</i> on either bank. At 2 miles from Tangiwar the river passes through two wall-like ridges of rock, above which is a cultivated <i>kach</i> of 7 or 8 acres known as Sara Kach. One-and-a-half miles further on passed Guldad Kach, then Shin Kach, and finally halted at Kaobai (height 5,180 feet), a large sized patch of cultivation. These <i>kaches</i> are all cultivated by Mando Khels, who live for safety's sake under the higher ranges of the hills some little distance from their cultivation.

Route No. XXX—continued.

3	SHARAN . . .	12½	45½	Marched at 7 A.M. still up winding bed of river; at ½ mile passed Sheranna, where the Tangai is joined by a confluent <i>nala</i> from the west, up which a road leads behind the Kalati range to Samozai, a Mando Khel village. Here the river bed turns more north and the road for
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the next 5 miles is very bad over round boulders and sand. At 1½ miles the river pierces the main ridge of the Spiraghar at Rahim Ziarat. Three-fourth mile further on we reached Ambara (height 5,540 feet), where the Chukan and Turbat streams meet. One-fourth mile before reaching this junction the Uzhda Ghwajzha stream had joined the Tangai from the north. We continued up the Turbat nearly west for 1½ miles, and then north by east up the Loe Sharan valley and halted at the furthest place where water is to be found (altitude 5,950 feet). Route No. XL from Thanishpa comes in here.

4	KUNDAR RIVER . . .	18	63½	Leaving the camp at 6-45 A.M. marched up the Loe Sharan valley, direction north-north-west. At 6 miles reached the kotal called Narai (height 6,337 feet), from which there was a very steep descent for a mile down into the Kama Sharan valley. The view from the kotal
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was very fine looking down the valley, with the Gustoi mountain in front clothed with pine forest and the Kundar and Gumal valleys in the distance. After descending the steep portion of the kotal and proceeding down the *nala* another mile, turned out of the *nala* to the left to avoid a narrow *tangi* and returned into the *nala* ¾ mile further on. From this point on the road was easy. At 5 or 6 miles down the Kama Sharan *nala* we came on a small patch of Mando Khel cultivation (called Edel), and further on a larger piece (called Wargharanai) with mulberry, almond, apricot, and other fruit trees and a little water. A mile further on we came on a small Suliman Khel settlement of 5 houses, and at 10 miles from Narai hit the Gustoi stream with a good flow of water (height here 4,210 feet). Turning west down the Gustoi stream, we came in ¾ mile to the Kundar valley, and a mile further on to the Kundar river. The bed here is very broad with *kaches* on each side, and there is a considerable flow of water. The altitude of the Kundar plateau here is about 4,280 feet with the river bed about 150 feet lower.

5	SHARAN . . .	18	81½	Return by the same route to the camp at Loe Sharan.
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6	SHERANNA . . .	15½	97	Marched back by the same road and halted at Sheranna, half a mile short of the former camping ground at Kachai. On the way visited Uzhda Ghwajzha. This is 4 miles off the road, and is a picturesque hill village of about 40 houses, with some cultivation and
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fruit trees situated just under what appeared to be the highest peak of Spiraghar. The villagers met us on the road and seemed pleased to see us. We were here close to the *chalglochah* pines on the hill above.

7	SURA KACH . . .	16½	113½	Marched at 7 A.M. up the Sharan (known as the Babakr Sharan). At 5 miles met water and cultivation known as Luswandi. At 9½ miles reached water parting (height 6,050 feet) called Sheranna Charai, almost immediately north of the Kalati mountain. There was water near
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the Charai, and good grass is here very plentiful, with quantities of wood, wild olive, pistachio, and ash. Descending grassy slopes, and in the bed of *nala* in the same direction reached village of Samozai (altitude 5,530 feet) some three or four miles from Charai. Here crossed steep kotal (height 5,810 feet) to south-west and descended into the Neshtorai valley, which runs down from Kalati. Getting into the Neshtorai river bed at the bottom (height here 5,100 feet), we proceeded down this through low hills for some 3 miles to the Haramzai village on the Sarob, known as Sura Kach (height 4,780 feet).

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XXX—concluded.

8	APOZAI	...	14	127 $\frac{1}{2}$	The road, after crossing a few low hills and rolling ground down the valley of the Sarob river, opened out into the broad valley in which Apozai is situated. Up this Sarob valley a caravan route runs to Kandahar. This is said to be one of the very best of the Kandahar routes, excepting perhaps the Kundar, and runs up the Sarob through Shaighbalu, Kaisor, Tanishpa, etc.
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Route No. XXXI.

FROM APOZAI TO DERA ISMAIL KHAN *via* THE CHUHAR KHEL DHANA.

Authority—DEPUTY ASSISTANT QUARTER MASTER GENERAL, ZHOB FIELD FORCE, 1890.

No. of stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	KAPIP KACH . . .	8 $\frac{1}{2}$	8 $\frac{1}{2}$	} <i>Vide</i> Stages 1 and 2, Route No. XXXII.
2	MANI KHWAR . . .	15	23 $\frac{1}{2}$	
3	SARGASA WASTA . . .	7	30 $\frac{1}{2}$	Road first goes in a direction between north-east and east across plain for 1 $\frac{1}{2}$ miles, then enters a deep watercourse 40 yards wide, called Khabaranai or Khwaranai, and goes up it for about 1 mile; here and there a small brackish stream appears on the surface; it then ascends

a very narrow and steep kotal on the left; laden camels can only just squeeze through, and the ascent is decidedly trying for them; this lasts for a few hundred yards; it then goes along a very narrow path cut into the side of the hill up to the top of the kotal which is reached at 2 $\frac{3}{4}$ miles. Height by aneroid 5,875 feet. The top is open and commands a good view of the country towards the Takht range. The kotal or pass is called Da Khabaranai Narai. The road now descends by the watershed of a small spur to the bed of a ravine also called Khabaranai, and further down Umuk; this descent is very steep and very narrow; a drop of 225 feet, in $\frac{1}{2}$ mile, very trying for laden camels; $\frac{1}{2}$ mile further, is a small spring of rather brackish water in a *nala* on the right. At 4 $\frac{1}{2}$ miles there is a large landslip blocking up all but the roadway. The sappers were put on this to widen the path; small stream of good water in ravine here; beyond this the sides of the ravine for a short distance are enclosed by enormous precipitous rocks almost overhanging; at 6 $\frac{1}{2}$ miles ravine enters a long undulating plain called Loara, and the camping-ground is on a stony plateau on the left bank about $\frac{1}{2}$ mile from the mouth of the ravine. Water from small spring in a *nala* to the north of camp about 600 yards off. This is the nearest; there is some also about a mile back in the bed of the ravine; grass fairly plentiful, but not much camel-grazing. Fuel plentiful from wild olive trees which are to be found in all the watercourses about. There is a tower and some cultivation about 2 miles north-east of this, called Sargasa Wasta (Chubar Khel), with a good stream of water in bed of a watercourse. It was intended that the column should halt here, but it was too far off the road, and the existence of a spring so close to camp as 600 yards was not known to any one, not even the guide, and was discovered late in the day by accident. Height of camp, 5,367 feet.

Route No. XXXI—continued.

4	DHANA SAR	...	16½	47	From camp road goes into watercourse and across the Loara plain in a south-east direction; at 2½ miles a track goes off left to Wala. This plain is partially cultivated, and there are a few huts; between 5th and 6th miles road crosses a stony watercourse covered with high coarse grass; it then makes for some flat ground on the left bank going between two low ridges for about ½ mile, then turning round in an easterly direction it makes for a gap in the range on this side of the Loara plain, and at 7 miles reaches mouth of this gap or pass; watercourse here is from 300 to 400 yards wide; on the left hand are several caves in the cliffs above, evidently temporary abode of shepherds; nearly 1 mile further the road twists round north-east and continues winding in this way north and north-east to the camping ground. The main range on the left hand is separated from the watercourse by smaller hills, but on the right at 14½ miles a high mountain wall called Torghar, some 10,000 feet high, comes down abruptly to the bed of the watercourse. The road is easy throughout, and runs for the greater part of the way along a shingly watercourse fringed with acacias and wild olive trees. Camping ground for force on a small stony plateau above left bank somewhat cramped; the political camp was pitched on some fields on opposite side of the stream. Water abundant and good from the head spring of the Chuhar Khel Dhana. Camel grazing and fuel abundant; the former, from the numerous acacias on both sides of the watercourse. Grass obtainable from the hills. There is a small village here belonging to the Chuhar Khel, but supplies could not be reckoned on. A wide but dry watercourse called Garang joins the Chuhar Khel Dhana here; a mule path to Namar Kalan goes along it for some distance and ascends a stiff kotal at its head. (See Route No. XXXIII.) Height of camp at Dhana Sar about 3,860 feet.
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5	KOT MCGAL	...	10	57	The road follows the bed of the stream called the Chuhar Khel Dhana (this drains the upper end of the Loara plain), passing two cultivated <i>kaches</i> on the right bank, on the first of which was pitched the political camp. The stream now enters the gorge; at the entrance it looks like a mere crack in the hills. At 1¾ miles is a small waterfall, in the bed down which the only practicable path runs, ramped with rough blocks of stone. The pass is now very narrow, enclosed with precipitous walls of grey limestone. At 3¼ miles path runs over a small landslip from the cliffs on right bank and crossing the stream goes along a narrow path which has been cut along the face of a long slab of limestone, sloping steeply towards the stream. At about 4½ miles, gorge again narrows to about 20 yards with precipitous sides; bed is shingly and afterwards stony; a few hundred yards further cross from right to left bank by a bridge made of large stones; branches and gunny bags about 4 feet wide, and at 5 miles reach mouth of the gorge, called Dhana War, and here from the left comes in a large <i>nala</i> , by which there is a mule path from Namar Kalan <i>viâ</i> Walwasta. (See Route No. XXXIII.) The pass here opens out a bit for about ½ mile, and at the end of this is a small cultivated <i>kach</i> and one or two huts called Mahammad Jan. A large watercourse (dry) joins from the right, called the Garanai Kal leading to the Zmarai country; it is said to be practicable for donkeys; from this point the pass again narrows with low accessible hills on both sides passing another cultivated <i>kach</i> , with a few huts called Baz Muhammad at about 6½ miles; thence going along the left bank the track passes a <i>kach</i> on the right called Babu Landai, and some hundred yards further another on the right called Nmanzgarai, which lies at the mouth of a watercourse called Sariobo coming down from the right. At 7½ miles the path runs along some high ground on left bank above water-level; several acacias here and stones which require cleaning; large graveyard here also; thence along the bed, rocky and shingly, in and out of the water to the halting-place above the right bank of the <i>dhana</i> reached at 10 miles. At 8½ miles on the left bank are some petroleum springs, shallow pits dug in the sand and containing from 2 to 4 inches of petroleum very pure in quality, but scanty. However, boring might produce a larger supply. The camp was pitched on a sort of plateau some 250 feet above right bank; ascent very trying for laden camels, and the water had to be brought from the <i>dhana</i> . A small force would find more suitable camping-ground on the <i>kaches</i> which exist on both banks a mile or so further down the stream. A large amount of <i>jowar</i> still standing, and there were some bullocks and flocks of sheep and goats. The first 5 miles of this road
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Route No. XXXI—continued.

are very difficult for camels in its present condition, the pathway through the gorge lies chiefly along a very rocky bed between immense precipitous cliffs at least 800 feet high on either side, and the water is often 3 feet deep; it has been made just practicable for camels, but the whole march of $9\frac{1}{2}$ miles took the camels 9 hours; camel grazing fairly plentiful; grass obtainable from the hills, *kirbi* from the village, and fuel plentiful. Supplies to a limited extent. Another road to Namər Kalan leads up a *nala* on the left bank a mile lower down (see Route No. XXXIII) Both at the head and mouth of the gorge are several tepid springs. Height of camp 2,600 feet. Kot Mogal must not be confused with the Moghal Kot on the Zhob north of Apozai.

6	PARWARA . . .	8	65	The road, after leaving camp, crosses the river and goes along a <i>kach</i> on the left bank for about $\frac{1}{2}$ mile in a northerly direction. It then turns east and drops into the bed of the <i>nala</i> again. At $\frac{3}{4}$ mile is the small village of Harbora. The path leaves the river and goes to the left to avoid a <i>tangi</i> . At 1 mile it again drops into the bed of the river and generally follows it in a north north-east direction. At $2\frac{1}{2}$ miles, pass the Chuhar Khel village of Baskai, on a cliff on the right bank of the river. The path continually crosses and re-crosses the bed of the river, but otherwise there is not much difficulty for baggage animals. At 6 miles the path ascends to a small <i>kach</i> on the left bank, where there is much tamarisk and camel grazing. The path continues along this <i>kach</i> which gradually widens out to about $\frac{1}{2}$ mile in width and reaches the camping ground at Parwara about 1 mile short of the village of that name. Camping-ground sufficient for a large force. Water good and abundant from the river. Camel grazing obtainable; also <i>bhusa</i> and grass from the village of Parwara after due notice. A little firewood procurable. Height of camp 1,900 feet.
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7	UCH SESTA . . .	$11\frac{1}{4}$	$76\frac{1}{4}$	Leaving camp the road descends into the river bed again, which is here about 150 yards wide and runs for a mile in a north-westerly direction. The valley narrows here, and the general direction is almost east for nearly a mile, the road still following the bed of the river. At $2\frac{1}{2}$ miles, the road crosses to east bank of river and runs along a <i>kach</i> , cultivated in terraces, in a northerly direction. At $4\frac{1}{2}$ miles pass the village of Tangi Kuhna. At 5 miles again cross the river bed, and the road for $1\frac{1}{2}$ miles runs along the right bank over a sandy piece of ground covered with tamarisk and long grass. This piece is heavy going for laden animals. At $7\frac{1}{2}$ miles the road ascends to firm ground on the right bank of the river, running close to the foot of the hills gradually turning to north-east. At 9 miles the road descends into the river, crosses to the left bank, over a small kotal, and again descends into the river. At $9\frac{1}{2}$ miles is a <i>tangi</i> about 80 yards wide, the junction of the Khiddarzai and Chuhar Khel Dhanas. This is called Domandi. After the <i>tangi</i> the road follows the east river for 1 mile, crossing and re-crossing it several times. At 10 miles the road ascends a <i>kach</i> on the left bank and follows an easterly direction for $1\frac{1}{2}$ miles. The <i>kach</i> gradually broadening out to a breadth of $\frac{1}{2}$ mile at Uch Sesta. Camping-ground on left bank of river; large enough for a brigade. Water good and abundant from the river. Camel grazing procurable and also fuel. There is no village at Uch Sesta, but several graveyards. The whole march easy for baggage animals.
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8	DARABAN . . .	12	$88\frac{1}{4}$	Leaving camp the road goes east, and descends into the river at $\frac{1}{2}$ mile. Thence it follows the bed of the river for $1\frac{1}{2}$ miles, winding about, but in a general north-westerly direction. The hills on both sides close in and the width of the river bed narrows to about 60 yards in places. At 2 miles the road crosses the river to the left bank and ascends a cliff about 20 feet high. Here the road leaves the river and goes across the <i>duman</i> of the hills in a north-westerly direction for 8 miles. The road is marked out by stones and the going is good. At 10 miles the road enters the cultivation and fields near Daraban and
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ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XXXI—concluded.

is lost, but several paths lead into Daraban itself. Camping-ground for a brigade. Water rather scarce, but supplies procurable. This is a post garrisoned by the Punjab Frontier Force. The whole march easy for baggage animals.

9	SAGU	16	104½	} Vide Stages 1 to 3, Route No. 88, N.-W. F., Vol. 1.
10	KHULI	6	110½	
11	DERA ISMAIL KHAN	13	123½	

Route No. XXXII.

FROM APOZAI TO DERA ISMAIL KHAN *via* WALIA, NISHPA, AND DRAZAND.

Authority—DEPUTY ASSISTANT QUARTER MASTER GENERAL, ZHOB FIELD FORCE, 1890.

No. of Stage.	Names of stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	KAPIP KACH	8½	8½	Leaving camp in an easterly direction cross open Apozai plain keeping along the watercourse which supplies Apozai with water. At 1½ miles the Public Works Department road to Garda (Babar) is met, and the route then follows this road which keeps generally to the

Siliaza nala. At 5½ miles the watercourse running to Apozai is again met, and from here the stream flowing in the *Siliaza* has constantly to be crossed and re-crossed. On both sides of the valley here there is cultivation, chiefly rice and *makai*. There are several hamlets which belong to Mando Khels and Babars, who come down from the hills to cultivate the land. The principal of these is Hasanzai (Mando Khel) on the left. At 7½ miles leave the Public Works Department road which runs to the right to the Babar villages, and continue up the *Siliaza nala* for another mile, when the camping-ground at Kapip Kach is reached. Here there is a good stream of water in the bed of the *Siliaza* and a good camping ground on fields situated on the left bank of the *nala*. Grass is fairly plentiful, and fuel is obtainable from the hills ¾ mile to the north. There are a few willows and mulberry trees on the camping-ground, and the hills round are covered with wild olive. Camel grazing is obtainable in the neighbourhood. There is no village near, and no other supplies are procurable. The people who live about here are Kapips. They inhabit what is shown on the map as Kapip and about one-third of Spasta. They are now British subjects. The hills to the north are inhabited by Haripals who call themselves *fakirs*. From their name they are possibly of Hindu origin. They only number 300 or 400 men. General direction of march, east. Height of camp, 5,156 feet.

2	MANI KHWAR	15	23½	Leaving camp in an easterly direction the track runs up the <i>Siliaza</i> stream from ¾ mile, and then follows a branch <i>nala</i> leaving the <i>Siliaza</i> on the right. The path follows this <i>nala</i> up the centre of the valley for 2 miles. This valley which is here about 5 miles broad is called Ujasar and is inhabited by Kapips. The hills on either side are covered with wild olive. The valley itself is open, but, except in the <i>nala</i> beds, there is hardly any grass or
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Route No. XXXII—continued.

grazing. At the foot of the hills on the right there is a small village belonging to Kakar Khan with a little cultivation, but there are said to be no other villages in this valley at all. At 3 miles the track leaves the branch *nala* which it has been following and runs over the plain east north-east. At $9\frac{1}{2}$ miles the entrance to the Atsu pass is reached. This is a low and easy pass about $1\frac{1}{2}$ miles long, the height of the kotal being 5,750 feet (aneroid). From the top of this kotal a good view of the Takht-i-Suliman is obtained. At 11 miles the Spasta plain is entered, and 4 miles further on in an east north-east direction over the plain, the camping ground at Mani Khwar is reached. Barkhardar's fort is seen some 2 miles distant down the Spasta valley north-west of the camp. It is on the *kafila* road to India *via* the Zao pass (see Route No. XXI.) There is ash, olive, etc., on the Atsu kotal, and between there and Mani Khwar there is a regular forest of wild olive. At the latter place wood is abundant, camel-grazing and grass also are obtainable, but the water is only sufficient for a small force, at the most a brigade. The march is an easy one for animals, general direction north-east. Height of camp, 5,610 feet.

3	WALA	12	35 $\frac{1}{2}$	The track runs across the open plain for 5 miles in an easterly direction, then enters a <i>nala</i> and gradually ascends to a kotal known as the Usha Kotal (6,300 feet) at $6\frac{1}{2}$ miles. The ascent is steep but practicable for mules, and even laden camels. Beyond the kotal the track descends into a <i>tangi</i> and here the going is very bad indeed. The mules had great difficulty in getting along, and the road was impassable for camels. At $7\frac{1}{2}$ miles the <i>tangi</i> is left and a steep <i>nala</i> running down to the Loara plain is crossed. Here there is a good supply of water. After crossing this <i>nala</i> the track ascends another range and the road runs over a kotal (6,270 feet.) at $8\frac{1}{2}$ miles. The ascent is steep, but passable for mules with difficulty. The descent on the other side, about $1\frac{1}{2}$ miles long, is very bad, but the mules managed to come down without any loss. At 10 miles the <i>nala</i> is reached up which the road to Wala from the Loara plain runs. Two miles further on, crossing a comparatively easy kotal, the first of the Wala villages is reached. Here the camp was formed. These are Uba Khel villages, but the Chuhar Khel have a share in them. There is a certain amount of cultivation, chiefly <i>makai</i> . At the village where the camp was pitched there was a tank of good water with a very small stream running into it. The supply was only sufficient for a small force of about 1,000 men. With the exception of a small quantity of <i>makai</i> , no supplies are obtainable. Grass is scanty. This was a very difficult march. The rear guard was not in till 18 hours after starting. No camels came with the force and the mules had to be unloaded, and the loads carried over difficult places. Height of camp, 5,940 feet.
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4	GHAWAR GHAR	4	39 $\frac{1}{2}$	The track runs above the villages of Wala which are passed on the right, to the foot of the ascent over the Maramazh range. This place is known as Ghawar Ghar, and here there is water sufficient for a small force, which is good but difficult to get at, being between rocks in the <i>nala</i> bed. A bucket and rope are required to draw it up. Firewood is here abundant, but no supplies are obtainable. Height of camp, 6,450 feet.
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5	NAMAB KALAN	6	45 $\frac{1}{2}$	This march is over the Maramazh range and is most difficult. The road is unfit for animals, except country bullocks and donkeys, which can be taken over with much difficulty if unladen at the worst places. The ascent to the kotal is easier than the descent. From the camp at Ghawar Ghar the road at once ascends and winds up to the crest of the outer range which is reached at 1 mile. From here the road winds about gradually ascending until at $1\frac{1}{2}$ miles the true kotal of the main range is reached (7,800 feet). The track does not cross this kotal, but leaving it on the right still ascends, and at 2 miles the crest of the range is reached (8,310 feet). From here there is a magnificent view of the whole country to the east. On the north the view is shut in by the gigantic mass of rock forming the Takht-i-Suleiman. Shekh Budin and the Indus are seen in the distance, the latter winding like a silver thread along the whole front of the picture. Communication was opened by helio-
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Route No. XXXII—continued.

graph with Drazand to the north-east and with the force at the head of the Chuhar Khel Dhana to the south. The road, or rather sheep track, zig-zags down the almost vertical face of the mountain in a general north-easterly direction for nearly 2 miles. This is most difficult going and is impracticable for any but footmen, although a few donkeys and bullocks accompanied the force. These, however, obstructed the road and had eventually to be unloaded, and the loads carried by men. At 4 miles a kotal is reached at the foot of the steep descent, which divides the Walwasta *nala* and the valley in which are situated the Namar Kalan villages. From this kotal there is a steep but fairly easy descent to Namar Kalan which is reached at about 6 miles. Although the march was short it was a most difficult one and took nearly 15 hours. The men all carried their own kits and 3 days' provisions. The Namar villages belong to the Khiddarzais and are their head-quarters. They had previously considered these villages inaccessible to our troops. No supplies are obtainable here, with the exception of fire-wood, which is abundant, the hills being clothed with oak, olive, and other trees. *Makai* might perhaps be obtained, water is good, but rather scanty, sufficient for a small force of not more than 1,000 men. Height of camp, 4,750 feet. From Namar Kalan to Kot Mogal, see Route No. XXXIII.

6	NISHPA (ATAL KHAN KAHOL).	5	50½	The track runs down the valley in a north-north-east direction the whole way to the Khiddarzai Dhana, on the left bank of which Nishpha is situated. For ½ mile the road runs across the level ground which forms the bottom of the basin in which Namar Kalan is situated. This basin has no outlet. At ¾ mile a low kotal is crossed, and the track then runs down the centre of the valley. There are several Khiddarzai villages passed on the way, chiefly on the left. The track runs through wild olive bushes nearly the whole way. Just before reaching the <i>dhana</i> about ¼ mile to the left, the village of Namar Khurd (Khiddarzai) is passed, and at 4¼ miles the Khiddarzai Dhana is reached at the village of Khushbina (headman, Malik Aman, who had been fighting against us). Height of village 3,530 feet (aneroid). This, and roughly speaking all the villages on the right bank of the <i>dhana</i> are Khiddarzai. Those on the left belong to other sections of the Uba Khel. Kushbina contains about 50 houses and is situated in a very strong position above the <i>dhana</i> commanding the eastern approach. From Khushbina there is a descent of about ½ mile into the bed of the <i>nala</i> . Height, 3,250 feet. Here there is a good stream of clear running water. The ascent to the village of Nishpa on the left bank belonging to the Atal Khan Kahol section, is steep, and the village is reached at 5 miles. The headmen are Surat and Sadigul, both of whom came into our camp. This is a large village with a good deal of cultivation. There is a spring above the village and water can also be obtained from the stream below. No supplies, except a small quantity of <i>makai</i> , are obtainable here. This road is practicable but difficult, for laden mules. Height of Nishpa, 3,600 feet (aneroid).
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7	KARAM	5	55½	The road on leaving camp descends into the Khiddarzai Dhana and runs for about ½ mile in a south south-west direction. It then turns south-west at the small hamlet of Khushbina for another ½ mile, passing through a <i>tangi</i> with high precipitous cliffs on each side. The road follows the <i>nala</i> the whole way over large boulders and stones in the bed, and at about 1 mile the general direction is changed to east. This continues the general direction until Karam is reached. The whole march is a very difficult one for mules, being mostly over huge boulders in the bed of the <i>nala</i> ; and at present quite impracticable for camels. The <i>tangi</i> is where the Khiddarzais attempted to oppose Colonel Ross's force, and is an exceedingly strong position. At Karam there is a good supply of running water in the river bed, and a small amount of cultivation on both sides of the stream. Camel grazing, grass, and firewood are obtainable, but no other supplies, except perhaps sheep and goats. Height of Karam, 2,650 feet.
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8	DRAZAND	18	73½	Leaving camp track descends bed of Khiddarzai Dhana, here called Shingao, east north-east which is the general direction of the march til the <i>nala</i> bed is left. At ½ mile track to Parl wara and Kot Mogal turns up to right, and a-3 miles track to Itghasar goes off to the left
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Route No. XXXII—concluded.

(See Route No. XXIV). From this point there is another path meeting our road further on at Landai, supposed to be shorter and better, which it was not. The track continues along the bed of the *nala* over boulders and stones. The bed is confined between high perpendicular banks, average breadth being about 200 yards. At 6 miles the Uba Khel village of China is passed on the right. On the opposite side of the *nala* to China is the Uba Khel village of Landai. At 7 miles a *nala* comes in on the left, up which is a road to Drazand said to be a little shorter, but not so good as the one we followed. At 7½ miles the Uba Khel village of Shekh Mela is passed on the left. At 9½ miles the track leaves the Khiddarzai Dhana and turns up a branch *nala* to the left called Lana Khwaze in a direction north by west, which is the general direction of the march as far as Drazand. Following this branch a low kotal (1,600 feet) is crossed at 11 miles. This is the watershed between the Draband or Drazand and Chaudwan Zams. At 15½ miles water is reached in the Manda Khwar, which the track crosses, and then ascends on the other side to a large level plateau. This it crosses for 2½ miles, when the camping ground is reached on the right bank of the Drazand Zam. Drazand itself (which is the largest Uba Khel village, containing several towers and 100 houses) is 1½ miles from camp higher up the stream. The headman of the Uba Khel, Fatteh Khan, lives here. The Landi villages are opposite on the left bank of the *nala*. At Drazand there is a limited amount of supplies, hardly sufficient for the consumption of the inhabitants themselves. There is a *baniak* at Drazand, and camel grazing and firewood are all obtainable, and also grass, but it is necessary to go a little distance from camp for these. Water is good and abundant from the Drazand Zam. Height of camp, 1,450 feet.

9	DARABAN . . .	11	84½	Leaving camp in a north-easterly direction the track descends into the bed of the Drazand Zam itself at ½ mile, and runs along the open valley east by north for 3½ miles. This valley is cultivated in places, and there is a good supply of water obtainable in the stream. At 3½ miles a <i>tangi</i> is reached. This is the outlet of the Drazand Zam, and is 30 or 40 yards wide. The water in the <i>tangi</i> is not more than 1½ to 2 feet deep. The enemy held a <i>sangar</i> on the right of the <i>tangi</i> when the cavalry reconnaissance was sent out on the 30th October from Daraban. After passing the <i>tangi</i> the hills open out and the plains are reached. The road for the next 3 or 4 miles is stony, and from there to Daraban dusty, but free from stones. At 11 miles Daraban is reached. The general direction of this march is east throughout. Daraban is a small town in the Punjab and a military frontier post, where supplies of all kinds can be obtained. Height of camp, 650 feet (aneroid).

10	KULACHI . . .	15	99½	} Along the Frontier road. } See "Stages 1 and 2, Route No. 77, N.-W. F., Vol. 1.;" and for alternative Route, see No. XXI.
11	HAIN DAN . . .	12	111½	
12	DERA ISMAIL KHAN	15	126½	

Route No. XXXIII.

FROM NAMAR KALAN TO KOT MOGAL *via* WALWASTA AND BACK *via* WARGHARI.

Authority—DEPUTY ASSISTANT QUARTER MASTER GENERAL, ZHOUB FIELD FORCE, 1890.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	KOT MOGAL . . .	14	14	Namar Kalan is Stage 5, Route No. XXXII. Leaving camp ascend for 2 miles in a south-westerly direction for 700 feet to the kotal (5,650 feet) on the road to Wala over Maramazh. From this kotal the track leaving the Wala route winds down through olive trees in

a southerly direction, which gradually turns south-south-east, and the latter remains the general direction of the march all the way to Dhana War. At $3\frac{1}{2}$ miles the bed of the Walwasta *nala* is reached. Height, 4,700 feet. There is a little running water in the *nala* at this point. The track runs along above the left bank of the stream, and at $4\frac{1}{2}$ miles reaches the *nala* bed again. Here a track goes off to the right to Dhana Sar. The road continues to follow the valley, first on one side, then on the other, and sometimes in the *nala* bed itself. Olive trees are abundant and grass is plentiful. At $6\frac{1}{2}$ miles the large Chuhar Khel village of Karozai with a tower is passed. This village is chiefly on the left bank of the *nala*, but there are some houses on the right. At 8 miles there had been a landslip, almost blocking the road. Here the track was very bad for mules. At 9 miles Dhana War, where the Chuhar Khel Dhana is met, is reached (see Route No. XXXI). Here there is a large stream of water running through the pass, which is confined between high precipitous sides. No supplies obtainable except grass. Height of camping ground, 3,125 feet.

2	NAMAR KALAN . . .	10	24	Leaving camp at Kot Mogal, which was pitched on the left bank of the Chuhar Khel Dhana, the track proceeds west turning north-west at 1 mile. This latter continues to be the general direction of the road for the rest of the march.
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At 2 miles the village of Nishpa is passed on the left. This is a Chuhar Khel village. At $2\frac{1}{2}$ miles a path goes to the right to Parwara. At 3 miles the track descends to the bed of the *nala* which drains this valley, and joins the Chuhar Khel Dhana at the village of Baskai. At this point water is running in the *nala*. Height, 2,750 feet. The track follows the *nala*, gradually ascending. Grass is abundant in the bed of the stream, with *ber*, acacia, etc. At 5 miles the village of Warghari is passed on the left. This is a Chuhar Khel village with a tower. There is a certain amount of cultivation here and some trees. Up to this point the road is fairly easy. The track now leaves the *nala* bed and commences to ascend the kotal above Namar Kalan. At 6 miles the track passes through the small Chuhar Khel village of China (3,450 feet). This village is prettily situated in a small valley, and is surrounded with cultivation, trees, and vines. There is a good stream of water above the village, which is used for irrigation purposes. The ascent after China becomes more stiff, and path winds up to the crest of the range which is reached at 9 miles. Height, 5,900 feet. The descent, about 1 mile, to Namar Kalan is severe; but laden mules can come down, and the whole march, though difficult, is practicable for mules.

Route No. XXXIV.

FROM NISHPA (IN THE KHIDDARZAI DHANA) TO THE TAKHT-I-SULIMAN
AND BACK TO KARAM.

Authority—DEPUTY ASSISTANT QUARTER MASTER GENERAL, ZHOB
FIELD FORCE, 1890.

No. of Stages.	Names of Stages.	DISTANCES.		REMARKS.
		Inter- mediate.	Total.	
1	ZINDAWAR . . .	6	6	Leaving Nishpa ascend the <i>nala</i> to the north in a north-north-east direction. This is a steady ascent for $2\frac{1}{2}$ miles to the kotal. At 1 mile the track passes through the Uba Khel village of Shabai. Here there is water, but no more was met on the road till Zindawar was reached.
<p>Height of kotal, 5,600 feet. From the kotal the track runs over a plateau first in a westerly direction gradually turning more towards the north. At 3 miles the village of Karahai (Uba Khel) is passed. Here there is only water after rain. At 4 miles the descent from the plateau is commenced; this is very steep for a few yards, and all the loads had to be carried. Afterwards, although steep, the road was practicable for lightly-laden mules. The track zig-zags down for about 1,300 feet into the bed of a <i>nala</i> draining in to the Drazand Zam. On reaching the <i>nala</i> the track follows its left bank for a short distance, and then reaches a deep rift close to Zindawar. The track zig-zags down this, and at 6 miles Zindawar is reached. Here there is a little cultivation. Water is obtainable in the rift mentioned above, about $\frac{1}{4}$ mile from camp. This is a pool of excellent water, but difficult to get at. There is also water in the <i>nala</i> about 1 mile from camp where animals would have to be watered, as they cannot reach the pool. The hills on both sides of the kotal are thickly clothed with grass and small trees, chiefly wild olive. Zindawar is a village belonging to the Sultanzai section of the Uba Khels. Firewood and grass are abundant; no other supplies. General direction of march north. Height of camp, 3,930 feet (aneroid).</p>				
2	SIGHRAI . . .	5	11	Leaving camp pass through the village of Zindawar and ascend the hill-side in a north-westerly direction. The path runs round the shoulder of the hills, and at 2 miles the height is 5,000 feet (aneroid). The direction is now north-north-west. The side of the hills is covered with grass, and there are olives and other trees, but these are gradually becoming more scarce.
<p>At 3 miles, height 5,350 feet (aneroid), the track meets the pilgrim route coming in from the right. About $\frac{1}{4}$ mile down this road in a north-easterly direction there is a small spring of good water at a place called Tora Tizha. At $3\frac{1}{2}$ miles a deep rift is passed on the left. In this there are some pools of rain water. This water is not good and very difficult to get at. The height at this point is 5,700 feet. Up to this place the mules were taken, but it was most difficult going. From here the path zig-zags up the face of a cliff. At 7,000 feet altitude pines begin to make their appearance. At 5 miles the foot of the Takht itself is reached, where there is a small spring called Sighrai, the last water met with on the way up the Takht. Here the force halted for the night. Height of camp, 7,400 feet (aneroid).</p>				
3	TORA TIZHA . . .	5	16	The ascent to the Manzarara kotal occupied 2 hours, and the height of the kotal was 9,750 feet (aneroid). From here a fine view is obtained over Maidan, with the Kaisarghar range on the other side of the plateau. Maidan is covered with pine forest, but there is a total absence of

water, except after rain or snow. The road up the Takht which was followed was practicable for footmen only. The cattle and sheep of the country are unable to use it owing to its difficulty. Returned to camp at Tora Tizha. Except wood and grass, no supplies obtainable. Height of camp, 5,350 feet (aneroid).

Route No. XXXIV—concluded.

4	KARAM <i>via</i> RAGHASAR	16	32	Leaving camp in a north-easterly direction immediately cross the stony bed of the Wargarai <i>nala</i> and pass the small spring of Tora Tizha, which is in its bed. The track then descends by the pilgrim route along the course of the <i>nala</i> above its left bank. This is a steep and stony descent, and in one place the loads had to be taken off the mules. At 1 mile the <i>nala</i> bed itself is entered, and the track continues down it in an east-north-east direction. At 2 miles the Zindawar <i>nala</i> (in which we previously camped higher up) comes in on the right. The height here is 3,750 feet. The <i>nala</i> then runs in a direction east-north-east, and the track follows the bed over large boulders, which further on becomes more shingly. At 4½ miles good, clear, running water makes its appearance in the bed for the first time. Height, 3,050 feet. The direction is now east. <i>Ber</i> and olive trees are on both sides of the valley; here and there is grass. At this point a small branch <i>nala</i> named Jat Aghbakh comes in on the right, and at the junction is a small Sultanzai village with a little cultivation. From this point the track continues down the bed of the <i>nala</i> which is here known as the Sultanzai Khwar. The bed then contracts and is confined between high banks. The going is bad owing to the boulders which obstruct the passage. The water has also disappeared, but at 5½ miles re-appears, and there is a strong stream sufficient to turn 2 mills which were passed, one on the right, the other on the left bank. The height of the bed of the <i>nala</i> is here 2,700 feet, the direction is east. At 8 miles (height 2,500 feet) the Sultanzai Khwar is left and the track to Karam turns off to the right and an ascent of 150 feet is made to a stony plateau. The track crosses this in a south-easterly direction. At 10 miles the direction is changed to south-south-east, and at 11½ miles the foot of a ridge is reached, up which the track ascends south by east for 200 feet to a low <i>kotal</i> which is reached at 12 miles. From here the descent to the Khiddarzai Dhana is made in a south by west direction, and the bed is reached at 13 miles. The track then runs up the stony bed of the <i>nala</i> south-south-west, changing at 15 miles to west-south-west, and at 16 miles the camp at Karam is reached. Here there is a good supply of water running in the <i>nala</i> bed, and there is a certain amount of cultivation on both sides of the stream. Camel-grazing, grass, and firewood are obtainable, but no other supplies, except perhaps sheep and goats. Height of Karam, 2,650 feet.
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Route No. XXXV.

FROM MANGROTAH TO KOT MUHAMMAD KHAN *via* THE DRUG AND THAK PASSES.

Authority.—DAMES, 1889.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	GARMAF . . .	11½	11½	This point marks the junction of the Drug and Sangar streams, and obtains its name from a hot spring on the left bank of the torrent below the junction of the streams. The route is described in the first part of Stage I, Route No. 91, N.-W. F., Vol. I. Water and

fuel are abundant. No supplies are obtainable.

Route No. XXXV—continued.

2	FAZILA KACH	13*	24½	The track lies along the stony bed of the Drug <i>nala</i> . After about a mile the junction of the Samij <i>nala</i> is reached on the right bank of the Drug. Here the road divides into two: camels must follow the bed of the Drug, which increases the distance by 3 or 4 miles, but foot-
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men, horsemen, and mules can follow the Samij route, which cuts off a bend in the Drug. After ascending the Samij for a mile, the route turns to the right up the Pathani Thal *nala*. This ends in a stony kotal, the Pathani Karak, over which the route again descends into the Drug, meeting the longer route at Pathani Nawalagh. Above this the torrent bed widens and several alluvial *kaches*, now ploughed for wheat, are passed. The principal are Muranj and Domhani Khund on the right bank of the Drug, and Gangiali and Hassan Shah on the left bank. The Muranj *nala*, which drains Manka, joins the Drug at Muranj. Fazila Kach is a large cultivated patch with some good trees at the junction of the Kailimar Chur with the Drug. On the right bank of the latter wood and water are plentiful.

3	DRUG	12	36½	The route here leaves the Drug <i>nala</i> and ascends the Kailimar Chur, whence almost immediately it ascends the Kailimar, a plateau mostly of clay with occasional stony patches. The road is easy and flat. The plateau at this season bears extensive crops of <i>jowar</i> , <i>bajra</i> , and <i>mash</i> , and some fields are ploughed for wheat. It is thickly covered with <i>ber</i> bushes. After passing Thal Rahim Khan at about 8 miles, the route again descends into the Drug <i>nala</i> . Nili Kach, a large alluvial patch, is passed at 9 miles on the left bank of the Drug. Thence the route passes through the Drug <i>Dhat</i> , a defile in the Safed Koh or outer range of the Sulimans. The water in this defile is said to have generally been so deep that camels have to swim through it. It has now, however, been filled up with gravel by the late floods, and is fordable by camels, horses, and footmen. This is the only entrance into the Drug valley. If a permanent road were required a path would have to be cut through the sandstone strata, which are almost perpendicular. This could probably be done without ascending more than 100 feet.
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Drug is a fertile valley, terraced and well cultivated. Olives, fig trees, and mulberries abound. Running water is plentiful, and wood abundant. Some supplies could be occasionally obtained. Height about 3,500 feet.

Nili Kach and Drug belong to the Jafir tribe, of which Zaman Shah, Kharsin, is chief. Bozdar territory is here left for good. (See Note A.)

A road goes from Rahim Khan to Rakhni (See Route No. XXXV B).

4	GABAR	6½	43	An easy route through the Drug valley passing the cultivated grounds of Nath, irrigated by a watercourse brought 4 or 5 miles round the hill-side from the stream above Gabar. The route turns the northern spur of Mount Behu, and then turns southwards. It would be necessary to camp at Gabar unless a good path were made over the Sing pass in the next march. Wood and water plentiful. Height about 4,000 feet.
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5	SPANGLA	10	53	The Drug stream from the Spangla valley forces its way through an impracticable defile, but the route crosses a high kotal called the Sing Tahlang ("Tahlang" is a smooth sloping surface of exposed strata). The top of the pass is about 6,000 feet high, being 2,000 feet above Gabar and 1,000 feet above Spangla. It is slippery and difficult, but camels can get through, taking however the whole day about it. On the right is Mount Buj, 7,600 feet high, occupied by the Bulfaraz Pathans, and on the left Mount Behu, 7,970 feet, belonging
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* Captain Pollock, 1st Sikh Infantry, gives the following distances:—

Garnaf to Fazila Kach	15
Fazila Kach to Drug	13

Route No. XXXV—concluded.

to the Jafirs. The Begzai Bulfaraz occupy the slope of Buz towards Spangla and the Spangla valley; the Warezai Bulfaraz the further slope. The Begzais are allied with the Jafirs and are under the influence of Zaman Shah, Kharsin. Excellent water and wood in abundance at Spangla, which is a level valley lying between Behu and Buj. Height about 5,000 feet.

6	KHATT	12
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65 | A fairly easy route rising gently to the Thak Sham, which is the watershed dividing the drainage of the Drug flowing northwards from that of the Warezhiz, a tributary of the Luni, flowing southwards. From the *sham* the track leads down the *Khatt nala* for about 7 miles.

This was almost impassable, being precipitous in places and thickly overgrown with *phalah* jungle, but a good track has been cleared and camels now come through without difficulty. The camping ground is at the junction of the *Khatt nala* with the *l'adhi*, joining it on the right from Mount Hazargat. Water intermittent all down the *Khatt*, a shaly *nala*; good water in the *Badhi*. Wood plentiful. Camping-ground small and inconvenient. Height about 4,500 feet.

7	KOT MUHAMMAD KHAN	12
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77 | The route as now improved is fairly easy. It steadily descends the Warezhiz valley, leaving Mount Hazargat on the right, and Sirka-tak and Sahak-Tuk (a continuation of the Behu range) on the left. On approaching the junction of the Warezhiz with the Luni the route

turns westwards, skirting the Tor-Babal range (a continuation of Hazargat), and enters the Kot Muhammad Khan plain.

For alternative Route from Drug see Route No. XXXV A.

Note A.—In case the *Dhat* is impassable, a road runs from Nili Kach north down the Dab stream, 10 miles to its junction with the Barkohi stream; road good. From here to Drug is about 6 miles up the Kala Khan *nala*, and 2 miles over the Drug plateau; road good. (Captain Pollock, 1st Sikh Infantry, 1891.)

Note B.—The following information is taken from Captain Dobbin's Report, dated 1891:—

From Drug to Gabur, 5½ miles. From Spangla to Khatt, 8 miles.

From Khatt to Kot Muhammad Khan, 12¼ miles.

Road passable for laden camels. Spangla is the only good halting place between Drug and Kot Muhammad Khan.

Route No. XXXVA.

FROM DRUG TO MUSA KHEL BAZAR *via* THE SIMU NALA.

Authority. — CAPTAIN POLLOCK, 1891.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	BARKOHI	7	7	After 1½ miles of good going over the Drug plateau reach the Thak <i>nala</i> ; thence to the 4th mile the road is stony. Here it bifurcates— one track enters the Kala Khan <i>nala</i> along which it winds for about 2½ miles, and then, turning left, crosses a small kotal, about 1 mile,

thence up the *nala* to Barkohi village. The left hand track continues over the plains for about 1 mile, then 1½ miles along a small *nala*, with a short ascent impassable to camels, and up another *nala* leading to Barkohi. At Barkohi are about 14 houses and one small tower. The *Kach* is cultivated. Good water from the *nala*. Grass and wood procurable.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XXXVA—concluded.

2	SIMU NALA	4	11	From Barkohi a short steep ascent of 300 or 400 yards, then over a plain to the <i>nala</i> . Road practicable for hill camels.
3	BARKOHI NALA	14½		
4	MUSA KHEL BAZAR	10	35½	By a <i>nala</i> ascend to the crest of the Bijheri pass at 2 miles. From here the descent is steep and rough to the third mile, when the track improves and good going to Musa Khel. A road goes from the foot of the Bijheri pass on the west side to Kot Muhammad Khan; it is probably about 20 miles long, a man taking 8 hours to do it. This is considered the best road for camels from Drug to Musa Khel or Kot Muhammad Khan. It is longer than Route No. XXXV, but is much easier.

Note A.—Alternative route from Drug to Barkohi *nala* via Buj.—This road is passable for horses and donkeys, and probably for mules lightly laden. Over the Drug plain to the Thak *nala* and follow the *nala* for 5 miles, and then west up another *nala* to Khaji. Good water from a small spring; 3 or 4 houses; grass and wood procurable. In winter the flocks come down from Behu and Buj and remain about Khaji. At 2 miles from Drug the small village of Nath is passed. Good water in the *nala* and from a canal.

From Khaji continue up the *nala*, and by a steep ascent reach the crest of the Buj range. The descent is equally steep and about 2 miles long. Road is very stony.

Distance from Drug to Barkohi *nala* by this route, 13 miles.

Note B.—Alternative route from Barkohi village to Barkohi *nala*.—One mile up the Barkohi *nala* to the mouth of the ghât and 2 miles up the ghât. Track very steep, passable only to footmen. From the top of the ghât a good road runs up the Barkohi *nala* and joins the Buj road at the foot of the east end of the Bijheri pass.

Note C.—From Drug to Chitarwata.—Two miles over the Drug plateau, then a descent into the Badari *nala*, which is followed to its mouth. Road stony but good. At the junction of the Toi and Barkohi streams is Chitarwata (see stage 8, Route No. XXXV(I)), distance, 14 miles.

Note D.—From Drug to Kaiwahan.—First 12 miles down the Badari *nala*; last 8 miles up the Siran *nala* and over the Lowargai kotal. This is a hard march and the kotal is a high one. The march can be divided at the junction of Badari and Siran *nalas*. Distance, 12 miles.

Kaiwahan is stage 6, Route No. XXXVI.

Route No. XXXVB.

FROM DRUG TO RAKHNI.

Authority.—CAPTAIN POLLOCK, 1891.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	MAUKBA	6½	6½	This route is practicable for camels. Follow road to Thal Rahim Khan (see stage 3, Route No. XXXV), and turn south-west ½ mile further on, ascending a low kotal from which the camping-ground is seen 1½ miles off.
2	GAND	9		
			15½	There is said to be one bad place on the road at Zam. The Luni has to be crossed before reaching camp.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XXXV B—concluded.

3	SAUNRA THAK . . .	9	24 $\frac{1}{2}$	The road lies through the Takawal valley, and is said to be easy except after rain, when it is slippery for horses. The camping-ground is on the Sangar (<i>see</i> stage 2, Route No. 91, N.-W. F., Vol. 1).
4	SKANDI . . .	12	36 $\frac{1}{2}$	Follow the Sangar to near Hinglun Daf, then turn south into the valley, and at about 5 miles from Hinglun enter the Manjod valley. Good water and grass; road stony the whole way.
5	MUHMA . . .	12	48 $\frac{1}{2}$	An easy road the whole length of the Manjod valley. Water brackish. At about 8 miles the road crosses the watershed and goes straight on to Muhma.
6	RAKHNI . . .	12	60 $\frac{1}{2}$	Good and easy going except after rain, when the valley is flooded. Water and grass procurable. For further details <i>see</i> stage 6, Route No. XLIII.

Route No. XXXVI.

FROM DHANA SAR TO VIHOA.

Authority.—DEPUTY ASSISTANT QUARTER MASTER GENERAL, ZHOBI FIELD FORCE, 1890.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	LEWAGHWAZH . . .	19	19	Dhana Sar is stage 4, Route No. XXXI. The road goes up the <i>nala</i> along a rough shingly bed between high mountain masses till it reaches the Loara plain; at 9 $\frac{1}{4}$ miles it bends round to the left in a south-west direction over the Loara plain, keeping close to the foot of the range to the east. The road to Apozai by the Khwaranai

or Khabaranai kotal here leaves the road and goes in a north-westerly direction, along a fairly well-marked track. The Lewaghwazh road is, however, undefined for about a mile, but one cannot go wrong if one keeps close to the foot of the range on the left. The path follows a shingly water-course for some distance, passing a few Maranai or Mirani huts in gaps in the hills, which are now (November) deserted. At 13 miles road crosses open plain with a considerable amount of *khushkawa* (dependent on rain) cultivation. A good deal of the stubble of *zhdun*, a sort of millet, was in the ground, and a considerable amount of grass of two varieties, called in Pushto *srabuzhia* and *pahal*, both good forage, particularly the latter. At 16 miles the top of a sort of kotal is reached, the watershed dividing the drainage of the Chubar Khel Dhana and the Vihoa. The height by aneroid here is 4,550 feet. This kotal is almost imperceptible (somewhat like the Chari Mehtarzai on the road from Quetta to Hindu Bagh), and is only apparent from the lines of drainage. Road now descends into somewhat broken ground, still keeping along foot of low hills on the left, and at 18 miles the Margzani village of Lewaghwazh is reached, a collection of 50 or 60 poor-looking huts, with unmortared stone walls and brushwood or grass roofs, inhabited by both Margzanis and Isots, on the left

Route No. XXXVI—continued.

bank of the Nigandi stream. The camping-ground is reached a mile further, on the right bank of the same stream. There is a moderate amount of water in the bed, but it is decidedly saline, somewhat like Epsom salts. Fuel and camel-grazing good, chiefly from *babul* and tamarisk. Camping-ground for two regiments on a sort of terrace on right bank, but unlimited ground can be found on the plain or plateau above. Coarse grass from river bed and from hills plentiful. Sheep and goats procurable from village. The whole march though long was easy for camels, but there was no water. Height of camp, 4,257 feet.

2	VIHOA TOI SAR	9½	28¼	Road follows the Nigandi stream for 1½ miles, then ascending the left bank goes along a stony plateau south-east over a small kotal called Pazhai. From the foot of this kotal road enters a long plain called Wah, and in a corner of it on the left is a deserted Margzani
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village called Taganai. Road goes over this plain for 2½ miles, mostly through *khushkawa* cultivation, and at 6 miles crosses another small kotal, entering a valley similar to the one previously traversed. At the foot of the range to the east are 2 or 3 small villages of Musa Khel, called Khawandai. At 8½ miles the Toi watercourse is entered. The bed is very wide and broken. Best camping-ground is on the right bank ½ to ¾ mile west of the Toi pass. Fuel fairly plentiful; camel-grazing good; *karbi* sufficient for a small force. Water good and abundant. The march is easy throughout. Height of camp, 3,600 feet. From Toi Sar to Apozai, see stage No. XXIX.

3	TANGI SAR OR PALOSIN.	12	40¼	From Toi Sar road enters Toi pass, ¾ to 1 mile wide at entrance, and for 2¼ miles goes along cultivation; path very badly defined; road should be made above cultivation to avoid stone walls and rice fields. The valley is enclosed by the Orah ridge on the right, and low
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spurs from the Tsapar on the left. A village called Mohmanzai, 15 or 16 huts under a crag 300 yards to left at this point. All available ground on both banks is cultivated in neat little terraces: crops now (November) about to be sown, wheat and barley. At 3¼ miles valley contracts to about 50 yards, a few Husenzai or Senzai huts on right bank. The Senzai and the Malkazai are sub-sections of the Musa Khels. Marna and Gulan are *maliks* of the Senzai; Bismillah and Batak of the Malkazai. The Senzai families live in the pass as far as Tangi Sar, the Malkazai from Toi Sar in the plain as far as Babu in the same plain. Half a mile further (4¼ miles) there are six huts belonging to Batak with cultivation; the valley here opens out a little for another half mile and the road then enters the first tangi; on the right hand are about ten huts and a graveyard, the graves being decorated with *markhors'* horns stuck on the end of long poles, and a *nala* or ravine comes in on the right-hand side from the Salai hill. The first tangi is from 50 to 80 yards wide, the hills on both sides easy, and camels can go along the bed of the stream; path now made by sappers along left bank. From this point the path goes along the bed and the banks of this stream, which here winds considerably and has a very rocky bed enclosed by precipitous rocky cliffs, till it enters a long narrow valley with cultivation on the left bank called Manzakai, belonging to Gulan. At 7 miles reach end of Manzakai cultivation; the stream, here about 40 yards wide, now makes a sharp bend and the path crosses it; a little further a *nala* comes in on the right from Salai, with small stream in its bed; the road then leaves the river bed and goes over a stony flat on right bank in a south-east direction to avoid a bad tangi. Here is another graveyard, and below on the left a good deal of terraced cultivation. About half a mile from this point road begins to ascend the Surgharidzi kotal, a fairly easy ascent of 300 feet in ¾ mile; top of kotal 3,700 feet approximately. Below, to the north from this point, a good view can be had of a wide watercourse, called Plane (Balana on map) which joins the Toi stream from the north. There are a few huts and cultivation on the right bank of this stream, but there is no perennial water in its bed. High ranges enclose this watercourse on both sides; that on the right (east) being the higher and called Shinghar. It is a southerly prolongation of the Takht-i-Suliman, and probably rises to nearly 9,000 feet. The Toi stream forces its way through a tangi at the southern end of this hill, which is impracticable for man or beast. About a mile of rather steep descent brings one into the bed of the

¹ See Note A.

Route No. XXXVI—continued.

Toi stream again (aneroid 3,225 feet), which now has a fairly straight course in a northerly direction as far as Tangi Sar. Cross stream to left bank and then along cultivation for $\frac{1}{4}$ mile (total $9\frac{3}{4}$ miles), when the river has again to be crossed and the road goes along a bit of cultivated land 150 yards square called Palosin. This name, however, appears to be given to all this part of the valley as far as Tangi Sar, doubtless from the *palosi* (wild acacia) trees which abound here. Road then goes along river bed, here 200 yards wide, and at $10\frac{1}{4}$ miles passes a gap in range on right which leads to one of Bahadur's villages. A little beyond this on opposite bank is a small village, belonging also to Bahadur, one of the *Senzai maliks*. At $16\frac{3}{4}$ miles the road crosses to left bank and goes along a flat *kach* for about 400 yards, and again crosses to right bank where is a long strip of good "fine weather" camping-ground about $\frac{3}{4}$ mile in length. This was used as a camping-ground by the column. The northern end of it is covered with quite a thick growth of *palosi* trees. At 12 miles cross to left bank and go along a sandy strip for half a mile to the entrance of the tangi. This spot is called Tangi Sar, and the sandy strip is the usual halting-place for small parties or *kafilas*, but was unsuitable for a military camp owing to its being too narrow and right under the hill. Grass procurable in any quantity from the hills, also a fair amount of *karbi*; camel-grazing abundant from the *palosi* trees. Water from the stream good and abundant. Height of camp, 3,030 feet.

4	SEMA	$5\frac{3}{4}$	46
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From Tangi Sar the road goes to the *Sema nala* described in the Guzai route (see Route No. XXXVII), distance $3\frac{3}{4}$ miles; thence the path goes down the *nala* in a south-west direction; at $4\frac{1}{4}$ miles it turns sharp round south and then south-east; bed very rocky and rough.

At $5\frac{3}{4}$ miles reach junction of this stream with the *Vihoa* or *Toi*. Here above the right bank of the *Sema nala* is a plateau only sufficient for a small camp. Fuel abundant and water good. Height, 2,700 feet.

5	KAIWAHAN	$7\frac{3}{4}$	$53\frac{3}{4}$
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The road goes down the main stream for $\frac{1}{2}$ mile to the *Gat tangi*. There is one difficult place in it, but otherwise road is fair though over boulders. The *tangi* is about $\frac{1}{4}$ mile long, and when first seen was impassable for animals. A road was made through it in two days.

Probably in future one working day would fit it for camel traffic. On emerging from the *tangi* the road goes partly down the bed of the stream, partly along the edges on each side for $1\frac{1}{4}$ miles. The people are *Isots*, very quiet and inoffensive. Cultivation principally barley and *makai*. Firewood plentiful. Water bad, owing to sulphur. No supplies. Camping-ground large, but bad in wet weather. Part of the column camped to the east of the *Gat tangi* and $\frac{3}{4}$ mile from where track left main stream. A road had to be made up the slope. Here there is always water, but it is generally salt. From this point (3 miles) a short ascent (improved to a fair camel road in half an hour) led to a stony *raghza* or plateau. At $5\frac{3}{4}$ miles it descended gradually into a *nala* and crossed the main caravan road from *Dera Ismail Khan* to the *Narai kotal*. At $6\frac{1}{2}$ miles another ascent was made to a *raghza* overlooking the *Kaiwahan nala*, and following this for $\frac{3}{4}$ mile, the village was passed and the camp was reached at $7\frac{3}{4}$ miles. Camping-ground unlimited. Water good. Firewood plentiful. Grass to a small extent over all the hills; 40 or 50 houses of *Isots* and a considerable amount of cultivation. Inhabitants very friendly, and had laid in supplies for the *Vihoa* column. Considerable flocks of cattle, goats, and sheep were seen about, but none were offered for sale. Height of camp, 2,810 feet. From here a track goes to *Drug*. (See Note D, Route No. XXXVA.)

6	CHITARWATA	$13\frac{1}{4}$	67
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The road ascends a *nala* and then a fairly easy path to the *Lawargi kotal*, 700 feet above the camp, at $2\frac{1}{2}$ miles. For another $\frac{1}{2}$ mile it continues fairly level, but stony when it descends, and after rough going down the side of a hill reaches the *Badri nala* at 4 miles. Down

Route No. XXXVI—concluded.

the stony bed of this it continues, until at $8\frac{1}{2}$ miles it goes over a sloping sheet of rock up which camels can go without difficulty. It continues on crossing and re-crossing the river to 10 miles, and at Badri or Barkohi War there is a large open plain on which the column encamped and which is the regular halting-place for *kafilas*; camping-ground very extensive. Firewood and camel-grazing in abundance. No inhabitants or supplies. Chitarwata is reached at $13\frac{1}{4}$ miles. A track goes up the Badri *nala* to Drug. (See Note C, Route No. XXXVA.)

7	GARIBAR . . .	$8\frac{1}{2}$	$75\frac{1}{2}$	Road along the Khuzawalang Kach for a few hundred yards, then into bed of stream and crossing to opposite bank reach Srawal Kach at 2 miles. A wide but dry <i>nala</i> comes in here on the right; at 4 miles pass another <i>kach</i> on the left hand called Zangal (Kasrani);
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at 7 miles is a cultivated spot called Ghulu Shpelai on the right bank, also Kasrani; and about $\frac{1}{2}$ mile further is Sigha War or the mouth of the Sigha ravine, which here joins in on the left. This is a halting-place much frequented by *kafilas*. A little beyond this is another fairly level bit of ground on the left bank called Garibar where the column encamped; camel-grazing fairly plentiful. The ground is somewhat broken, but two regiments could encamp here. The river has to be forded several times during this march. Its depth at the fords averages $2\frac{1}{2}$ to 3 feet, but it is probably less than this during the dry season. The path is hardly visible; and the bed of the stream rough for shod animals.

8	VIHOA . . .	15	$90\frac{1}{2}$	At about 1 mile from camp pass the <i>kafila</i> halting-place Zohar War on the left, then going along bed of stream pass Jarwanga Kach at $3\frac{1}{2}$ miles, and reach Seori Kach at $4\frac{1}{4}$ miles. There is a little cultivation here and also camel-grazing. Thence for 2 miles along river bed, and at $6\frac{3}{4}$ miles ascend right bank by a fairly easy slope. The road then goes in a south-east direction along a well-trodden path working round east towards Vihowa, which is reached at 15 miles. The last 5 miles of this road would be heavy going in wet weather as the soil is clay.
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NOTE A.—There are two routes from Toi Sar, that described above and that *via* the Narai kotal. The latter is the route by which the little trade between Vihwa and the Zhob is carried on. The route followed by the column and described above is more direct, and as far as Tangi Sar there are no difficulties, and the road lies through a fairly well-populated and fertile district. At Tangi Sar, however, the river begins to enter a series of very difficult defiles or *tangis*; the first two are quite impracticable and could not be made fit for baggage animals without a good deal of skilled labour and much blasting. These *tangis* were avoided by using a track which leads north from Tangi Sar, and which after crossing a kotal of a somewhat severe gradient descends into the Sema *nala* and thence joins the Vihwa stream again a few hundred yards in front of another *tangi* which was made practicable for the camels of the column in 2 days. After this there were no further difficulties on that route.

From Tangi Sar an alternative route to Vihwa *via* the Guzai *nala* was explored, but was found to be no shorter than the main route and was considerably more difficult, for the road passed over a kotal, the ascent to which was 1,600 feet in $2\frac{1}{4}$ miles and very rough. This route is sometimes used by Nasars, but never by the Hindu traders, (Route No. XXXVII.)

It was unfortunate that the Narai route could not be explored. The ascent and descent of the Narai kotal are said to be very difficult, and the top of the kotal seems to be between 5,000 feet and 6,000 feet above sea-level, and might be closed for a few days in winter by snow. Water too appears to be scanty on this route. The route *via* Tangi Sar has then these advantages:—

- (i).—It is the shortest.
- (ii).—Water-supply unlimited though rather saline from the plains to Tangi Sar.
- (iii).—It passes through a fairly fertile and well-populated country.

Route No. XXXVII.

ALTERNATIVE ROUTE FROM TANGI SAR TO VIHOA *via* THE GUZAI NALA.

Authority—DEPUTY ASSISTANT QUARTER MASTER GENERAL, ZHOB FIELD FORCE, 1890.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	SHNE KAZHE . . .	17	17	From camp at Tangi Sar road goes along right bank of stream in a northerly direction for $\frac{1}{2}$ mile, then crossing the stream goes along a sandy strip for 400 yards. The stream here bends round to the east, and passes through a narrow <i>tangi</i> quite impassable for any baggage animal.

The road now begins to ascend the lower slope of the Shinghar range along the right bank of a small torrent bed which it crosses about $1\frac{1}{2}$ miles from camp. Thence a stiff ascent by zig-zag and along the side of a broad ravine (aneroid 3,450 feet); thence ascending in a north-east direction by a steep path 10° to 12° slope, reach a small kotal (3,680 feet). Thence north to another small kotal a few hundred yards further on. From this a steep descent of 330 feet to Sema *nala*. The gradient is pretty severe, 15° or 16° in a few places. This point is a little less than 4 miles from Tangi Sar camp. Just above the *nala* to the east is a level piece of ground where a regiment might squeeze in with difficulty. Water from Sema *nala* below it and to the east. The road descends into this, a steep drop of 100 feet, and goes in a general northerly direction up the *nala* for $2\frac{1}{2}$ miles to Sema Sar; nasty boulders in the bed most of the way which would have to be cleared for a baggage column. There is no suitable ground for a large encampment at Sema Sar. It is merely a halting-place for the few *kafilas* of bullocks and donkeys and sometimes hill camels which may come by this route. There is perennial water in pools in the bed of the stream of good quality. Troops would have to encamp in a very irregular fashion along the rough bed of the *nala*. Height by aneroid, 3,500 feet. The road now leaves the *nala* and winds up the side of the Zhba hill to a kotal thickly wooded with wild olives, ascending 1,600 feet in $2\frac{1}{2}$ miles; the last mile is particularly trying, as the gradient is about 1 in 4 and very rough. Approximate height of kotal, 5,100 feet. From this kotal a good view can be had of the plains. Vihoa and even the Indus being clearly visible on a fine day. A path practicable for mules goes down in a south-south-east direction to the Vihoa near the mouth of the *tangi*, through which the column made a road. The path to Guzai descends in a north-east direction by a well-defined and fairly easy path, and at $11\frac{1}{4}$ miles reaches a sort of neck fairly level, along which a path leads off north-east to Guzai, which is the one we ought to have followed, but the guide mistook the road and led us down the spur (north) to a small *nala* where a track leads off to Kot Ashakhan. We followed the right bank of this *nala* for a few hundred yards to the head of a long narrow valley. It then ascends the side of a hill to the right (east) and strikes the path from which we strayed. In the valley above mentioned is a good deal of terraced cultivation, and a few temporary dwellings of Isots and Musa Khels. Between 13 and 14 miles road ascends by a steep zig-zag path to a kotal. Kandghar (4,220 feet), and thence by a rough and steep descent reaches a small plateau covered with scrub and gravel. Thence still descending almost east by a rough path reach a *kafila* halting-place at 15 miles called Lukhey; ground large enough for two regiments, but dirty water from a *nala* to the south, 60 feet below camping-ground. Most of the camel-grazing has been used up. The path thence to Shne Kazhe enters a *nala* to the east of the camping-ground and follows it north-east for 2 miles to its junction with a watercourse. The halting-place is on a strip of ground on right bank of stream. Water good and abundant. Fair camel-grazing and grass. No village or supplies. Camping-ground for two regiments.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XXXVII—concluded.

2	VIHOA	39½	56½
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Follow bed of stream for ¾ mile, then ascend right bank, to avoid defile in river bed, and keep along this for about 1 mile, then enter and follow bed of stream. At 6¼ miles a *kach* on left bank called Suragbala. A path goes off from here to Kot Ashakhan about 3

or 4 miles distant. At 9 miles river forces its way through a ridge of white limestone. In order to avoid a *tangi* in the stream we went over the left bank, then round in a north-east by east direction along a small *nala* into what seemed a *cul-de-sac*, for the path was stopped by a drop of 15 to 20 feet. This was avoided by ascending a steep hill on the left about 10½ miles from camp. The track then descends into the Kaora *nala* (also called Zghartakai) in which is a small sulphur stream. The road follows this to its junction with the main stream (called Pasteh) at 11½ miles. There is a difficult drop for horses into the bed of the main stream. The main watercourse is about 80 yards wide with low hills on either side. The mules belonging to the party followed the bed of the stream from the 9th mile and experienced no difficulty. Somewhere between this point and the 9th mile, where we wrongly left the bed of the main stream, a track goes over the right bank to Guzai Ghar and thence to the Vihoa stream, which is the usual road taken by *kafilas*. The water of the combined stream has here a decidedly sulphurous taint, and it does not seem to improve much even when it enters the plains. Continuing along the *nala* at 15½ miles, the Lari *nala* joins in on the left, up which goes a cattle path to Parwara; half a mile further the road leaves the river and goes through a small ridge on the left and then descends into a parallel valley on the left called Surwal or Surjan. Here is some wheat cultivation, camel-grazing and a very fair camping-ground for two regiments. At 16½ miles this valley joins the main one; the hills are mostly red sandstone; at 18½ miles river makes a wide bend and goes through a rather narrow gap, and then the Lagzan *nala* joins in on the right. The hills are perfectly bare, and in the cliffs by which the stream is enclosed are several caves, mostly formed by the action of the water, and here and there enlarged by some of the inhabitants to form temporary abodes. At 21½ miles reach an isolated sandstone rock called Takai about 50 feet high on right bank; the road keeps to right of it and ascends a small but rather stiff kotal cutting off bend in stream. Camels would have to keep to the bed of the *nala*. Thence descending again into stream, ¾ mile further on, a *nala* with small flow of good water joins in from the left, called Khuzha Walang. At 22½ miles the pass opens out into a long stony valley on the north side of which lies the village of Khui. There is abundance of camel-grazing here and unlimited camping-ground. Patches of cultivation and a few date trees can be seen from the road, but probably a considerable amount more cultivation exists, as the soil, though stony in places, is mostly alluvial and is covered with tamarisk and *jal* trees. Height by aneroid, 1,175 feet. At 25¾ miles road ascends left bank and continues along it some 30 or 40 feet above river bed for ¾ mile, when it again enters the *nala* by a rough and steep descent; thence crossing the stream ascends the right bank, and at 27½ miles reaches stony *daman* of the hills. From here to Vihoa is about 12 miles across the plain, which is stony for 2 or 3 miles and then soft clay, which after rain is almost impassable.

This stage is practicable for camels, but it would have to be divided into three, *viz.* :—

	Miles.
Surwal	16
Khui	6¼
Vihoa	17

Camel-grazing is abundant the whole way, but little grass was seen at the lower end of the pass. The chief difficulty of the road is its roughness. This is more trying for shod animals than camels; but the latter would be useless beyond Shne Kazhe, as the gradients are too steep.

Route No. XXXVIII.

FROM SHINA KHULA TO HAODAK *via* BARAKSHAZAI.

Authority.—DEPUTY ASSISTANT QUARTER MASTER GENERAL, ZHOB FIELD FORCE, 1890.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	MAIDAN KACH	13	13	Shina Khula is stage 22, Route No. XX. On leaving camp the road follows a camel track at the north side of the valley, direction east-north-east; easy going. At $2\frac{1}{2}$ miles the road leaves the camel track, and winds under the
<p>hills to the left. The ground is smooth and hard, with a little camel-thorn and scrub. The going is good. The road continues thus to $9\frac{1}{2}$ miles, when the deserted village of Shalut Khan is passed. This is a large village with a burial ground near it. It was deserted owing to failure of water-supply. At $10\frac{1}{2}$ miles the direction changes to nearly due north, the road following a camel track up the bed of a <i>nala</i>, towards Maidan Kach. There is a small stream of good water near the mouth of the <i>nala</i>. The supply increases further up. At 13 miles arrive in camp at Maidan Kach. No village. Camping-ground stony in places. The camping-ground is in a broad space where the <i>nala</i> widens, and is shut in by low hills. Water abundant in the river bed. Camel-grazing and fuel scarce; no grass.</p>				
2	BARAKSHAZAI	$13\frac{1}{2}$	$26\frac{1}{2}$	On leaving camp the road goes up the river bed, where there are numerous pools of water. The bed of the <i>nala</i> is narrow in places with steep cliffs on either side. The going is good for camels. At 3 miles the road leaves the river bed to the right, in order to take a
<p>short cut, to join it again about 1 mile on, the river making a big bend to the west. Camels should keep to the <i>nala</i>, as the short cut is rather steep. At 4 miles again rejoin the bed of the <i>nala</i>, following it for 1 mile. The <i>nala</i> bed is stony, and there is some water in pools. At 5 miles leave the river bed finally, following a well-defined camel path which winds east and north-east, keeping to the right of a small watercourse. The road follows this track for 4 miles, when the head of the valley is reached. A peculiar conical peak called Yogwash, which has been straight ahead for some time, is left to the right; the road, which is now difficult and runs over broken ground, leads round to the left of the Yogwash range. At $13\frac{1}{2}$ miles the camping-ground of Barakshazai is reached, at the foot of the Yogwash range. The column had to keep in single file most of the way during this march. The camping-ground is good, $\frac{1}{4}$ mile long by 250 yards broad, but the water is scarce and brackish. There is a small spring in the rocks about 1,000 yards from camp sufficient for drinking purposes, whilst there is water in the <i>nala</i> below the camp for animals. There are no supplies except some grass in fair quantity, and abundant camel-grazing near the camp. Plenty of fuel can be obtained a short distance from camp.</p>				
3	HAODAK	$9\frac{1}{2}$	36	The road, on leaving camp, goes into a <i>tangi</i> , which winds about for 3 miles. The going is bad, being over stones and rocks, but the <i>tangi</i> is sufficiently broad to enable laden camels to pass. At 4 miles the road reaches the top of the kotal. The descent from it to

the plain below is rather steep and very difficult for camels. The column had to march in single file most of the way. The road follows the Khaisor *nala* bed in a north-east direction down into the plain, crossing and re-crossing it several times. The road runs in a north-east direction to 9 miles, when a low hillock is reached, which stands out alone on the left. Immediately behind this hill, and about 600 yards away from it, are three small wells of excellent water, about 500 yards distant from one another. At $9\frac{1}{2}$ miles Haodak camp is reached. For further details of Haodak, see stage 5, Route No. XXXIX.

Route No. XXXIX.

FROM SHINA KHULA (ZHOB VALLEY) TO THANISHPA *via* BABU CHINA AND THE LUNDA PASS.

Authority.—DEPUTY ASSISTANT QUARTER MASTER GENERAL, ZHOB FIELD FORCE, 1890.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	ANDREVIEZH . . .	12	12	The road from camp leads across a stony plain in a direction west-north-west for 2 miles to the mouth of the Dhana <i>nala</i> , following the small stream from which the water-supply at Shina Khula is obtained. The path then drops into the <i>nala</i> , and winds about among

low hills, keeping to its stony bed. At 4 miles a small hamlet is passed on the left, named Khoba; and about a mile further on a branch *nala* goes off to the right, up which there is a lateral communication with the Rod valley. The bed of the Dhana *nala* is about 50 yards wide, with low hills on each side covered with tamarisk, wild pistachio and camel-thorn in places. Water is also obtainable here and there in small quantities, but at certain seasons the supply is said to be more plentiful. At 8 miles pass the small hamlet of Tor Tangai, and about a mile further on the *nala* bed is left and a steep ascent up the hill-side is made. This ascent is about 1,000 feet, and although the road is here passable for laden mules, it is difficult for camels with ordinary loads. We managed to take up a few laden camels, but it required time. From the top of the ascent the road descends for 350 feet into a hollow in which is situated the small village of Mardakai, consisting of some 10 hamlets surrounded by a little cultivation. The ascent to the true kotal is then made, which is 750 feet above Mardakai. The height of this kotal is 8,780 feet. From here the road gently descends for 2 miles to the small village of Andreviezh, inhabited by Mardanzais. This village is prettily situated among the hills, and contains about 60 houses. Water is plentiful, and a limited amount of *bhusa* and fire-wood procurable. Camping-ground is very limited. The general direction of the march is north-west. Height of Andreviezh, 8,480 feet (aneroid).

2	BABU CHINA . . .	9	21
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The road, after leaving Andreviezh, runs along the bed of a *nala* and then enters the head of a branch *nala*, and descends this in a northerly direction to 3 miles. The going here is bad. The *nala* bed is covered with loose stones, and the descent is steep. At 3 miles the road crosses a low kotal. About $1\frac{1}{2}$ mile off the road at this point, and up a *nala* to the right, is a small village called Wala belonging to Mardanzais. It contains about 20 houses, but is only occupied for a few months in the winter. Soon after crossing the low kotal, the road again enters the head of another narrow ravine. Here also the road is bad and steep for about 1 mile, when the *nala* opens out and at 5 miles is joined by another and larger one from the left. At the junction is a Mardanzai village called Kozhkats containing some 40 houses. After passing this point Mardanzai territory is left behind, and the Mirzai country is entered. The road now continues down the broad open bed of the *nala*, and is easy going until at 7 miles the village of Mogal China is reached. This is a village containing some 70 houses of Mirzais. *Makai* fields are dotted about, and there are some fruit trees. Two miles further, over the open valley of the Rod (about 3 miles broad), which is now entered, Babu China is reached. Here a large force might encamp. Water plentiful and supplies procurable. Headman, Mulla Dilber, the *Sardar* of the Mirzais. The inhabitants of Babu

Route No. XXXIX—continued.

China belong to the Fakirzais section of the Mirzais. Crops consist of wheat, *makai*, and a little barley. There are numerous fruit trees. There are several separate villages, which contain altogether some 400 men. Each village has its own name, such as Babu China, Tsallak, Murgha, etc., but the general name of Babu China is given to the group. Babu China is itself the most easterly of these villages. General direction of march north-north-east. Height, 7,250 feet.

3	GARGASULIMAN . . .	14	35	On leaving camp, cross bed of Rod, which is here about 300 yards broad. It is stony, and contains numerous pools of excellent water. The track then goes along the left bank down the valley to $1\frac{1}{2}$ miles, when it inclines to the left, and ascends over a fairly open but undulating <i>daman</i> in an east-north-east direction to 5 miles. This is stony and covered with scrub, which would make good camel-grazing. At 5 miles the track enters more broken ground and winds about among ravines and low hillocks to 10 miles. It here enters a <i>nala</i> up which the path runs for $2\frac{3}{4}$ miles, to the foot of the Lunda Kotal. This ascent is 370 feet, but is rather steep, and it took the mules $\frac{1}{2}$ hour to get up this short bit. The top of the kotal is about 13 miles from Babu China. Height, 8,300 feet. A mile beyond the kotal is the camping-ground at Gargasuliman, near two pools of water, not very good but drinkable. There is no village here, only two shepherds' hamlets. The descent from the kotal on the north side is gentle. No supplies, except firewood, are obtainable. General direction of march is east-north-east. There is any amount of camel-grazing all along the route, but no water except a small pool near the kotal. The road is very trying for baggage animals; but it was not necessary to take the loads off the camels. Height of camp, 8,150 feet (aneroid).
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4	MARJAN . . .	$10\frac{1}{2}$	$45\frac{1}{2}$	On leaving camp, the track descends along the bed of the ravine which drains Gargasuliman. This <i>nala</i> winds about among hills, but the general direction is east. At 6 miles a <i>tangi</i> named Dirgai is reached, and in order to avoid this the track runs to the south of the <i>nala</i> , which it rejoins again below the <i>tangi</i> at $7\frac{1}{2}$ miles. The track continues to follow the valley, which here widens out for the next 4 miles, when the camping-ground at Marjan is reached. This is simply a camping-ground without any hamlets, and is used by shepherds. There is good water in the pools in the bed of the stream. All along this march there is water here and there in pools, also any amount of camel-grazing (tamarisk, wild pistachio, camel-thorn, etc.). There is no cultivation, and no grass is obtainable. At Marjan itself there are no supplies, except abundant firewood. This march is through the territory of the Fakirzais. There are no camels, but sheep and goats are obtainable. There is no difficulty for laden camels and mules since the track lies throughout either along the stony bed of the <i>nala</i> or along its banks. General direction of march east by south. Height of camp Marjan, 7,550 feet (aneroid).
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5	HAODAK . . .	10	$55\frac{1}{2}$	Leaving the camp at Marjan, the track passes through a graveyard and then continues to wind down the valley, following generally the direction of the <i>nala</i> . The path does not, however, follow its bed, but goes over low spurs on either side returning now and then to the bed itself. Water has now disappeared, but in places a few small pools. At 4 miles the road leaves the <i>nala</i> and goes over undulating hillocks covered with stones. At 5 miles Mirzai lands are left and Jalazai territory is entered. The valley has now opened out, and is known as Khaisor. The road runs down the valley over ground alternately sandy and stony covered with low scrub, but no trees. The Khaisor <i>nala</i> is quite dry. At 10 miles Haodak is reached. Here there is no village and supplies are not procurable; water for a small force is obtainable from springs about $\frac{1}{2}$ mile to the north of the Khaisor <i>nala</i> . Camel-grazing obtainable at a little distance from camp. General direction of road east by south. Height of Haodak, 7,000 feet.
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Route No. XXXIX—concluded.

6	CHINA	16		
			71½	

On leaving camp the track winds about among low hills on the north side of the valley for 1 mile, and then runs east south-east across the valley to the Khaisor *nala*, which it follows the whole way to China. There is no difficulty along this march. The ground is

generally sandy with loose stones, and covered with low scrub, which is unsuitable for camel-grazing, but is eaten by sheep and goats. The valley is here about 5 miles broad, and is bare of trees or habitations of any description. At 11 miles tamarisk begins to make its appearance in the Khaisor *nala*; at 12 miles the track leaves the bed of the Khaisor and runs along its right bank until China is reached at 16 miles. Here there is a small Jogizai village consisting of about 10 separate hamlets with a little cultivation. General direction of march east south-east. Water is obtained at China in pools in the Khaisor and is plentiful. No water is met with elsewhere during the whole of this march. Camel-grazing is obtainable about the camping-ground; also a little grass. Sheep and goats can be bought, but other supplies are not procurable. Height of camp, 6,455 feet.

7	THANISHPA	18		
			89½	

On leaving camp the track follows main *nala* (Khaisor), for ½ mile to the Jogizai village of Sharan; 50 or 60 houses. Here there is some cultivation and an abundant supply of water. The track then leaves the Khaisor and turns up a branch *nala* called the Malawa

in a northerly direction. This is followed to 1½ miles, when the track leaves it and runs across the valley in a north by west direction (the ground being slightly undulating) to 10 miles. This is good going for transport animals. At 10 miles the low hills at the foot of the Toghhar range are reached at the mouth of the Thanishpa pass. Here there are two wells of water, and this is a halting-place for caravans. The track then ascends to the kotal, which is reached at 13 miles. Height, 7,500 feet (aneroid). The ascent is gradual, and on the further side there is a short descent of 150 feet, after which the track slightly ascends again and, winding about among the hills, reaches the camp at Thanishpa at 18 miles. General direction of march north north-west. At a spot 2 miles before reaching Thanishpa water is found near the road in two or three small pools. The camp at Thanishpa is situated on a plateau, and is surrounded by hills on all sides. There is a certain amount of cultivation, but the grain produced is barely sufficient for the requirements of the inhabitants. Water is good and plentiful from a stream. Thanishpa belongs to the Shahizai sub-section. No supplies are obtainable except firewood and grass. Sheep and goats can be procured, and excellent camel-grazing is to be had all round. There are hamlets dotted about here and there, but no regular villages. Camping-ground is confined and it is necessary to split up a force in small camps. Height of Thanishpa, 7,850 feet. For alternative route from Shina Khula to Haodak, see Route No. XXXVII.

Route No. XL.

FROM THANISHPA TO HUSEIN ZIARAT *via* THE CHUKHAN VALLEY.

Authority.—DEPUTY ASSISTANT QUARTER MASTER GENERAL, ZHOB FIELD FORCE, 1890.

No. of Stage.	Names of Stages,	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	NIGANGE OR NIGAND	17	17	From camp at Thanishpa road goes down valley about north-east, at 1 mile descending into hillocky ground, and ¾ mile further enters <i>nala</i> 40 yards wide, direction now east. At 2¼ miles leaves <i>nala</i> and enters narrow valley or ravine 200 yards wide, half a mile further

Route No. XL—continued.

crossing low ridge on left and entering a rocky ravine which opens out a little at 3 miles, where the commissariat camp was pitched. Water from 3 shallow pools in bed of *nala*. Follow this *nala* to its junction with a larger one, crossing which the path runs up a small narrow watercourse joining in from the north, thence along its left bank for some little distance and again into the bed, here very narrow ($6\frac{3}{4}$ miles). This part of the road was improved for about 50 yards by the sappers. After $\frac{1}{4}$ mile of narrow ravine, reach top of Shin Narai kotal (7,450 feet); path now rapidly descends in a westerly direction, gradient about 15° ; animals can only go in single file. After about 250 yards of steep descent path follows watercourse for a short distance and then goes along left bank, striking the watercourse again about 1 mile from top of kotal. Pass begins here to open out a little, and stone enclosures seen on the left. Turning round north-east down this watercourse with steep knife-like crags on both sides at 10 miles pass 3 cairns or stone heaps in the *nala*, and a few hundred yards from this point path leaves *nala* and goes to the right. One might also follow the *nala*, but this would lengthen the march by perhaps half a mile or more. Cross level ground for about $\frac{1}{4}$ mile and enter a *nala* which drains north towards the valley. Height by aneroid at this point 6,700 feet. Path now crosses this valley in a north-east direction; at $12\frac{3}{4}$ miles reach dry watercourse, lowest part of this small valley; height by aneroid, 6,450 feet. At $13\frac{3}{4}$ miles pass cemetery on left hand, close under low ridge, and $\frac{3}{4}$ mile on pass a well of good water, 6 feet from surface of the ground. Path now follows sandy watercourse passing conspicuous cairn on right and some shepherds' enclosures on left, and a mile further crosses low sand ridge: going here very heavy till camp is reached at Nigange on the Kundar, distance 17 miles. It appears that Nigange is the name given to this part of the Kundar. It is known by the latter name lower down. Camp is on right bank. Ground undulating but firm. Wood, grass, and camel-grazing abundant. Water clear and plentiful, but somewhat brackish. The bed of the Kundar is about 250 yards wide here and white with salts. The first 8 miles of the march somewhat difficult for camels, the last 9 trying for infantry.

2	DHOLESAR	10 $\frac{1}{2}$	27 $\frac{1}{2}$
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Cross Kundar stream and march over plain in north-east direction, as if making for Wazana-ghar and about $1\frac{3}{4}$ miles from camp strike well marked track and continue along this, striking the Kundar again at the 3rd mile. Descent easy, breadth about 200 yards. Path now

crosses a bare plain. At 5 miles cross *nala* and ascend opposite bank, path leading through ridges of bare rock. Thence along small plateau and along undulating sandy ground in an easterly direction. At 6 miles for $\frac{3}{4}$ mile the road is bad, but can be made practicable for camels. Thence the road descends gradually into a valley, crossing the stream (Tora Mu) at $9\frac{1}{2}$ miles. Good water to right of road. Thence across small plain for one mile to camp. Camping-ground on both sides of stream. Ground good and unlimited. Water brackish but plentiful. A little fuel and camel forage. Height by aneroid, 6,270 feet. Marching generally easy with exceptions noted. Baggage took $5\frac{1}{2}$ hours on road. No village or supplies.

3	SANZI WAR OR SAN- DEH WAR.	21	48 $\frac{1}{2}$
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Path crosses stream and goes along a narrow valley north-east; at $4\frac{1}{2}$ miles crosses dry *nala* and thence enters a small valley similar to the first, thence on to a stony broken plateau. At 7 miles enters long valley enclosed by high ridges; road easy; at $10\frac{3}{4}$ miles a sort of *tangi*

goes through the range on the right, carrying off the drainage of this part of the valley. There is here a good deal of thorn bush and several wild pistachio trees, and it looks as if water was not far from the surface. From this point the valley begins to ascend gradually, and at $11\frac{3}{4}$ miles the Shigana kotal is crossed, the water draining away from this to the *tangi* above-mentioned. Aneroid height, 6,790 feet. Road continues along this valley now descending, and about $\frac{3}{4}$ mile further a deep watercourse issues from the range or ridge on the left, into which the road descends at $13\frac{1}{4}$ miles. Here we met a few Ghilzais with several donkeys. They came from Kalat-i-Ghilzai and were making for the lower Zhob valley to winter there. The watercourse bends round east through a gap in the ridge on the right, a little water in the bed, with steeply scarped banks, and winds considerably. The road now follows this stream, called the Shanzi through the range, in a south-east direc-

Route No. XL—continued.

tion along the bed and over the banks till it enters the Chukhan valley at 21 miles; it then ascends the right bank on to a stony and gravelly plain where is the halting-place called Sanzi War. Water from pools in the bed of stream, slightly brackish, but under a large rock in the bed is a muddy-looking pool of rain-water which is quite sweet. Camping-ground on right bank, unlimited in extent and good soil. A little thin tamarisk in river bed. Aneroid height, 6,160 feet. Camels took $9\frac{1}{2}$ hours.

4	AMBARA	19
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67 $\frac{1}{2}$ | Keep along valley (Chukhan) on right bank of Sanzi *nala*, here dry, and at 2 $\frac{1}{4}$ miles cross it. Road now goes along the Chukhan valley keeping close to the foot of low ridges on the left (northern) side. General direction of the whole march north-east. At 5 miles road

descends into more broken ground and runs along a small valley. At 7 $\frac{1}{4}$ miles is a cemetery and a little beyond to the left in the hills is a hamlet. No water nearer than the Chukhan, 1 mile to the right. At 10 $\frac{1}{4}$ miles cross a small stream coming from the left. At 17 miles *nala*. At 18 miles come to end of a long street-like valley, and cross the Chukhan, which here has some water and tamarisk in its bed. Path thence ascends the opposite bank and cuts off a bend in the stream, striking it again a mile further up. The camping-ground is on opposite bank. Camping-ground good for one regiment; there is more ground on the other side, but somewhat broken. There is nothing to mark the place, but a cemetery and a few huts. Arrangements should be made beforehand for fuel and grass. Water abundant and fairly good.

5	SHARAN	6
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73 $\frac{1}{2}$ | Road now leaves the valley of the Chukhan and ascends the bed of a stream called the Sharan, rough and stony. At about $\frac{3}{4}$ mile the road to Uznda Wazha is passed. It runs up a narrow valley north north-east, and the village is about 5 miles distant. At 2 miles pass

some deserted caves. Camping-ground small. Water good. Here Route No. XXX from Ajozai joins in.

6	GUSTOI WAR	17
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90 $\frac{1}{2}$ | The road, after leaving camp at Sharan, ascends gently the Sharan *nala* for 6 miles, rather rough in places, but presenting no difficulty for laden camels till the Sharan or Nawai kotal is reached. The *nala* narrows considerably near the kotal. There is some water at

3 miles about $\frac{1}{4}$ mile off the road on the left. The kotal was descended by a road constructed by the troops the day before. Previous to its construction it would have been impossible to pass over laden animals of any sort. The soil through which the road is cut is shale. The steepest part of the descent lasts for $\frac{3}{4}$ mile, the road made by the troops for 1 $\frac{1}{2}$ miles, after which it becomes fairly easy for a mile or so, when it is again very rough, narrow, and difficult, and there is a second rather steep descent. At about 10 miles it becomes easy again. At 11 miles two very narrow *tangis* like doorways are passed, and shortly after water begins to appear in the bed of the stream. At 13 miles passed a few fruit trees, remains of a Mando Khel village, and shortly afterwards a few deserted huts. At 14 miles enter the bed of the Gustoi stream, where is a plentiful and good flow of water. The road follows the *nala* for a short way and then turns up to the left over a plateau and down again into the stream, close to the camp which lies at the junction of the Gustoi and Kundar streams. Ascent and descent steep. The first camels commenced crossing the kotal at about 8 A.M., the last reached camp at midnight. Camping-ground on firm clay surrounded by steep cliffs from 100 to 150 feet high, large enough for a brigade; other camping-grounds are to be found further up the bed of the Kundar. Water good and abundant from Gustoi stream. Grass procurable from the neighbouring hills, also fuel.

7	HUSEIN ZIABAT	8
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98 $\frac{1}{2}$ | Leaving camp the valley is followed in a north north-east direction. It is here $\frac{1}{4}$ mile broad. The country to the left belongs to the Khoind Khel section of the Suliman Khel, and the hills on the right are inhabited by a small *Saiyad* community, who have charge of the

Route No. XL—concluded.

ziarat of Husein. At $\frac{1}{2}$ mile the direction changes to north north-west, soon after to north north-east and later on to east north-east the general direction of the march, however, being east north-east. At 2 miles the Uzhda *nala* comes in on the left. This is dry at its junction with the Kundar. Up this a road leads to Do China, said to be two marches distant, and on the banks of this *nala* there are said to be five or six Sangar Khel villages of Suliman Khels, the headman being Shah Zaman. From here the track continues down the *nala* bed, which is sandy and covered with boulders, and the stream has to be crossed and re-crossed. This is the general character of the whole of this march, which is bad going for men and animals. The average breadth of the Kundar river is now $\frac{1}{2}$ mile. At $3\frac{1}{2}$ miles a small *kach* is passed on the right called Tori Kach. At $5\frac{1}{2}$ miles a branch *nala* comes in on the left named Khaisor Grezha. At the head of this *nala*, a few miles up, are said to be several small villages belonging to the Khoidad Khels, the headman of these being Daria Khan. Two-and-a-half miles further on, the track still following the bed of the Kundar, the camping-ground at Husein Nika Ziarat is reached. This is a level piece of ground, on which there are several graveyards and also the celebrated ziarat of Husein. Camping-ground is on right bank of Kundar and is sufficient for a brigade. Grass is obtainable in the neighbourhood of the camp. Wood and camel-grazing are both scanty. Water is obtained from the Kundar stream, ample in quantity, but salt and bitter. No other supplies are procurable. Height of camp, 3,700 feet.

Route No. XLI.

FROM THANISHPA TO HUSEIN ZIARAT *via* THE KUNDAR RIVER.

Authority.—DEPUTY ASSISTANT QUARTER MASTER GENERAL, ZHOB FIELD FORCE, 1890.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	NIGANGE OR NIGAND	17	17	<i>Vide</i> Route No. XL.
2	KALA MULLA KAMAL	$12\frac{1}{2}$		
			29 $\frac{1}{2}$	Immediately on leaving camp the road crosses the Kundar and runs in an east north-east direction across the valley to the foot of the hills on the northern side. This is heavy going. The soil is sandy and covered with low scrub and grass. At 4 miles, the foot of the hills

called Wazanaghar is reached. Here there is a conspicuous cairn passed on the left. From this spot the track follows the foot of the Wazanaghar over rocky ground, intersected by small ravines. This is not good going for baggage animals, although no real difficulties are met with. At 7 miles, and 1 mile distant in a south-east direction, the Skhalwai *nala* joins the Kundar. At $7\frac{1}{2}$ miles, the track continuing along the foot of the hills, some temporary villages of the Lowanas (now deserted) are passed. At 8 miles the Kundar approaches the hills and the track passes within 200 yards of the river bed, but almost immediately leaves it and turns in a north-east direction. At 9 miles a small *nala* has to be crossed, and here some ramping is required as the descent is very steep. The road continues along the foot of the hills, where the strata are tilted up on end, forming curious knife-edged bands of sandstone rising from the ground. At 10 miles, more deserted temporary dwellings of the Lowanas are passed, and at 11 miles, and $\frac{1}{2}$ mile to the left of the road, a small permanent Lowana village called Kala Mulla Kamal, at the foot of the hills, is passed. This village contains 6 or 7 houses, a little

Route No. XLI—continued.

cultivation, and a few trees. There is a limited supply of water, and this appears in a small *nala* lower down, where it is crossed by our track. At 12 miles the road again strikes the Kunder, and $\frac{1}{2}$ mile further on the camping-ground is reached, on the left bank of the stream. General direction of march north east. The people about here are Lowanas. Although not a Kakar race, they are included in their limits and pay revenue to the Jogizai Kakars. They are said to number only 230. There is an alternative road to that traversed by the force, and that is along the Kunder bed. This appears to be preferable to the one traversed, though a trifle longer. It has the advantage of being less stony and has water, more or less, the whole way; whereas the other road has hardly any water. At Kala Mulla Kamal there is firewood and grass, but no supplies. Water is abundant in the *nala*, but slightly brackish. There is camel grazing near the camp. There are no permanent villages except the small village of Kala Mulla Kamal, 2 miles from camp. Height of camp, 5,870 feet.

3	NAKHAL OR SPOLE LOARA.	15 $\frac{1}{2}$	45	Leave camp in north-east direction and follow the bed of the Kunder. At 1 mile turn north north-east. The track follows the bed of the <i>nala</i> , which is nearly a mile broad. It is heavy going over sand and stones. There is a large quantity of tamarisk, and water is
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crossed several times. At 4 $\frac{1}{2}$ miles the river bed crosses over to the north of the valley, and this the track follows in a north north-east direction, reaching the foot of the hills at 6 miles and then skirting along it. At 7 miles river bed goes through a narrow passage some 30 yards broad with perpendicular sides. From this point the *nala* curves to the right, but the track leaves it and keeps along the foot of the hills in a north-east direction, until at 9 miles it again rejoins the bed of the stream. Baggage animals had better keep to the *nala* instead of going this way. From 9 miles the track follows the Kunder, and at 11 miles the Wali Murgha road comes in from the left from Tirwah. The route continues to follow the Kunder bed, which is now bare and sandy, the tamarisk jungle having disappeared. At 15 miles reach camp Spole Loara. Here the Kandil joins the Kunder, coming in from the west. General direction of march north-east. This march is a trying one for infantry, as it is heavy going over sandy soil nearly the whole way. The camp here was pitched on the left bank of the Kandil, just above its junction with the Kunder. The former contains a stream of running water. Supply plentiful, but muddy and slightly brackish. The Kunder has numerous pools of water along this march, and there is also grass and camel-grazing. At Spole Loara no supplies are obtainable, and grass, firewood, and camel-grazing are scarce. When the force was here large flocks of sheep and goats belonging to Safis were passing through to their winter grazing grounds in Zhob; but at ordinary times sheep and goats could be procured, if notice were given. Height of camp, 5,450 feet (aneroid). From this place the caravan route to Ghazni goes *via* the Kandil. The Safis who had just come down from Nawa gave the following marches from Spole Loara or Nakhal, as this place should be called:—

- | | | |
|---|---|--|
| (1) Parjan (Sultan Sapparai).
(2) Prekara.
(3) Godawana.
(4) Tirwah. | } | (5) Karbora.
(6) Nigandi.
(7) Spedar.
(8) Sakira. |
| (9) Nawa. | | |

(See Route No. XVIII). Water is obtainable at all these places, but at Godawana it is scarce.

4	SABA DARGA	11	56	Leaving camp in a north-east direction the track runs for 3 $\frac{1}{2}$ miles over a hard stony plain, which is good going. The valley has been gradually becoming more narrow, and at 3 $\frac{1}{2}$ miles the road enters a <i>tangi</i> , which 2 miles further on meets the Kunder. There is a route by the Kunder itself, which is said to be more difficult. The going in the <i>tangi</i> is bad for pack animals over boulders and rocks, and at 5 miles water makes its appearance. A little beyond this the narrowest part of the <i>tangi</i> is reached. Here it is about 15 yards wide with steep precipitous sides, and at one spot there is a passage 6 feet wide
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Route No. *XLI*—continued.

between two large rocks. At $5\frac{1}{2}$ miles the road again enters the Kundar valley down which there is a considerable stream of running water. The valley has become a little more open; but there are still hills on either side shutting in the valley. At 6 miles a *nala*, in which there is good water comes in on the left. Up this there is said to be a road to Do China belonging to the Suliman Khels. The direction is now east. The valley winds about, and at 7 miles goes in a south direction. It has now opened out, and at $7\frac{1}{2}$ miles it is 100 yards broad. The track crosses and re-crosses the stream, the water of which is muddy and brackish. The depth is not more than 1 foot. The going is bad for men and animals. Sand alternating with boulders and rocks. At 9 miles the valley has widened to $\frac{1}{2}$ mile and its direction is east. At $9\frac{1}{2}$ miles a small stone enclosure is passed. This is called Nama Khanai (navel stone). Here the valley is $\frac{1}{2}$ mile broad, and the road is good going, the ground being hard and free from large stones. Several graveyards are passed about here. At 10 miles the open valley is reached, and the direction changes to north-east. The camping-ground, which is near a conspicuous mound in the centre of the valley, being reached a mile further on. The Kundar valley is here about 1 mile broad, and is open and level. The Kundar itself runs along the foot of the hills on the north-west side of the valley, and the camp was on the right bank of the stream. General direction of march east by north. The name of this camping-ground is Sara Darga, but there is no village on the spot. There are, however, two or three small Mando Khel villages in the hills to the south-east. From Sara Darga a track is said to run south to the Chukhan, but this is reported to be fit for footmen only. Supplies are not obtainable, except sheep and goats, which could be purchased from the Mando Khels. Firewood and grass can be obtained after notice, but it is scarce; camel-grazing is also scanty. Water is abundant in the Kundar, it is slightly brackish, but better than in the last two camps. Height of camp, 5,050 feet (aneroid).

5	SARMAGO KARCH .	12 $\frac{1}{2}$	68 $\frac{1}{2}$	Leave camp in a north-east direction over Sara Darga plateau, which is stony. There are several graveyards scattered about, belonging to Mando Khels. At 2 miles there is a short steep descent into the Kundar bed, and the road continues along the <i>nala</i> over sand and boulders. At 3
				miles the valley has narrowed, and the bed of the stream runs between hills not more than 70 yards apart. The rest of the march the river remains confined between hills, although these open out in places, and <i>kaches</i> are found. At 3 miles the direction is changed more to the east, and the <i>nala</i> winds about among low hills. At 5 miles Barara Kach is passed on the left. This is a small <i>kach</i> belonging to the Nasars. Speaking generally all the country on the right belongs to Mando Khels, who have a few scattered hamlets on the hills; and the hills on left belong to the Nasirs, who use them as grazing grounds. At 6 miles some warm sulphur springs are passed. The water of these is very salt. This place is called Khut Kundar. From this spot the track leaves the bed of the <i>nala</i> , and strikes off over the hills to the left in a direction north-east by north, and does not rejoin the bed of the Kundar until $7\frac{1}{2}$ miles. Here the road crosses the stream and runs in a northerly direction over level ground on the left bank of the Kundar for a mile. This is known as Isar and belongs to the Mando Khels. At 9 miles a solitary rock is passed which stands up in the valley and looks like a miniature one of the Colossi at Thebes. This place is called after the rock Lakka Tezha, and belongs to the Mando Khels. Here it is said the Nassar limits end on the left side of the valley, and Suliman Khel territory commences, but others place the boundary between the two further north. The direction is here north-east, but the <i>nala</i> winds about and the direction changes continually. At $12\frac{1}{2}$ miles Sarmago Kach is reached, on the right bank. This belongs to the Mando Khels and is a level stretch $\frac{1}{2}$ mile by 300 yards running east and west. It forms a good camping-ground for a small force, the ground being hard and free from stones. It is cultivated when the Kundar is in flood. This march is bad going for men and animals. It is for the most part in the bed of the Kundar, which is covered with sand and boulders. General direction of march north-east. Supplies at this camp are limited. Camel-grazing and fuel are scanty, but grass can be obtained from the hills around. Water abundant from the Kundar, but brackish. Sheep and goats could be obtained from the Mando Khels; on other supplies.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XLI—concluded.

6	HUSEIN ZIARAT	10	78½	Leaving camp in a northerly direction the track follows the bed of the Kundar, which is here about 150 yards wide. The river winds about between hills. At 2 miles pass Gustoi War on the right. This is at the mouth of the Gustoi stream. From here the road to Husein Ziarat is the same as that described in Route No. XL.
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Route N X LIA.

FROM KURIA WASTA TO APOZAI.

Authority.—SUB-SURVEYOR ASGAR ALI, ZHOB EXPEDITION, 1890.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	NAWA	12	12	
2	SHAIGHALI	12		
3	SENGAN	10	34	
4	SUR KACH	10	44	
5	APOZAI	15	59	

Route No. XLIB.

FROM KURIA WASTA TO APOZAI *via* THE ZHOB.

Authority.—ZHOB EXPEDITION REPORTS, 1890.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	SHARAN KACH	11	11	
2	TOI WAR	13½		
3	TANGI WAR	15	24½	
4	MUSAZAI	18	39½	
5	BADENZAI	15	57½	
6	APOZAI	16	72½	} <i>Vide</i> stage 13, Route No. XX.
			88½	

N. B.—The above route was taken by Lieutenant-Colonel Morgan's column.

Route No. XLII.

FROM LORALAI TO GUMAL THANA *via* APOZAI AND THE GWALERI KOTAL.
Authority.—CAREY, 1890; ASSISTANT ADJUTANT-GENERAL, QUETTA DISTRICT,
 1892.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	DARGAI . . .	8	8	} <i>Vide</i> stages 1 to 5, Route No. 96, N.-W. F., Vol. I.
2	LOI MABRA . . .	16	24	
3	HUMAI . . .	15	39	
4	MURGA . . .	15	54	
				Murga is composed of 11 small scattered vil- lages about $\frac{1}{2}$ mile to the east of the main track, also a square fort garrisoned by one company. Excellent camping-ground with one stream, 50 gallons, close to it to the north, and several small springs adjacent

to the nearest villages on the east. Camel-thorn around the camp.

Supplies excellent and plentiful. Grazing for camels in immediate vicinity. Notice must be given for grass which is nowhere obtainable nearer than the northern slopes of the hills north of Murga, about 8 miles by road, and from the hills towards Sara Dhaka at about 13 miles. Some 200 maunds were brought in for us. *Dhub* grass plentiful on Murga plain during summer rains. About 200 sheep. No *bhusa*. Wood in neighbouring hills. A few oxen, but no transport.

5	LAKABAND . . .	21	75	On leaving Murga the general direction of track is north north-east, passing over level open ground to $4\frac{1}{2}$ miles. Here the road crosses a broad stony <i>nala</i> with easy banks, which has a fair amount of wild olive trees in it. From here road runs to $6\frac{1}{4}$ miles nearly due
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north, then due north to 7 miles, rising gradually to the entrance of the *Lak tangi*. The track then runs over two low easy spurs for half a mile, then drops 50 feet into a *nala*, the bed of which it follows. Bed of *nala* 35 yards wide. Direction of road north north-west. At $8\frac{1}{4}$ miles good water may be obtained in the bed of the *nala* at any season by digging and allowing the water to settle. The *nala* is entirely composed of soft shale. At $8\frac{1}{2}$ miles the *nala* bifurcates, the track following the easterly branch, direction north north-east, to 9 miles, then general direction north north-east, the *nala* winding considerably to $10\frac{1}{2}$ miles, where water is met with again. Here there is a small village of a dozen loose stone-built huts on a small hill. There is about $\frac{3}{4}$ acre of cultivated ground here. If water is required for more than 150 animals, a party should be sent on over-night to dam up the small stream on the left, which contains excellent drinking water.

Track follows a northerly direction up the *nala* to the foot of the main ridge of the *tangi*. Distance to kotal 12 miles. The kotal (height 6,225 feet) is quite practicable for cavalry and baggage animals. The northern slope would require a little making to render it practicable for wheeled traffic. The baggage was a good deal delayed by it.

This kotal would be a point where opposition might be expected, if the tribesmen were hostile, as the advancing force has to move on a narrow front.

The track leads down the northern side of the kotal into the head of another *nala* to $12\frac{1}{2}$ miles, where there is a small village named Kyaat, containing about 20 men, a few small terraced fields, some fruit trees, and a small spring about 10 gallons. It then skirts the village and runs in a north-west direction up another branch of the *nala* to 13 miles, passing a very curious ridge of black rock. Opposition might be met with at this point.

Route No. XLIII—continued.

At 13 miles the track ascends another kotal easy for all arms. From here the *tangi* opens out a little and the hills are considerably lower.

At this kotal a track comes in on the left. The Pathan guide stated that it was a good road leading to Mena Bazar, also that it led down into a plain over which it ran as far as Mena.

From the kotal the track follows a direction north north-east to $14\frac{1}{4}$ miles, where it passes a valley full of olive trees. A path running up this valley leads to 30 or 40 small shepherd hamlets in the hills, of no importance. (Native information.)

The track then continues down the *nala* to 15 miles, where it meets another small track, leading only to the hills. A little further down the road leaves the *nala*, and turns in a northerly direction across a plain, suitable for a camping ground, to 16 miles, then due north down another *nala* to $16\frac{1}{2}$ miles. Here it is met by a *nala* from the east, in which there is water in pools and a track to Musa Khel Bazar, which passes through the village of Sara Mena, 1 mile from the road.

This track is said to be very bad for animals and hardly passable for camels. (Native information.) Sara Mena is a village of some 30 houses of shepherds and there are some sheep.

The road still runs north passing the village of Kalil Salerai (12 houses, one acre of cultivation, and a little water, flow about 15 gallons) to $17\frac{1}{2}$ miles. Passing then over a small kotal (20 feet) and continuing in the same general direction, it leaves the hills at $19\frac{1}{2}$ miles, and runs westerly to $20\frac{1}{4}$ miles to the first camping ground. A better site for a camp is $\frac{3}{4}$ mile further on in the same direction. Water is plentiful from a stream which flows past both camping grounds. The name of this halting place is Lakaband. Supplies about 100 sheep and goats.

6	GARDA (BABAR VIL- LAGE.)	16
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Leaving Lakaband camp in north-east direction, the track runs for $\frac{1}{4}$ mile over low ridges coming down from the hills on the east, and then gradually descends to $\frac{3}{4}$ mile where there is a small pile of stones. I was unable to fix the highest point of Babarghar. At this spot a track runs

from north-west to south-east from the direction of Ziarat immediately entering the hills to the east. At $1\frac{1}{4}$ miles the road turns north north-east across a plain to $2\frac{1}{4}$ miles. Here the main ridge on the east is 2 miles distant, on the west Shinghar range is $1\frac{1}{3}$ miles. The track then goes north-east to $4\frac{1}{4}$ miles (the last $\frac{1}{2}$ mile being through camel-thorn), still crossing the plain. It then crosses a dry *nala* bed to $4\frac{3}{4}$ miles to some cultivation and two or three deserted huts. There are five small villages called Dergun to the right of the road, and the village of Ulli Sahi under the hill to the left. Lots of cultivation to the left under Shinghar to the Shinghar-Babarghar kotal. I saw in Ulli Sahi at least 200 sheep, and at Dergun about the same. Near Ulli Sahi there is a stream (flow about 200 gallons) with numerous pools. The road then runs north north-east to $5\frac{1}{2}$ miles through camel-thorn and cultivation in patches, and then north to $5\frac{3}{4}$ miles near same stream as mentioned at Ulli Sahi. Villages and cultivation on both sides of the road. Two villages on the left—200 sheep and 20 oxen. A cultivated valley on the right for $1\frac{1}{4}$ miles—full of villages and sheep. Still north to $6\frac{1}{2}$ miles passing low ridges on the left, the same $\frac{3}{4}$ mile away on the right. More villages on the ridges and cultivation in the valley. The road continues to run north up bed of a *nala* past village of Khosti on the right (50 houses and 200 sheep), also passing plenty of water, more villages and cultivation. Nearly all the villages give the name of Khosti or Khwastai. (Notes.—They are inhabited by Khwastais.) A $8\frac{1}{2}$ miles pass a stream (flow 2,000 gallons), running to another Khosti. At $9\frac{1}{2}$ miles a village called Dowal is passed on the right. At $9\frac{3}{4}$ miles reach ziarat, where there is an excellent pool and a good supply of running water.

This is all the Gosha plain, the best cultivated place that I saw any where in Zhob, inhabited by the Kibzais. Large numbers of sheep can be obtained here.

The track then passes the villages of Hustai and Shamanzai on the left and keeps north to $10\frac{1}{2}$ miles where the track from Apozi over the Torghar-Babarghar kotal cuts our road. Then north north-east to 11 miles passing the villages of Umarzai and Khwastai on the left. From here (11 miles) the track enters the Gus Sham (grass plain) running almost due north, and rising gradually over small ridges, with a *nala* on the right, to $13\frac{1}{2}$ miles. The cultivation has disappeared on the Gus Sham. Then descend north north-east to 16 miles to

Route No. XLII—continued.

Babar villages, striking a hill on the right from which flows a stream of excellent water in a rocky bed to the Babar villages. The principal of these villages is Garda, the chief village of the Babar tribe. In these villages supplies ought to be procurable in considerable quantities. There is a large amount of cultivation, and I saw numerous flocks of sheep going towards the hills the following day, and there is any quantity of excellent water.

7	APOZAI (FORT SAN- DEMAN).	17	108
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After leaving the camping-ground near the Babar villages, the road runs in a direction north by west and leads up a *nala* to the *daman* at the foot of the Babarghar, which is reached at $\frac{3}{4}$ mile. This *daman* is stony and intersected by several *nalas* with easy banks.

There is camel-thorn growing here. The road runs across the *daman* in a north-east direction to $1\frac{1}{2}$ miles where the *daman* ends and a kotal is reached joining Babarghar with a hill called Surgbar. From here the road enters the head of a soft shaly *nala* (good going) and runs north. At 3 miles excellent water appears in the bed of the *nala*, visible flow about 50 gallons, though more could be obtained by digging; this water gradually increases in quantity till at $4\frac{1}{2}$ miles the flow is about 900 gallons. Here the *nala* inclines to the west to $5\frac{1}{2}$ miles, when it meets another *nala* draining the north-east of Babarghar. At $6\frac{1}{2}$ miles there is a short cut over the low hills on the left. The main track continues north-east along the *nala* for $\frac{1}{2}$ mile when it meets a large *nala* draining the east of the Siliaza Sir range, up which goes the road to Kapip and Spasta. (See Route No. XXXII.) The water has here again sunk below the bed of the *nala*. There are thousands of olive trees on the slopes of the Siliaza Sir and Babarghar. Direction of road north-west by north over a small plain intersected by *nalas* full of long coarse grass. At $7\frac{1}{2}$ miles the road reaches some little cultivation, mostly rice. Also water in a small banked up stream, and in the *nala*, flow 3,000 gallons, both excellent. Good grazing here for baggage animals. The baggage should follow the *nala* and not take the short cut as the *nala* forms a much better road.

Up to this point from the head of the *nala* the road passes through masses of low hills easily crossed by flanking parties; general height from 50 to 150 feet.

The road from this point passes between alternate spurs running from Babarghar and the Siliaza Sir till it leaves the hills in the Apozai plain about 6 miles from Apozai. General direction from this point is west.

At 9 miles, after passing a few small fields of rice, road passes the most northerly spur from Babarghar and also the last ridges running from the Siliaza range. At $10\frac{1}{2}$ miles the road continues down the *nala*, which is now 100 yards broad, passing low ridges from Babarghar on the left, and an open *daman* at the foot of the Siliaza Sir on the right. Here the track leaves the *nala*, which turns to the north-west, and keeps close to the stream of water, which is now about 5,000 gallons, to 12 miles. Here the village of Hasanzai is passed on the right. At $13\frac{3}{4}$ miles the track skirts a small group of hills on the left up to $14\frac{1}{4}$ miles. From here the road runs west south-west to 15 miles, then west to $15\frac{3}{4}$, skirting round the group of hills. At this point the track passes a few rocky ridges on the right, on which the *thana* is now being built, and also a garden with a small water-mill capable of grinding about 4 or 5 maunds in 24 hours. At 17 miles reach camp, $\frac{1}{2}$ mile north of Apozai. There is excellent grass to be had in the hills at the foot of Babarghar. Also excellent water, wood plentiful, and camel grazing inexhaustible. A fair number of sheep are also brought in for sale. Post and telegraph offices.

From Apozai there is a good made road—unmetalled—for pack transport. Room to encamp a division at any of the stages between Apozai and Khajuri Kach.

8	BARUNJ	13 $\frac{1}{4}$	121 $\frac{1}{4}$
9	SAPAI	10 $\frac{1}{4}$	131 $\frac{1}{2}$
10	MIR ALI KHEL . .	11 $\frac{1}{2}$	143
11	MOGHAL KOT . .	14 $\frac{1}{4}$	157 $\frac{1}{4}$

Water and camel grazing plentiful; wood and forage scarce at Barunj. Supplies.

Water, fuel and camel-grazing plentiful; forage scarce. Elevation, 3,950 feet.

Military post. Post and telegraph offices. Small bazar. Water, fuel and camel-grazing plentiful; forage scarce. Elevation, 3,650 feet.

Military post. Post office.

Route No. XLII—continued.

Moghal Kot (height 3,150 feet) lies on the northern end of a small plain or rather the *daman* at the foot of Shinghar. General breadth of plain $2\frac{1}{2}$ miles. It commands the entrance to this plain on the north as Talkhan Kot did on the south. Like the latter it also is situated on a hillock about 100 feet above the river bed, and has also been deserted for the last 30 years. A mosque and three out of the four towers are well preserved, but the surrounding wall requires repair. Tamarisk abounds in large quantities along the stream above Moghal Kot.

The Zhob river here has an average breadth of 400 yards, the water running over boulders about 1 foot in diameter. The right bank is steep and from 15 to 20 feet high; the left bank is shelving and skirts a range of high hills. Water from the Zhob is sweet and clear. Ample space for camp; supplies scanty camel-grazing abundant; wood and forage scarce.

12	KUCHMINA . . .	7	164 $\frac{1}{4}$	Wood, water, and camel-grazing plentiful; forage scarce. Elevation, 3,400 feet.
13	KHAJURI KACH . . .	13 $\frac{3}{4}$	178	At the junction of the Gumal and Zhob rivers reach Khajuri Kach, which is simply the broad bed of the river before it enters the Gumal Pass. Elevation, 2,500 feet.

There are no supplies of any kind to be obtained here, as the *Powindahs* use up all the wood and grass that might be procurable.

Camping ground for a division. Water abundant, but very brackish.

The Zhob river, from its junction with the Zermandai *nala*, flows between precipitous banks 30 to 40 feet in height. The river bed is thickly strewn with boulders from 6 inches to 2 feet in diameter. The general breadth of the river bed is at the Zermandai junction about 200 yards, and at Khajuri Kach 900 to 1,000 yards. The flow of the Zhob, just before it joins the Gumal, is about 40,000 to 45,000 gallons. The Gumal river also flows between precipitous banks 30 feet high, and its bed is about 200 yards broad at its junction with the Zhob.

Above this junction the flow of the Gumal is 30,000 gallons.

14	NILAI KACH . . .	15	193	Leaving the camp at Khajuri Kach, the road descends the stream in a northerly direction for $\frac{1}{2}$ mile, and then crossing a small kotal (35 feet), passes a graveyard and descends into the <i>nala</i> leading up to the Gwaleri kotal. The <i>nala</i> here is at least 60 yards broad and has
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vertical banks of conglomerate or pudding stone 30 to 40 feet high and runs in an easterly direction up to 2 miles. From here the road turns north-east, and passes between two rocks which should be blasted. The *nala* then narrows and shale and rock are intermingled up to the kotal. At $2\frac{1}{4}$ miles the road enters what was the first bad *tangi*; but now it presents no difficulties to any transport. Minimum breadth 8 feet. Here the road again turns east to $4\frac{1}{4}$ miles passing through what were two bad *tangis*, but which have now been widened like the first. The general slope of the *nala* bed up to here is about 1 in 18. This point is the foot of the ascent to the kotal. This ascent is made by the new road which is now passable for all transport, although in descending on either side wheeled traffic would have some difficulty, and drag ropes will be required. The east side of the kotal is by far the most difficult owing to the steeper gradient and sharper angles.

The crest of the kotal is $4\frac{1}{2}$ miles from Khajuri Kach and is 3,600 feet high. On the east side the steepest gradient is 1 in 7. The road descends to the foot of the kotal on the east by a zig-zag path made by the Waziris, into the head of a *nala* (4 or 5 yards wide) at $5\frac{1}{2}$ miles. This *nala* winds round Garh Sir, till at 8 miles it is joined by the *nala* from the Manzai Kotal, and at $8\frac{1}{2}$ miles it meets another *nala* running in from the south. Up to this point the road, or rather, *nala*, has been winding round the alternate spurs from Garh Sir on the left and the high hill on the right. At its junction with the Manzai *nala* the hills

Route No. XLIII—concluded.

open out slightly and the *nala* passes through a small *daman*, where it has vertical banks of conglomerate (which has begun to appear again), 30 feet high. It is here about 40 yards broad, widening to 60 yards, where it meets the second *nala* from the south. This second *nala* leads due south by the Sharai Pass into the Zao Pass, and from the Zao by Kamal Kulia into the valley of the Lohar, up which, passing through Kapip, there is a good road to Apozai (see Route No. XXI.)

From $8\frac{1}{2}$ miles the road runs north and almost immediately enters a small *tangi* about 250 to 300 yards long with vertical sides of conglomerate 60 to 80 feet high and commanded by a hill at either end. From $8\frac{3}{4}$ miles the *nala* passes through low hills most of which fall sheer down into the *nala*, which is here 200 yards broad. Direction from $8\frac{1}{2}$ to 11 miles east south-east. At 11 miles the *nala* bends round a very precipitous conglomerate hill and turns north to 12 miles, where the country opens out on the right. This place is called Mashkanai. The road still follows the *nala*, which gradually turns north, up to 13 miles. Here it enters the Nilai Kach plain, and at 14 miles the camping ground at Nilai Kach is reached (height, 1,725 feet). Water is procurable from a *nala* which skirts the east and north of the camping ground. Flows 300 gallons. Water good and clear. There is wood near Mashkanai and on the road down, but there is none in the immediate vicinity of the camp, and grass is very scanty.

The camping-ground is good and of fair size, but the low hillocks on the west of the camp should invariably be held by picquets, as from this direction thieves, etc., would try to enter the camp.

15 GUMAL THANA

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From Nilai Kach the road runs north, crossing the *nala* which winds round the camp, and then runs straight towards Girni Sir, skirting a small hill, on to another plateau. This spot would also make an excellent camping ground for a small force, though more stony and not so

large. The road crosses this plateau and descends into a *nala* at 1 mile, then ascends the grey clay hills which skirt the Gumal stream on the east. The stream here has a flow of quite 80,000 gallons. At 2 miles descend again to the Gumal river bed, which is followed north north-east to $4\frac{1}{2}$ miles, where it makes a bend to the south-east to $7\frac{1}{2}$ miles. Up to $4\frac{1}{2}$ miles the hills flanking the stream have been principally clay or soft earth, from here they are mostly conglomerate. The river bed is about 400 yards wide and covered with large boulders. The road between $4\frac{1}{2}$ and $7\frac{1}{2}$ miles crosses the stream several times, and then skirts Girni Sir on the north, and 2 long spurs on the south, reaching Narai Kach at 8 miles, a small spit of open ground running in from the left.

The road on leaving the stream crosses a small *raghza*, and then passing over a low kotal which has two easy paths over it, it descends at 10 miles on to the plains. From here it runs over level country, past the militia post of Martaza, to the Gumal Thana.

Route No. XLIII.

FROM DERA GHAZI KHAN TO LORALAI BY FORT MUNRO.

Authority.—ROUTES IN BENGAL, No. 652A., 1891.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter- mediate.	Total.	
1	GADAI	9½	9½	At Dera Ghazi Khan, cantonment and small civil station. Supplies and water abundant; camp ground 1½ miles from the cantonment. Starting from Dera Ghazi Khan the road runs practically level to the Gadai camping-ground. There is a rise of 25 feet in the 11 miles. The road is unmetalled, 24 feet wide, and in

dry weather is hard and good for wheeled traffic, short portions which are rendered heavy by saltpetre have been laid with grass 9 feet wide.

In one place past the 5th mile, and from the 7th mile on, owing to the liability of the road to be flooded from the bursting of cultivators' bunds, paved gaps have been built at intervals along it. The road runs through cultivation, and good water is to be obtained in abundance from the cultivators' wells along the route. Wood and grass are also fairly plentiful. Water obtainable from wells, all within a few hundred yards of the camp. Supply plentiful, but reported somewhat brackish, although fit for drinking.

2	TOMBI WALA	10	19½	From Gadai to Ramgarh the road is practically level. It is in process of metalling, being now nearly complete. Flood gaps have also been built where necessary. The metal is brick laid 9 feet wide, the road being 24 feet wide. Past the 15th mile the sand hills are entered,
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and the road follows the surface of the country to Tombi. The steepest grade is 3 in 100, and this only for very short distances. This length of the road is laid with grass fascines, 9 feet wide in all soft places. At mile 13 and at Ramgarh there are Government wells; the water of the latter is brackish but can be drunk when the well is in constant use. Between Ramgarh and Tombi no water is to be obtained. On the Tombi camping-ground there is a well about 200 feet deep, the water is good, but drawing it is a long and tedious process. Arrangements in progress for a steam-pump; cultivation ceases about 2 miles beyond Gadai, and there is no wood or grass to be obtained along the route.

3	SAKHI SARWAR	9½	29	Average rise per mile 40 feet. From Tombi to mile 25½ the road is practically level. This length is being metalled 9 feet wide with stone ballast. Near the 26th mile the Mukam Wah is crossed. This <i>nala</i> sometimes after rain runs about a foot of water, but at
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other times is dry, and is always passable. After crossing the *nala* the roads enter a small range, called the Kohri hills; it runs over and leaves them just before mile 27. The road is about 18 feet wide at the narrowest point, and the steepest grade is 4.67 in 100, which is only for a short length. The soil is naturally firm and hard. From the Kohri hills to Sakhi Sarwar the country again becomes sandy, and the road is here being metalled with stone. The road follows the surface of the country and is practically level till the Khaki Wah is reached just before coming into Sakhi Sarwar. This *nala* is about 80 feet wide, and after rain often runs 5 to 6 feet of water, rendering the road impassable for probably 8 or 9 hours after the rain has ceased. After crossing the *nala* the road runs up through a cutting for about 170 yards, the gradient being 5 in 100. No water is available between Tombi and

Route No. XLIII—continued.

Sakhi Sarwar. There are a few stunted trees scattered here and there between the Kohri hills and Sakhi Sarwar, from which as small quantity of wood could be obtained. Grass there is *nil*. *Cherri* can be obtained in small quantities in the cold weather. Good water from one well, 200 feet deep. Few supplies procurable.

4	RAKHIGORGE . . .	16	45
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Average rise per mile 94 feet. From Sakhi Sarwar to mile 34 the road runs through hard stony ground, and is about 24 feet wide, the steepest grade is 20½ in 100. Some small *nalas* are crossed, none of which, however, are ever rendered impassable after rain. At mile

34 the Methawan *nala* is reached; this is a broad *nala* with at present two *channels*, one at each bank. After rain this is sometimes impassable for a few hours. From here to Rakhi Munh the steepest grade is 3 in 100. The road is hard natural soil. This is sometimes impassable after rain for a few hours. Just before mile 36 the Rakhi *nala* is crossed for the first time.

At Rakhi Munh there is a small camping ground. The average rise per mile from Rakhi Munh is 78 feet. From Rakhi Munh to Rakhigorge the road is hard and good, and averages 24 feet wide. At mile 44 the first track to the camping ground at Rakhigorge leaves the road; this is the cavalry path, the infantry path leaves the road about half a mile further on, and the artillery path at mile 45. These paths are all 6 to 8 feet wide, and their gradients are 12 to 16 in 100. The average gradient of the road from Rakhi Munh to mile 44 is 4 in 100, but there are portions of it as much as 6 in 100. No water is available between Sakhi Sarwar and Rakhi Munh. At Rakhi Munh there is a well of good water. At mile 44 a trough has been built 50 feet long and a tank fixed; this will be supplied with water by means of a pipe from the Rakhigorge camping-ground. There is no grass or wood to be obtained between Sakhi Sarwar and Rakhigorge.

5	KAR . . .	13	58
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Average rise per mile 190 feet. From Rakhigorge to Girdoo the road runs through a gorge in the hills and then along the Girdoo valley. The surface is everywhere hard and stony. The narrowest parts of the road are 15 feet wide. In all dangerous places the road is

provided with dry stone parapet walls. The average gradient is 4 in 100, and the maximum 6 in 100. Just after mile 48, and again before mile 51, the road crosses the Rakhi *nala* for the second and third times. After heavy rain these crossings are impassable for some hours. At mile 51½ the small auxiliary Girdoo camping-ground is reached. From here to mile 55 the grade is almost entirely 6 in 100. At mile 51¾ the road crosses the Rakhi *nala* for the fourth time; here the *nala* is also impassable after heavy rain. At mile 53½ Limond's Gap is reached. Here the Rakhi *nala* is crossed for the fifth time by a bridge of 3 spans of about 22 feet. From mile 55 to 56½ the maximum grade is 3.66 in 100. From mile 56½ to Kar, mile 58, the grade is 5 to 6 in 100 throughout. Water is plentiful between Rakhi gorge and Kar. A pipe runs down the hill from Kar, and tanks and water troughs have been fixed and built at Girdoo, Limond's Gap, and at mile 55½. There is practically no wood to be obtained between Rakhigorge and Kar. Grass of a coarse inferior quality can be obtained on the hill-sides.

There are Public Works Department rest-houses at Rangarh, Sakhi Sarwar, and Rakhi Munh, along the route from Dera Ghazi Khan.

Kar is situated in a cultivated valley (1 mile long by ½ mile broad) surrounded on all sides by rocky hills, accessible by infantry; hills rise above valley from 600 feet to 1,000 feet. Camping-ground—(200 by 350 yards) has stone *burdashtkhana* in an unfinished state.

Another camping ground at 59th mile-stone (200 by 400 yards).

Water reservoir by camping-ground, average contents, 23,000 gallons. Covered in spring; fitted with taps, mile from road. Water excellent. Grass abundant, but very poor in quality, chiefly *khawi* and *babur*. Wood very scarce, obtainable in small quantities from surrounding hill sides. Chiefly *kao* and *phula* trees. Also quantities of *puttar* bushes, which make excellent matting and ropes. Other supplies.—Quantities of sheep and goats obtainable.

Post and Telegraph Office.—Stone out-houses, old stone serai, fruit garden and engineer's bungalow ½ mile from the road. Fort Munro, 2 miles south-west; 1,000 feet above Kar; consists of 9 pukka-built houses, inhabited only from April to October.

Route No. XLIII—continued.

6	RAKHNI (ROTAH)	11	69	On leaving Kar the road enters the Bewatta Pass, and runs in a northerly direction. Road unmetalled, but hard, average breadth of roadway 12 feet. Excellent for all arms. To the 60th mile-stone the road ascends 1 in 28 $\frac{3}{4}$ and then winds down the eastern slope of the pass for 8 miles at an average gradient of 1 in 28. Steepest gradient 1 in 16. The heights on either side rise from 800 feet to 1,000 feet above the road, are rocky, but accessible by infantry.
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At the 67th mile-stone the road emerges on to the Rakhni plain, and to the 69th mile runs through cultivation on an embankment 5 feet high, crossing 13 small wooden bridges (average length 8 feet, roadway 16 feet, height above bed of *nala* 5 feet) about equi-distant apart. It then crosses the Rakhni *nala* (200 yards broad, 6 feet deep, banks sloping, ramps 1 in 19), which is usually dry, but liable to sudden floods in March, July, and August, when it is often impassable for a few hours. Camping-ground On right bank ample space in all directions. Brick *burdashtkhana*. Water.—Well on left bank by road (22 feet deep, average contents, 1,050 gallons), also a succession of pools (averaging 30 by 20 yards) in the bed of the *nala* commencing 1 mile south. Water excellent and abundant. Grass abundant, but very poor in quality, and quickly consumed by the enormous number of animals grazing always in valley. Principal grasses are *khawī* and *babur*. Wood.—None obtainable on the spot. Obtainable 5 miles distant on the surrounding hill-sides, chiefly *phula* and *kao*. Also quantities of *puttar* bushes. Other supplies.—Quantities of sheep and goats obtainable. Rakhni Outpost 2 $\frac{1}{2}$ miles south. Deserted village on left bank of *nala* by road surrounded by 10 foot mud and stone wall. No permanent villages now existing. From here a road goes to Drug (*see* Route No. XXXV B).

7	RANKHAN	15	84	Three miles south-west is the Budi Pass, through which a bridle path leads to Mir Haji Kot. From Rakhni the road runs in a northerly direction, and for the first 3 miles traverses the plain. The ground on each side for a distance of 2 miles from the road being excellent in dry weather for movement of troops, but the soil is light, and would be cut up by artillery or wheeled transport. In wet weather it is extremely boggy. At the 72nd mile-stone the road crosses the Churi <i>nala</i> (6 feet deep 60 yards wide, banks a very gradual slope) which issues from the Churi Pass, 2 miles.
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Half a mile further on the road crosses a branch of the Churi *nala* (10 feet deep, 8 feet wide, banks perpendicular, ramps 1 in 15), and at the 75th mile-stone crosses the Khandali *nala* (20 feet deep, 8 yards wide, banks perpendicular, ramps 1 in 20); at the 78th mile-stone, the road crosses the Chang *nala* (15 feet deep, 20 yards wide, banks perpendicular, ramps 1 in 22) and enters the Chang Pass and winds on a level along the eastern bank of the *nala* to the 81st mile-stone. This bit of the road is impassable for artillery, the road being washed away in many places, and is only passable by cavalry and infantry in single file in some places. The *nala* contains running water.

The heights on either side rise from 500 feet to 800 feet, are rocky, but accessible, by infantry. At 80 $\frac{1}{2}$ miles are the remains of a stone bridge (5 feet high, 2 arches, roadway originally 15 feet), which is impassable, having been destroyed by floods. Half a mile further on the road again crosses the Chang *nala* (30 feet deep, 25 yards broad, banks perpendicular, ramps 1 in 16) and enters Rankan Sham, a grassy plain, in the centre of which is the Rankan outpost and an Engineer's bungalow. All the *nalas* crossed are usually dry, but are liable to floods in March, July, and August, when they are often impassable for a few hours. Camping-ground.—Ample space in all directions. Water.—Well near Engineer's bungalow (average contents, 840 gallons) and $\frac{1}{2}$ mile from road are 2 pools (averaging 40 by 50 yards and 3 feet deep). Water drinkable, but bad, especially in August, September, and October. Grass abundant, but very poor in quality, chiefly *khawī* and *babur*. Wood plenty, obtainable 2 miles distant on the hill sides, chiefly *kao* and *phula*. Other supplies.—Sheep and goats in abundance. No permanent villages at present existing, but the Khetrauis are beginning to cultivate the plain extensively, and in years to come might be reckoned on for supplies.

Elevation, 4,200 feet.

Route No. LXIII—continued.

8	KINGRI	16	100	<p>From Rankhan the road runs in a northerly direction over the plain for $3\frac{1}{2}$ miles. Road unmetalled, but hard and excellent for all arms. Roadway 15 feet. The road then crosses the Budisir <i>nala</i> (30 feet deep, 10 yards broad, banks perpendicular, ramps 1 in 22) and enters low, rolling, stony hills, of easy access to infantry, which sort of country it averses as far as Kingri. From the 87th mile-stone to the 88th, the road rises 1 in 22, then runs level, and at 90th mile crosses the Rara <i>nala</i> by an iron bridge (27 feet long, roadway 14 feet, height 12 feet), and enters Rara Sham, a grassy plain of $1\frac{1}{2}$ square miles, excellent in dry weather for movement of all arms. At the 93rd mile-stone the road crosses the Gandhera <i>nala</i> (20 feet deep, 5 yards wide, banks sloping, ramps 1 in 22), passes a spring of water in the bed of <i>nala</i>, and follows the bank of the <i>nala</i> to the $94\frac{1}{2}$ mile, when it enters Gandhera plain of 1 square mile extent and grassy, on leaving which the road again crosses the Gandhera <i>nala</i> (30 feet deep, 17 yards broad, banks sloping, ramps 1 in 22), and at the 100th mile-stone reaches Kingri outpost. All the <i>nalas</i> crossed during the march are usually dry but are liable to floods in March, July, and August, when they are often impassable for a few hours. Kingri is situated in a hollow, surrounded on all sides by hills, rising from 200 to 800 feet above it. Camping Ground.—Ample space in several directions. Water excellent and in abundance. Pools in bed of <i>nala</i>, and 2 springs $\frac{1}{2}$ mile south of the road. Grass of a very poor quality obtainable. Good grass obtainable high up in the hills in the spring. Wood plentiful on the spot, chiefly <i>kao</i> and <i>phula</i>. Other supplies.—Quantities of sheep and goats obtainable. Post Office and Telegraph Office and <i>dâk</i> bungalow by the road. From Kingri the Loralai road runs west. Elevation, 4,000 feet.</p>
9	SARADAKA	22	122	<p>Cross Kingri river up to Sandwell kotal, 5 miles over roughish ground. For the next 4 miles to Kajuri, where there is brackish water in pools in river-bed; next 7 miles to Dub over hard mud, heavy going after rain; road partly metalled. Good water obtainable at Dub. Five miles on to Saradaka over similar ground to last, steepest gradient on road 1 in 35. Country stony and uncultivated. River at Kajuri Kach unfordable after heavy rain. Camping-ground good; water good and plentiful, also wood. Grass, good supply, mostly <i>khasa</i> and <i>katal</i>. Bungalow; water plentiful and of fair quality. Intermediate camping-ground between Saradaka and Kingri not recommended owing to scarcity and bad quality of water, and camping-ground liable to floods. Halt for one day after forced march.</p>
10	MEKHTAR	$11\frac{1}{2}$	$133\frac{1}{2}$	<p>Over open plains to Mekhtar Pass, 9 miles, easy going; steepest gradient on road, 1 in 38. Grass and wood procurable from Terachin hills, about 7 miles south of Mekhtar. Country barren and uncultivated. No water on road. Descend gradually to Mekhtar village; levy post and bungalow 1 mile further on. Fairly cultivated. Telegraph wire passes through here. An office could be established when required. Spring yielding about 1,500 gallons an hour, good water, used by village, and supply therefore limited. Camping-ground good. If the water is taken from the source at foot of hills about three fifths of a mile from camp, it would be found to be of better quality than when taken from spring channel.</p>
11	TOR	13	$146\frac{1}{2}$	<p>Roughish ground; most of the way among low hills and over stony plains to Sehan river; steepest gradient does not exceed 1 in 40. Wood and grass can be obtained from the Woolena hill. Five miles south-east of camping-ground. Water is also obtainable from the Malazai <i>nala</i>, 9 miles from Mekhtar. This <i>nala</i> is unfordable after heavy rain. Ten miles cross river; then smooth plain to Tor. Small Public Works Department hut here. Little cultivation. Camping-ground good; water good and plentiful. Should be taken from spring coming from under the road about 200 yards west of present road bungalow. Another spring on the north side of Tor hill might supplement above supply.</p>

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XLIII—concluded.

12	WAHAB	15	161½	Road passes over undulating plains north of Anambar signal hill; then turns southwards round western slope of hill. Steepest gradient not exceeding 1 in 48. Camping-ground on the Sial river, near Civil Works bungalow. Good cultivation. Camping-ground good.
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Water good and plentiful. Drinking water should be taken from aqueduct carrying water to supply village. Animals should be watered from pools in river-bed below *bund*. There is a fine spring at China, 2½ miles to the south-west.

Wood very scarce, a small amount of drift-wood obtainable in *nala*. Grass can be obtained from Kṛno and Anambar hills, which are 8 miles off. Very little cultivation till the 13th mile is reached. There are three *nalas*, unfordable after heavy rain, on the road. At 3rd mile Kot-kai *nala*, in which water remains in pools, even in the driest weather. At 6th mile Wataghan *nala*. At 13th mile Mora tangi. At the 10th mile a *karez* crosses the road.

13	LAHOB	10½	172	Road partly raised and metalled. Ascent 1 in 50 for first mile. Passes through cultivation most of the way. Very heavy in wet weather, soil mostly clay. Wood scarce, but a certain amount could be collected from the hills if notice were given beforehand. Grass
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not obtainable, but *cherri* and *bhusa* can nearly always be procured. Water from a *karez* at 4, and at Shahbozai, 7 miles. Camping-ground good. Water good and plentiful from *karez*.

14	LORALAI	10	182	Over plains, with occasional cultivation — unmetalled road, very heavy in wet weather, but practically level the whole way: about a mile can be saved by leaving the road at the 8th mile and going to the south over some low hills. Water is obtainable on road at Martab,
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2nd mile, at the 6th mile from a *karez* about 400 yards south of the road, and at the Babai *nala* at 8 miles; this *nala* is unfordable after heavy rains. Loralai garrison, cantonment, and small civil station, post office, telegraph office, and *dāk* bungalow. Camping-ground for a division close to cantonment. Water abundant and forage plentiful. Fuel and camel grazing scarce. The most likely months for rains sufficient to render the *nalas* unfordable are July, August, September, January and February.

Route No. XLIV.

FROM DERA GHAZI KHAN TO KOT MUHAMMAD KHAN BY FORT MUNRO.

Authority.—ROUTES IN BENGAL, No. 652B, 1891.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
8	KINGRI	100	100	From Dera Gazi Khan to Kingri see Route No. XLIII.
9	KOT MUHAMMAD KHAN	18	118	From Kingri the road runs north, is unmetalled, and only a fair-weather road. Is in an incompleated state, no cuttings having yet been made or <i>nalas</i> ramped. Roadway 12 feet. For the first ½ mile the road rises 1 in 12 crosses, Kingri <i>nala</i> (40 feet deep, 60 yards wide,

sloping banks 1 foot of running water in bed), and enters a stony plain of one square mile in extent, which is surrounded on three sides by the *nala*. At 2 miles the road enters

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XLIV—concluded.

rocky hills, rising from 800 to 1,000 feet on either side, accessible by infantry, and for the next 2 miles passes over a series of ridges at an average gradient of 1 in 13. Steepest gradient 1 in 7. The road then descends 1 in 19, and at 5 miles again crosses the Kingri *nala* (6 inches deep, 30 yards wide, banks perpendicular, 6 inches of running water in bed). From here the road follows the bank of the *nala*, crossing it at 5½ miles, 5¾ miles, 6 miles, 8 miles, and 11 miles (average depth 6 feet, width 60 yards, banks perpendicular, 6 inches of running water). From 13 miles, which is as far as the road is completed, is a bridle path which follows the bank of the *nala*, crossing it at 14 miles and 14½ miles. (Average depth 8 feet, width 60 yards, banks perpendicular, 6 inches of running water.) At 17½ miles, path crosses the Rod *nala* (100 yards broad, 8 feet deep, 6 inches of running water in bed, banks perpendicular) and ½ a mile further on reaches Kot Muhammad Khan fort, which is situated at the junction of the Rod and Kingri *nalas*. On this march there is an abundance of wood and water. All the *nalas* are liable to sudden floods in March, July, and August, when they would be often impassable for a few hours. The road also at those seasons would be impassable to troops, the soil being very sandy and light. Camping-ground, ample space; water, running in bed of *nalas*, abundant; grass, scanty, and very bad in quality; wood plentiful; other supplies, sheep and goats in abundance. From here Route No. XXXV goes to Mangrotah.

Route No. XLV.

FROM DERA GHAZI KHAN TO KALA ABDULLA KHAN *viâ* CHOTA BALA, RAKHNI, AND THE BORI VALLEY.

Authorities.—MAITLAND; SANFORD; GASELEE; SAWYER; DAVIES; GARBETT;
ROUTES IN BENGAL, No. 652A, 1891.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	KOT CHOTA . . .	14	14	Dera Ghazi Khan is 395 feet above sea-level Unmetalled district road (Rajanpur road), but in dry weather hard and suitable for wheeled traffic. The country is perfectly flat, and the road is liable to inundation after May, and would be impassable during the rains. It should be em-
2	CHOTI ZARIM . . .	10	24	banked to a height of 4 feet the whole way. All watercourses are bridged. A rest-house has been built at Kot Chota. Supplies obtainable; grass scarce; water plentiful. This place is called also Choti-ki-Kot. Road branches off the Rajanpur road in a direction south to south-west. Good all the way, but, like that above described, is flat and liable to flooding; suitable for wheels. The two principal bridges are <i>pucka</i> . Water plentiful; grass and wood scarce. There is a rest-house here. Elevation 445'.
3	CHOTA BALA . . .	17	41	The road is not fit for driving, and is for the greater part of the way through deep sand in the beds of rivers. Is much intersected by irrigation dams. No water on the way. Liable to floods after rain, and the streams are here so wide that they could not well be bridg-

ed. About 12 miles a large sandy *nala* is crossed, usually dry. Two miles from Choti Bala the track leads across undulating stony ground. Supplies procurable; good camel-grazing and grass, but fuel scarce. Water from a *karez*. There is a rest-house here, and a deep disused well close to it. Elevation 584'.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XLV—continued.

4	ZIRADHAN . . .	12	53	The road crosses a wide sandy <i>nala</i> , and then enters a chain of soft crumbling conglomerate hills, through which a good camel road has been made. For 5 miles it runs in a westerly direction; then it runs north-west up a small <i>nala</i> , and over a small kotal at 6½ miles,	
whence it drops 100 feet on to the Ziradhan high-level plain. It runs over this plateau, which is stony, and much cut up by ravines, to the bungalow at Ziradhan. There are a few pools of water in <i>na.a</i> bed at 7 or 8 miles, a scanty supply. Just to the north of Ziradhan bungalow there is an excellent spring, but the water would have to be collected and stored in tanks, as it comes out slowly. Camel-grazing, grass, and wood abundant. No supplies.					
A more direct road than the above might be made from Dera Ghazi Khan to Ziradhan—crossing the inundated ground by the shortest line, the hill torrents at points where they can be bridged, and striking the foot of the hills at a higher level than Ziradhan. Wells or other water-supply should be provided at every 5 miles at least. Elevation 1,745'.					
5	KAR . . .	10	63	A fair road has been made the whole way, which, however, is steep for camels. It leads over hills consisting of crumbled rocks, mixed with sand and clays, and occasional portions of solid rock. In the first 3¼ miles it rises, by a zig-zag path, a height of 2,784 feet; track steep	
but good. At about 3 miles there is a small flat space suitable for a halting ground, but there is no water. The road then rises 721 feet on to a second ridge, which it tops at 4¼ miles, having risen about 3,000 feet in that distance, giving an average gradient of about ¼. From here the track descends 300 feet in half a mile on to a saddle, which joins the main Fort Munro hill to the eastern range just traversed. This unnecessary 300 feet of rise might be easily avoided by coasting the hill on the north side and coming out at the level of the saddle, instead of climbing over the hill. The west face of this hill, to the south of the saddle, is very precipitous. From the saddle there is a steep climb of 330 feet to Buzkushi. Here there is a sort of plateau, or basin in the hills, forming a good camping ground. There is a spring of good water, a little cultivation (wheat), and a garden with fruit trees, and good grass on the mountain-side. Wood and camel-grazing scarce. No supplies. At this point the remarkable down-like character of this part of the Sulimans begins.					
Hence a branch road to Fort Munro on the summit of the hill, 6,400 feet above sea-level. At Munro are fine open downs. There are several springs in the hill—none of them salt; and the water-supply generally is being improved by the erection of dams and other works. Two miles further on arrive at Kar (See Route No. XLIII).					
6	RAKHNI . . .	11	74	Vide Route No. XLIII.	
7	RANKHAN . . .	15	89		
8	KINGHI . . .	16	105		
9	SARADANA . . .	22	127		
10	MEKHTAR . . .	11½	138½		
11	TOR . . .	13	151½		
12	WAHAR . . .	15	166½		
13	LAHOR . . .	10½	177		
14	LOBALAI . . .	10	187		
15	ANGAND OF NIMGON	13	200		
A cart road the whole way to Pishin. Cross a kotal which leads out of the Loralai amphitheatre, whence the track lies chiefly over clayey soil through cultivation to a second Shah karez (5 miles). At 1 mile pass village Rodlin, and at 3 miles hamlet Lashtai. The track then continues at first over clay					

Route No. XLV—continued.

and afterwards along the left bank, which is very stony. River-bed best for wheels. Water all the way. About 7 miles pass within 3 miles of one of the numerous gaps in the northern hill range, called the Tokazai kotal, by which is the road into Zhob.

Room for a large camp, and plenty of good water. About 25 maunds of *bhusa* could be procured, otherwise no supplies. No fuel, except tamarisk, in the river bed. Elevation 5,515'.

16	KATS (AHMADZAI)	7	207	Track very stony and bad along left bank, which is much intersected by water-channels. Water all along the road. At 2 miles the Dand farm is passed on right bank, and at 3 miles Mir Haj Shah about half a mile to the right. Kats has 80 houses, 120 men, 80 women, 80 children, 60 bullocks, 30 donkeys. With one month's notice in summer could supply 500 maunds of <i>bhusa</i> ; in winter only 200 maunds of <i>kirbi</i> ; with a few days' notice, 100 maunds. Half the inhabitants emigrate to the Thal district for six months in the year.
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17	DURGAI	12	219	The track leads across a stony, barren plain for 4 miles, when it passes over a stony, rocky kotal. Wheels had best follow river-bed, which is quite easy. At 6 miles pass through hamlet of Chinali; a dozen houses and a little cultivation. From 8 miles lies over an open plain. Close to a flowing water-channel is Durgai, a small hamlet of 50 hovels, and about 100 adults and 30 bullocks. Water abundant. After a month's notice 500 maunds of <i>bhusa</i> , but in winter only 150 maunds of <i>bhusa</i> . No grass at any time. No sheep in winter. After two or three days' notice 50 maunds of <i>bhusa</i> and 50 of wood. Elevation 6,580'.
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The Siangai towers above Durgai. Beneath it seems to be the water reservoir of this part of the country,—its *karez*, extending 7 miles down the valley, beyond Chinali.

18	CHINJAN	9	228	Track difficult to find; crosses many ravines. Wheels had best stick to river-bed. Chinjan, a petty habitation of 70 hovels, 100 men, 70 women, 200 children, with a few trees and a little cultivation; has good and abundant water. No fuel. No supplies of any kind. Two-thirds of villagers disappear in cold season. Elevation 7,150'.
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After some notice in the summer months 1,000 maunds of *bhusa* could be collected from the Garmai valley at each of the three stages between this and Malazai.

Here Route No. 102, Vol. I, comes in from Loralai *via* the Kubar *tangi*.

19	OBASTKAI	6	234	Track mostly along banks, but river-bed would be preferable for wheels, which would find no difficulty beyond heaviness. At 3 miles pass hamlet Khalan, deserted in winter months. Good encamping grounds 1 mile short of Obastkai; plenty of water; no fuel; supplies from the Garmai valley to the south-east. Village of Garmai said to be 3 or 4 miles distant. Good camel-grazing. Grass can be collected.
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20	SPIRA RAGHA	13	247	At 1 mile pass village Obastkai on right bank. Small hamlet, deserted in winter months. Thence gentle rise for 6½ miles of about 100 feet in the mile to the Chari Mohmand kotal, 8,200 feet. Here is the boundary between Bori and Pishin districts; also between the Sanatia Kakars to the west and the Dumar and Saran Kakars on the east. Track passable for wheels. The high hills here contract, and the valley narrows. Descent on western side somewhat steeper, but there would be no difficulty in getting the necessary gradients for a cart-road. Plenty of firewood on hills round kotal, chiefly juniper trees, which could also be used for hutting troops. Track along bed of <i>nala</i> . Spira Raha is a basin in the hills.
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Two road bungalows and out-offices. In open space room for three units. Good spring. No supplies. No habitations. Fuel procurable. A track branches off southwards to the Zandar commissariat post, 12 miles. Elevation 7,900'.

Route No. XLV—continued.

21	MALOZAI . . .	12	259	Track up the river-bed; ascent easy, for 3 miles to the Ushtara Sira watershed, 8,200 feet passable for wheels. For next 3 miles a succession of parallel ridges, maintaining about the same elevation, are crossed. For this distance the soil is soft, red marl, extremely heavy
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going after rain. Would be difficult to make and maintain a road over this portion. At 4 miles a large open glen. Junipers scattered about, and scrub and water. Between 5 and 6 miles are the camping grounds of Dukan Kach. No houses. Just beyond this is a bad bit of road. Guns could pass after a little work. A fatigue party of 100 men could make this bit passable for carts in 3 hours. After about the 6th mile track follows the watercourse, one of the headwaters of the Surkhab, which gradually increases in volume, till, at about 13 miles, it is joined by a tributary from the north and becomes a good-sized river, impassable in flood. Pass village of Malozai at 10 miles; no supplies. Track follows river-bed; lofty rocky hills on both sides to Malozai road bungalow (two rooms) near excellent spring, 20 gallons per second. Room for several units in bed of river. No supplies. Scrub fuel enough for passing corps. Elevation 7,175'.

22	KHANZAI . . .	12	271	At 1 mile the valley opens out, and there is a considerable tract of cultivated land. At about 2 miles enter a defile, turning sharp to the left. The track leaves the watercourse, going to Yusaf Kach, on the right bank at 3 miles. Village of 50 houses; no supplies; 2 miles.
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Opposite, and in vicinity, room for several units. Water abundant. Elevation 6,900 feet. The bed of the Torghai can be followed. The new road is to stick to the left bank. A mile further on, leave the river bed. Track goes up left bank and leads through undulating sandy hills, till at 8 miles it crosses the Mochi kotal, 6,900 feet. Track passable for wheels. At 10 miles made road commences, being the new frontier road, and a large flat valley is entered; a good deal of the land, irrigated by *karez* being under cultivation. Khanzai is a small village. The district could furnish a few supplies, such as *bhusa*, grass, fuel, and sheep. Water abundant. *Vide* also Route No. XX. Elevation 6,250'.

23	SPRING CAMP . . .	7	278	} <i>Vide</i> Route No. 88, N.-W. F., Vol. I. From Pishin a cart track goes to Kala Abdulla Khan <i>via</i> Badozai, but this road is now superseded by the route <i>via</i> Said Hamid. (<i>see</i> No. 127, N.-W. F., Vol. I.) Leaving the fort, the road passes through the bazar, pass the commissariat godowns, and runs west through the low clay hills (which are entered at 1 mile and quitted at 3½ miles) to the Surkhab, and thence over the open plain to Haikalzai. Should it be necessary to halt at Haikalzai, 6 miles, there is a good camping ground north and east of the village. Water in an irrigation channel from Old Bazar. It is liable to be cut off. Supplies can be obtained here and from Karbala, about 3 miles north. Two water-mills, about 2 miles south-east. Elevation of Haikalzai, 4,880 feet. The road runs hence north-west over the plain, leaving Khwajazai to the left. At 8½ miles cross the Dori <i>nala</i> (dry). At 12½ miles another watercourse. At 13½ miles reach the left bank of the Pishin Lora, here 150 yards across, with very high precipitous banks. Stream is small, except after rain, but quick-sands numerous. The banks have been ramped, and except when the road-way is destroyed by the weather (as may happen any winter, or in July or August) the crossing is fairly easy for artillery. From the river the road continues over open country with a little thin jungle to Badazai (Khan Muhammad's village), which is passed at 15½ miles. Camping ground half a mile further on left bank of the Badazai <i>chur</i> , a large and deep watercourse, <i>bunded</i> some way down and containing water all the year round. Space for a division. Camel-grazing scarce. Elevation 4,800'.
24	PISHIN FORT . . .	12	290	
25	BADAZAI . . .	16	306	

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XLV—concluded.

26	KALA ABDULLA KHAN	9 $\frac{1}{2}$	315 $\frac{1}{2}$	Cross the Badazai <i>chur</i> , which has been ramped. Thence follow the road, leaving Tor Khel to the left. Large dry watercourses are crossed several times. About a mile from the post, pass over a low place in the last spur of the range, and descend through a burial ground from the small plain of Kala Abdulla Khan to this post the road in winter is apt to be very muddy and dangerous for camels.
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Route No. XLVI.

FROM SHAHRIG TO SIBI *via* SANGAN.

Authority.—O. T. DUKE.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	GUMBATI . . .	12	12	This road is very difficult, but is the chief link between the Harnai and Sangan routes. Passable for mules. Shahrig is stage 7, Route No. 115, N.-W. F., Vol. I. Road goes across Shahrig plain to Isparbaja kotal at about 5th mile; it next traverses the Gandabai in kotal; is everywhere passable for camels; grass and wood plentiful; perennial water in a pool supplied by a small spring in torrent bed draining from Zargun.
2	KAT	8	20	Directly after leaving camp the Torpajja kotal is passed; this is a difficult kotal, impassable for camels, passable for bullocks and mules; this kotal is about a mile in length; there is another kotal called Watkaman at about the 4th mile; after this kotal the road is good
into camp along the Kaman river-bed; grass, wood, and water abundant.				
3	SANGAN	6	26	Road good all the way into the Sangan village; at Sangan supplies of all sorts procurable.
4 to 8	} SIBI	46	72	From Sangan to Sibi <i>see</i> Route No. 132, N.-W. F., Vol. I.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. XLVII.

FROM SANGAN TO BOLAN PASS (HILL ROAD).

Authority — O. P. DUKE.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter- mediate.	Total.	
1	SARAZAWA . . .	18	18	Passable for bullocks. For Sangan see Route No. XLVI. Road obstructed by a high and difficult kotal called Dabback, otherwise good; impassable for camels, passable for mules; grass, wood, and water abundant; the latter in the Sarazawa spring.
2	TAKHRI TAKHT . . .	17	35	A difficult kotal, named Pishi kotal, close to camp; rest of the road good; grass; water abundant in a perennial pool.
3	KIRTA	12	47	Road good all the way. Kirta, a commissariat depot. (See stage 4, Route No. 115, N.-W. F., Vol. I.)

NOTE.—This is a native report; the road is a hilly one, not suitable for camels; the natives drive laden bullocks along it.

Route No. XLVIII.

FROM TUNG TO SIBI *viâ* THE ARAND PASS.

ALTERNATIVE TO THAT *viâ* NARI GORGE (ROUTE No. 116, N.-W. F., VOL. I).

Authority.—LIEUTENANT C. MAXWELL, R.E., 1884.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter- mediate	Total.	
1	MANDAI	6	6	The road after crossing the Bheji river lies over an open plain and presents no difficulties. Mandai is a small Mari village, with a little cultivation round it. Its water supply is by an irrigation channel led from the Bheji river, which expands itself in the fields about a mile

or so beyond the village.

Route No. XLVIII—concluded.

2	KAJJAK	19½	25½	From Mandai the road leads over a plain towards a gap in the range. This plain is covered with vegetation and affords excellent camel-grazing. So good is this camel-grazing that any force proposing to cross the pass and arriving at Mandai with tired camels is recommended to halt a day at Mandai for the sake of the grazing. About 4 miles from camp cross dry bed of rather wide <i>nala</i> . From this point low hills begin. At 6 miles the foot of the pass is reached and at 6½ the ascent fairly begins. At this point there are some pools of water on the left, but so salt as to be undrinkable. The ascent to the top of the pass, less than half a mile in length, commences gradually, and the gradients is nowhere excessive for laden camels. The descent is three fourths of a mile in length, and the gradients very steep in parts. A smooth path was cleared by the two companies of sappers and miners that took this route, wide enough for the passage of all kinds of baggage transport animals. At the bottom of the descent there is a small well of sweet water; it contains a mere drop, and it is impossible to improve the supply much, as the rock is reached at once. From the foot of the descent the road follows the bed of a <i>nala</i> for about 3 miles and presents no difficulties. The hills on either side are of the soft sandstone formation, peculiar to Baluchistan. At about the 11th mile a short steep kotal bars the way. This, though fit for the passage of mules, is bad for camels. It can however be avoided by this class of transport, by turning to the left in front of the kotal along a path leading to Thali, and again short to the right on getting through the ridge. This adds three-fourths of a mile to this stage for camels. For 3 miles more the road follows a <i>nala</i> bed, when the gorge, turning abruptly to the left, enters the Sibi plain. From this point the road runs west by south for about 5½ miles, up to the camping-ground near the village of Kajjak, good going the whole way. The village is a large one, containing forty bunniah's shops. Water plentiful, but rather muddy, from an irrigation channel, brought from Nari gorge. Camel-grazing plentiful. From Mandai to Kajjak the only drinking-water obtainable along the route is that in the small pool at the foot of the descent from the pass. After rain, a little could, no doubt, be found, and more dug for at intervals on the Sibi side of the pass. The nature of the soil is such that the path is exposed along its whole length to landslips and torrents, and after heavy rain the path would have to be re-made. The softness of the rock enables work to be done with wonderful rapidity, but exposes it peculiarly to the action of water.
3	SIBI	9	34½	Road traverses open plain, but is somewhat cut up by irrigation in the vicinity of the village of Kurk.

Route No. XLIX.

FROM DARWAZA (BOLAN) *via* MASTUNG TO NUSHKI.

Authorities.—MACGREGOR; LOCKWOOD; MAITLAND.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	MASTUNG	21	21	Leaving Darwaza at the entrance of the Dasht-i-Bedaulat, which is 60 miles from Dhadar, there is a direct route thence to Mastung. The direction of the route is south-west. It first crosses the south portion of the Dasht-i-Bedaulat, and then ascends by a steep zig-zag

Route No. XLIX—concluded.

a low pass; from this it descends to the bed of a ravine to which it keeps, and then entering a gorge between stony hills, 200 to 300 feet high, which at first is not more than $\frac{1}{4}$ mile broad, but which gradually widens to 1 mile, the road being rather stony. Keeping this for 3 miles, it then gets on to a plain, cut up by ravines, and goes over a light sandy soil right into Mastung. Here the road from Quetta to Nushki (Routes in Baluchistan, No. 64) is met. Mastung lies very low and is surrounded by walled orchards and gardens, which extend to south along the lowland for several miles. There are numerous *karez*s, or underground water channels. Camp usually on flats to south-east of town. Mastung $58\frac{1}{2}$ from Kalat *vid* Mungachar; supplies abundant; forage; water abundant in summer; barley always; camel forage rather scanty; fuel scanty.

2	BARALI	13	34	The road from Mastung to Barali is throughout quite good over a plain sloping east by north, at first cultivated. At 3 miles passes some ruined houses; at 11 miles crosses the Shirin Ab ravine and road from Quetta to Kalat <i>vid</i> Kanak; and at $12\frac{1}{4}$ passes close under the
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edge of a ridge. No water procurable, and fuel and forage scarce.

3	KURDAGAF	17	51	The road is good generally, except where it enters the hills, where it would require making to render it practicable. At first it goes over a plain, sloping gently to north-east to a ravine, which it ascends for 15 minutes to a pass (from here a road goes to Shalkot);
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from which it descends to the Barung ravine to the 5th mile. (Here small spring of water). It then goes for $5\frac{1}{2}$ miles over undulating stony ground, a good deal cut up by ravines (to the east of a low ridge and with the main range on the left) to some hills. It then goes up the Kurdagaf valley, over a gravel plain covered with camel scrub, to the halting-place at $4\frac{1}{2}$ miles; the road to Kundwah goes off to the right. There is water here from a *karez*; no fuel or forage, but the *dranna* bush.

4	GALANGUR	18	69	The road goes for 5 miles across the Kurdagaf over light soil through cultivation. It then ascends a low hill to a stream (20 yards broad, 1 foot deep, brackish water) which it crosses. From this for $4\frac{1}{2}$ miles it goes across the Gargina valley (which drains to the Khaisar),
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which is composed of light soil and is extensively cultivated, being irrigated by rain water collected by dams. Arrived at the other side of the valley, it crosses a low pass to a ravine which it descends for 4 miles to a larger ravine (the Galangur drains to the Khaisar) and continues down it to the halting-place. This ravine is somewhat stony, the bed 800 yards broad, and shut in by low, bare, stony hills, 50 to 100 feet high. Water good from pools in bed of a ravine. Very little forage, and no fuel.

5	NUSHKI	$18\frac{1}{2}$	$87\frac{1}{2}$	For the first mile the road goes down the Galangur ravine. There is then an ascent of 50 feet to the Ziarat Pir Lunga, whence it winds among low hills, 100 to 200 feet high for 3 miles to a "Cheda" (?) called Tulkhi. It then crosses a plain called the Alunji Damag,
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and enters a ravine, 300 yards broad called Kishing-i-Hasing, bounded by low hills, 50 to 100 feet high, and keeps it for 1 mile. Emerging from this, it crosses a plain (2 by 4 miles) called Kum-i-Murid to some low hills, through which it then goes for $4\frac{1}{2}$ miles to Ziarat-i-Mir Haibat. From this it descends gradually among low, bare, stony hills for three fourths of a mile to the Khaisar river, which here converges from the hills to the right. Crossing this, it goes for 3 miles over a stony plain to Nushki. The road is practicable, except through the hills between Kam-i-Murid and Ziarat-i-Mir-Haibat, which would require a good deal of making, though the gradient is easy.

For Nushki see Route No. LXXV.

Route No. L.

FROM KAWAS TO SHAHRIG BY THE KHUSHKI DEFILE. 1880.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
Kawas is stage 2, Route No. 120, N.-W. F., Vol. I.				
1	GHWASHKI . . .	12	12	South-east along the Ziarat road. See stage, Route No. 120, N.-W. F., Vol. I.
2	SHAHRIG . . .	18	30	A very bad mule road. From Ghwashki a track leads in a general south south-westerly direction over the hills towards Khushki (which is understood to be a cultivated plateau about 5 miles from Ghwashki). Thence it descends a ravine parallel to the

Khulezgi and apparently joins that road on the cultivated plateau, noted as being 8 miles from Shahrig.

This route was traversed by Major-General R. Phayre, commanding lines of communication and Sir Robert Sandeman, Agent, Governor-General, Baluchistan, in May 1880. The former states that the ravine by which it reaches the valley of Shahrig can only be made practicable for laden animals by skilled labour. This remark apparently refers to the ravine running down from Khushki.

Shahrig is stage 7, Route No. 115, N.-W. F., Vol. I.

Route No. LI.

FROM KAWAS TO SMALAN BY THE GAWANZA NARAI AND PUI.

Authority.—CAPTAIN SHOWERS, 1879.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	MANOT OR MANA . .	13½	13½	A camel road. From Kawas, eastwards, up a watercourse which enters the valley about 2 miles from Kawas town. The road is bad. The watershed of this is reached at about 8 miles, and the track then descends a <i>nala</i> running north-east to the Zargai or Mana watercourse, which is

reached at about 9½ miles. Thence turn to the right (east) and ascend a tolerably open valley to the Saraburkai *tangi*, through which the road passes. Beyond it the valley is again open, and there is scattered cultivation. A splendid stream of water runs down and disappears in the stony bed of the *tangi*.

Camp at 13½ miles. Some *bhusa* is probably procurable in the neighbourhood, but no other supplies. Room for one regiment. Forage plentiful; fuel and camel-grazing scarce.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. LI—concluded.

2	GAWANZA	8½	22	Eastwards up the valley. At 1 mile is Manot, or Mana, Sar (presumably the head of the cultivation or of the water). Thence ascend for 3 miles to the watershed known as Gawanza Narai (8,960 feet). Bad road. Descent down watercourse for 4½ miles to Gawanza is equally difficult; the latter is a very small, poor place. The people here are Spin, Tarin, and Zakpel Dumars, but the country is that of the Sarangzai Kakars. Room for one regiment. Water plentiful, forage, fuel, and camel-grazing scarce.
3	PUI	16	38	Eastwards down watercourse to Tand Salam (about 6 miles P), and then turn south and cross the Zhariband or Chariband kotal to Wach Salam, 8½ miles. Thence eastward down the watercourse. Pui is a long rich strip of valley profusely cultivated, with large numbers of fruit-trees. Water abundant, and supplies are no doubt procurable. The people are four-fifths Kanazai Dumars and one-fifth Pechi Sayiads. Room to encamp one regiment. The road this march is fairly good all the way.
4	SMALAN	12	50	The country is open, and there are apparently no difficulties whatever. Regora village would be passed at about 9 miles.* Supplies abundant; water and forage plentiful; wood and camel-grazing scarce.

* According to the report by Lieutenant Chase, Deputy Assistant Quarter Master General, Queita District, July 1883, the upper end of Regora is 11 miles from camping ground in Pui (which is, however, an extensive place). Thence through Regora to Smalan is about 2½ miles.

Route No. LII.

FROM KAWAS TO MANGI BY THE PIL RIFT ROAD. 1880.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter- mediate.	Total.	
1	KAHAN	6½	6½	A mule road. From camping ground north-east of Kawas, pass the town and take the road to Kach and Hamdun. It follows the bed of the watercourse running westwards down the valley. Kahan village is on the right hand (north),
opposite to the mouth of the Pil rift. For further details of this stage see Route No. 120, N.-W. F., Vol. I. Elevation 6,700 feet.				
2	MANGI	10	16½	The road follows the line of the Pil rift southwards, but apparently keeps mostly, if not altogether, along the hillsides to the left (east). At about 7 miles a small plateau is reached overhanging the lake, formed by a landslip, which dams back the streams flowing

through the rift from Kawas, and prevents them from escaping to Mangi. There is a spring here of slightly brackish water, and room for a brigade to encamp. Elevation 5,210 feet. Fuel and camel-grazing scarce.

Route No. LII—concluded.

From this spot the road descends the hillsides for a mile and a half, finally zig-zagging down, into the rift below the dam. It is a narrow, rough path, and the gradients are considerable. Having reached the bottom of the gorge, the road winds among boulders for half a mile (9 miles) to the exit, which is very narrow. Thence there is a fairly easy, though stony track, gradually descending to Mangi post.

This road was improved in May 1880 and used as a communication between Mangi post and General Phayre's column in the Kawas valley. It was then traversed by laden camels, and is no doubt still practicable for troops with mule carriage.

The above route might be useful for a sudden descent on Kawas in case of an outbreak on the part of the Panizai and Sarangzai Kakars. There is also another path across the Khusnob mountain ascending the range close to Kawas town. It was traversed by General Phayre and Lieutenant Seymour, who found it "very precipitous, more especially on the Chapar side," *i.e.* towards Mangi. It might be used, however, by infantry without baggage.

For Mangi see also stage 9, Route No. 115, N.-W. F., Vol. I.

Route No. LIII.

FROM KAWAS TO SHAHRIG BY ZIARAT AND THE KHULEZGI RAVINE.

Authority.—MAJOR C. E. BLOWERS, 1880.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total	
1	GHWASHKI . .	12	12	South-eastwards along the Ziarat road. See stage 3, Route No. 120, N.-W. F., Vol. I.
2	ADARAMAN . .	10½	22½	A difficult road for camels. South-east up the valley. At 4 miles pass the camping place of Ziarat, beyond a narrow defile. Thence over watershed (Ziarat Chari) at 6 miles, and descend to bed of Torwamani <i>nala</i> , which is reached at 7 miles. (<i>Vide</i> stage

4, Route No. 120, N.-W. F., Vol. I.)

There is a little water here. The road now turns to the right, following the water-course through a small defile, and on emerging therefrom turns to the left, sometimes in the bed of the *nala* and sometimes on the bank, for 1 mile (8 miles), when a broad valley is entered. There is then a sharp turn to the right (it is at this point that the road to Smalan is quitted, see stage 5, Route No. 121, N.-W. F., Vol. I). and the road climbs the hillside for 600 yards to the Sirwari kotal. Ascent steep and bad through thick jungle. The descent is long and difficult, but the road over the kotal was improved by Major Blowers' party in May 1880 and made practicable for camels. The bed of the Khulezgi *nala* is reached at 1½ miles from the crest of the pass.

Camping-ground very cramped; water from springs scarce; wood plentiful; grass and camel-grazing good.

3	KAISARGI (Khulez Nala).	6½	29	On leaving camp, road at once ascends a steep kotal by a path through jungle for about 600 yards, then descends by a narrow path along the edge of a precipice for about 200 yards, and, following the contour of the hills, again ascends some 400 yards to a second kotal, then
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descends by a very steep, bad, rocky narrow path down the Khulezgi ravine for about 2 miles. The outlet from this ravine is by a narrow path, only just wide enough to allow of an un-

Route No. LIII—continued.

laden camel passing through it; blasting would be necessary to make a path sufficiently wide for laden camels over a large landslip which blocks up the regular passage along the bed of the ravine. Just beyond outlet a little water was procurable. From this point road good and level, though stony, and follows bed of river, winding among the hills for 3 miles to the encamping ground at Kaisargi, where there is plenty of good running water from a large spring: grazing good, grass plentiful, wood tolerably so. Encamping ground surrounded by hills on all sides. General direction south.

4	SHAHRIQ	13	42	On leaving camp, road follows bed of river for about 2 miles, then leaves it and by a slight ascent takes path to right across a plateau for $1\frac{1}{2}$ miles, then descends and crosses bed of stream, and again ascends, passing here a tower with enclosure, and at about 350 yards further on again descends into, and crosses, the bed of a river about 400 yards wide; then ascends to a village (deserted). This is about 4 miles from Kaisargi. From this point the road slightly ascends and crosses a wide open plateau, well cultivated, with 3 or 4 villages, ¹ and at about 6 miles descends gradually into bed of a stream almost dry, again ascends for a short distance, and then descends into river bed about $7\frac{1}{2}$ miles from Kaisargi. Up to this, water abundant all the way. From this point road follows bed of river until plain is reached, and at $11\frac{1}{2}$ miles meets water (none in the interval); at 13 miles, Shahrig. Road good all the way. General direction south south-westerly.
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Shahrig is a post on the cart road from Sibi to Pishin *via* Harnai—see stage 7, Route No. 115, N.-W. F., Vol. I.

The above route would hardly be used except in case of operations directed against the Sarangzai and Panizai Kahars. It leads through the heart of the Sarangzai country. The advance would probably be made from Shahrig, and troops marching light, with only a few mules for carriage of ammunition and rations, would probably get through the Khulezgi ravine, but would have much difficulty. Regarding the nature of the march between Adaraman and Kaisargi, the following remarks by Major Blowers are instructive:—

“The ‘Khulezgi ravine’ would have been quite impassable for laden camels had not a very strong working party, sent on ahead at 4 A.M., and assisted by the column when it joined it, widened and improved the pathway. About the centre of the ravine, and at the narrowest part, owing to a landslip, there is a very steep and difficult piece, as the earth would not hold; here each camel had to be led very carefully and slowly down by a man, and in some cases the camels had to be unladen, the baggage carried down by the sepoy, and again reloaded at a better place. Owing to the great difficulties experienced, only some 30 out of 200 camels passed down the ravine before dark; the remainder had to remain all the night where they were, with their loads off. At daylight on the 13th May, they were again loaded up and separately passed down as on the day before, small fatigue parties being posted all along the ravine to adjust and repack loads as necessary. By 1 P.M. the last camel passed this place. At the outlet (already mentioned) of the ravine, in addition to the path over the landslip, there was an aperture in the rocks to the right. The whole of the baggage was carried by the sepoy either over the landslip or passed through this aperture, and was again loaded up on the other side. The camels (unladen) passed over the landslip. This work was completed by 5-30 P.M. The force was 48 hours without any food and a good portion of it without any water. The men worked splendidly. A great many of the camels were much bruised and bleeding from constant falls; six camels and eight bullocks either died or had to be abandoned.

“Whilst in this ravine, on the 12th May, some Pathans, concealed on the heights threw rocks down and fired on us, but the flanking parties soon put a stop to this annoyance. Not a man or animal was hurt. We took one prisoner and wounded two men.

“Halted at ‘Khulez nala’ or ‘Kaisargi’ to rest men and animals. Strong picquets round camp.

“Force: two companies, 10th Bombay Native Infantry; 59 men of the 16th Bombay Native Infantry. About 200 camels, 22 bullocks, 18 ponies. Twenty-three camels, 17 bullocks, and 1 pony either died or had to be abandoned.”

¹ This plateau, 5 miles from Kaisargi and 8 miles from Shahrig, should evidently be the halting-place, but the road requires making at the mouth of the Khulezgi ravine, and between that spot and Adaraman; otherwise the march from the latter place would be a very difficult one. *Vide* stage 3, and remarks by Major Blowers.

Route No. LIV.

FROM KACH POST TO GHWASHKI BY MANGI AND THE MIR KASIM VALLEY.

Authority.—LIEUTENANT E. C SPILSBURY, R E., 1883.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	MANGI ¹	14	14	By the cart-road to Harnai, etc.—see N.-W.-F., Vol. I, Route 115. Stages 9 and 10. The old bridle path, cutting off many curves and zig-zags, saves several miles. Elevation of Mangi, 5,210 feet. A camel road.
2	MARDA KACH	11 $\frac{3}{4}$	25 $\frac{3}{4}$	From the camping ground at Mangi post east by south, up the Mir Kasim Manda (watercourse). At about 1 mile cross a low rocky kotal. The Manda runs to the right through an impassable rift or gorge known as the Garhar, or Gurar, <i>tangi</i> . The road over the

kotal is easy. From thence the Mir Kasim valley is ascended in an easterly direction. It is broad and open. The watercourse runs along the base of the steep hills on the south side. The road keeps the north side, skirting the spurs and under-features of the Khusnob mountain. At 4 $\frac{1}{2}$ miles the road enters the shingly bed of the *nala* and becomes very heavy. On the left hand (north) the banks are steep and much broken. On the right the bare rock slopes of the Khalihat range rise steeply from the watercourse. At about 5 $\frac{1}{2}$ miles the hills close in, the only passage being through a formidable defile known as the Kasim tangi. The entrance to this rift is very narrow—only about 40 feet. The sides are overhanging walls of smooth rock rising to a great height. The road lies in the bed of the torrent, over fine shingle, winding about to avoid boulders; the rift itself is also winding. The narrow part of the gorge is about a mile in length; after that it widens, the sides being steep slopes surmounted by high rocky cliffs. After another $\frac{1}{2}$ mile (7 miles) the valley is more open, and at 7 $\frac{1}{2}$ miles is the camping ground of Kasim tangi, on a low plateau on the south side. On the other side slopes of crumbling shaly rock rise abruptly from the bed of the watercourse, and surmounted by lofty cliffs. There is abundant perennial water in the *nala*, which runs down into the rift below; also some grazing; but the space available for encampment is very limited. Elevation of camping ground, 6,310 feet.

Half a mile above this camping ground (8 miles) the hills again close on the watercourse, and there is a second rift. It is quite impassable, and the road ascends the hillside to north, by several zig-zags, with a rather steep gradient. The path then runs along the hillsides in a general east south-easterly direction, and again descends to the watercourse at about 10 $\frac{1}{2}$ miles. The latter is crossed twice, and the road again ascends the slopes on the north side with a continuous rise. This is to avoid another defile which occurs at this point. It is very narrow, but quite passable, and the best way to Marda Kach (1 $\frac{3}{4}$ miles further on) appears to be to go through it; otherwise there is a very steep descent from the road to the bed of the watercourse to gain the camping ground on the opposite side.

At Marda Kach are terraced fields, irrigated from the stream, and a small settlement. Ample room for encampment on cultivated ground when bare of crops. Also a fair amount of space on a neighbouring plateau. Water abundant and good. Firewood plentiful. *Bhusa* is no doubt procurable in small quantities, and there is grass at Chista, about 1 $\frac{1}{2}$ miles higher up, and probably here also.

Elevation of Marda Kach, 6,900 feet.

The name "Chuppar" is frequently, but quite erroneously, given to Mangi. *Chapar* is the ridge south of Mangi, pierced by the celebrated rift.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. LIV—concluded.

The road has been made, in the hill portions only, as a mule path. Minimum width 8 feet ; gradients are all easy except a few short pieces between 8th and 9th miles, where they are as much as 1 in 10. The road does not touch Marda Kach itself, being taken along the opposite hillside at some height above the stream. This appears to be a mistake, as Marda Kach is the camping-place on the road, and conveniently divides the distance between Mangi and Ghwashki.

The Kasim *tangi* passed on this march is the worst part of the whole route. Floods, in winter and spring occur with considerable violence and but little warning, and the defile would then be altogether impassable. It appears impossible to turn the gorge in any way.

3	GHWASHKI . . .	9½	35¼	Immediately above Marda Kach there is a fourth gorge or rift. The bed of the watercourse has a great rise here, and is completely impassable. It is therefore necessary to ascend a steep path to regain the made rode running along the slopes opposite to camp. The latter is then followed in a general east north-easterly direction. It climbs over a spur north of Marda Kach, and at about 2 miles from camp passes Chista (Talarai Chista), a patch of cultivation somewhat resembling Marda Kach. Here the Mir Kasim Manda, coming from the south-east, is joined by another from the north-east. The valley or glen of the latter is now followed, the road continuing to run along hillside, pretty thickly wooded, with a steady ascent.
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About a mile beyond Chista (3 miles from camp Marda Kach) is another cultivated flat with a hamlet called Dilarai. There is plenty of room here, but water, from a small spring, is limited. Elevation 7,500 feet. Passing Dilarai the road continues to ascend gradually along the juniper-clothed hillsides until a small branch valley called Zawar Ramian is reached at 6½ miles.

The old patch branches to the left a mile back, and climbing the hill to north by a steep and difficult ascent, reaches the highest point (8,450 feet) at about 6¼ miles. It then turns eastwards, and descends to Ghwashki, reaching the valley at about 8 miles. This part of the road is practicable for mules, but not for camels in its present condition. Thence ascend the valley, east-south east to the camping ground. Fuel and camel-grazing plentiful.

Ghwashki is on the road from Kach post to Harnai by Ziarat. (See Route No. 120, N.-W.-F., Vol. I.) Ziarat camping ground is 6 miles east.

Route No. LV.

FROM KACH POST TO YUSAF BY HAMDUN AND PINAKAI. 188 -81.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	RODGAI . . .	12½	12½	A camel road. Up the valley ; the best way from Kach post is to cross the stream diagonally, and to keep along low flats on the left bank. After a mile and a half or 2 miles, recross to the right bank

and proceed over cultivated flats on that side towards Kach village, which is passed at about 3 miles.

It stands on a somewhat elevated plateau. The road is good all the way, except that on descent to the river-bed from a flat on the right bank is awkward for camels.

Route No. LV—concluded.

Leaving Kach village to the left, the track continues in the bed of the watercourse, and is good, though stony. At about 4 miles (still following the stream) it bends to the left. Here the Kawas road branches to the right up the Kala 'china valley (see Route No. 120, N.-W. F., Vol. I). At about 5½ miles the scattered huts and terraced fields of Hamdun extend up the hillside on the right to the base of the rocky range called Bibai. Turning to the right there is a steep ascent, and the road, passing above the cultivation, turns to the left along the hillside (6 miles). Instead of ascending to Hamdun, the bed of the stream may also be followed, through a gap, and round the base of the hill, but the first 200 or 300 yards is rocky.

The road from Hamdun having rounded the end of Bibai, continues eastward along the hillside.¹ It is a good, easy track. On the left is a steep slope to the stream, and on the right precipitous cliffs. After about 3 miles the road descends to the stream. To the right is Gogai glen, into which a well-marked track continues to run along under the cliff. The bed of the stream is now followed northward through a winding defile, or rather series of gaps in small parallel ranges running north-east and south-west. Here and there a coruer is cut off by crossing at flat, but camels would probably keep to the watercourse, which is fairly good going. At about 11 miles the road emerges into a more open country but continues to ascend the stream in a north-easterly direction. At about 12½ miles are patches of cultivation and few huts scattered along the left bank of the watercourse. There is ground here suitable for encampment, though at some height above the stream and broken by low hills and hillocks. Water from the stream plentiful and good. Firewood tolerably abundant; camel-grazing good in summer. No supplies, except perhaps a little *bhusa*. The people are Sarangzai Kakars, and may be considered friendly. In winter the place is deserted.

2 | YUSAF KACH²

| 10½

23

| Follow the watercourse in a general north-easterly direction. It runs between low rocky ridges, and on the left hand is a bluff red mass called Gwand. The track in the bed of the *nala* is fairly good. After some miles the country is more open and a wide plain stretches to

the east. This is Lower Pinalai. It is bounded on the north by a hill called Sagri, at the base of which are three Sarangzai hamlets with water and cultivation. The westernmost of these, known as Shobai, is passed at about 5 miles.

The road then bends round to the west and passes through low parallel sandstone ridges, ascending to a considerably higher level. The track is rocky in places and difficult for laden camels. Beyond these is the plain of Upper Pinakai. It stretches a considerable distance to the south-west. The road has a general north-easterly direction, skirting the east side of the plain, in which are shallow pools of brackish water and patches of short grass. At about 8½ or 9 miles broken ground at the end of the plain is entered. The bed of a watercourse is followed. It leads under the hill which lies to the south of Yusuf Kach, and passes through the range by a short gorge known as Trikh tangi. It gives access to the narrow valley or glen of the Toghai, by which is the road from Balozai. Yusuf Kach camping-ground is immediately to the left on clearing the *tangi*.

Fuel plentiful, supplies procurable, forage scarce. Elevation 7,160 feet.

¹ There is also a path on the opposite side of the watercourse. It runs between low parallel ridges and is believed to be a fair camel road. This track joins the one given above at 5 miles from Hamdun, and is probably ¼ a mile shorter. By following the bed of the stream round the base of Hamdun hill, and then striking off into this path, the march might be shortened by a mile, and a considerable ascent and descent avoided.

² Marked Yusuf Kats on the map.

Route No. LVI.

FROM KASIM KHAN KALA TO QUETTA BY THE DARÁ PATH. 1879.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	QUETTA	18	18	East south-east, ascending the very stony slope which here stretches down from the base of Takatu mountain to the Kakar Lora valley. The path is tolerable for baggage animals. At about 3½ miles descend to the bed of the Dara nala, where it issues from the hills and

continue up it. Path stony, but fair travelling. The lofty hills on either hand close in, and at about 4 miles an extraordinary defile is entered, the average width of which is not more than 17 or 18 feet. In places it is only 10 feet wide. The sides are perpendicular cliffs, rising to a great height, and perfectly inaccessible. The gorge winds a good deal, and a small stream runs down it. The bottom is loose gravel and shingle, and the path is good; gradient of ascent is probably about 1 in 30.

This gorge completely pierces the main range of Takatu. It is cleared at about 6 miles, and thence the pass is wider for a short distance to where it forks, a large ravine running up to left (north-east) to the peaks of Takatu, and another in the opposite direction to a high neck joining the ranges. Water is only found a short distance above the defile. A detachment might bivouac here. Wood, water, and grass abundant. The latter grows high up.

After gaining the junction of the ravines, the second ridge of Takatu is climbed by a zig-zag footpath which does not appear in its present condition to be practicable for mules, though it might easily be made so. The crest of the range would be reached at about 7½ miles from Kasim Khan Kala. The descent is said to be steep and difficult. It leads to the long and wide glen, the entrance of which is about 6½ miles due north of Quetta fort. Villages on the right bank of the Saraghurgi nala at the south foot of Takatu would be reached at about 5½ miles from the crest of the pass,—that is, at about 13 miles from Kasim Khan Kala. Thence to Quetta an easy 5 or 6 miles across the plain. The total distance from Kasim Khan Kala camping-ground to Quetta fort is about 18 miles, but no doubt some ground could be saved by cutting a path over the hill.

Route No. LVII.

FROM ALIZAI TO NEW BAZAR, *viá* MALOZAI.

Authority.—LIEUTENANT A. M. MONTEITH, 1879.

No. of stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	NEW BAZAR	12	12	<i>Alizai is Stage 2, Route No. 139, N.-W. r., Vol. I.</i> From the village a well-beaten track leads south by east. It is nearly or quite level. Broken ground on either side, but the road is good. At 3½ miles reach right bank of Pishin Lora. The bed of the river is here 250 yards across; banks perpendicular feet. In

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. LVII—concluded.

dry weather the stream is about 25 yards wide and 18 inches deep. No quicksands heard of near the ford. The descent into, and ascent out of, the river-bed are practicable for laden camels, but not for artillery. After gaining the bottom of the channel and crossing the stream, the road turns up it for half a mile, to where a ravine leads on to the left bank at the village of Malozai (4½ miles). From one side of the river to the other is altogether about a mile. From Malozai the track continues south-east across the open plain to the low hills. The Khusbdil-Haikalzai road is crossed at 3½ miles from Malozai, and the hills are entered at 5 miles. There is a gap here (2 miles east of Surkh Kala); it is about 400 yards wide. A watershed is crossed, but it is hardly perceptible. Easy road into bazar.

Route No. LVIII.

FROM SEGI TO BARGHAI ON THE "TANG" ROAD TO SHORAWAK, KURAM, AND THE PINAKAI CHAMAN. 1879.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	SARGHABI OR DARUZAI.	8	8	An easy road for camels. South-west, across open plain very easy marching. The <i>Tirkha nala</i> is crossed about a mile and a half before reaching Sarghari, but it is not much of an obstacle at this point. Camels, however, generally make a detour to the right
(west), thus lengthening the march by about a mile. (See Route No. LXXVII for further details.)				
2	SHAMBELI . . .	10½	18½	South-west up the Sarana ravine as if for Azad Khulai, etc. The road is fairly easy. At about 4 miles the route to Azad Khulai is quitted, and the track diverges to the right up a side ravine. At about 5 miles the open plain or plateau of Kuram is reached.
Thence the road continues south-west, not far from the base of the hills on the right. It is quite level and easy.				
At about 9 miles the low hills west of the plain are entered. Thence the road descends slightly through low hills and broken ground to Shambeli, which is the highest perennial spring of the Chaman <i>nala</i> . There is a little grass here and tolerable camel-grazing. Water fairly abundant, and there is more lower down. No permanent habitations and no supplies.				
3	BARGHAI . . .	9½	28	Descend the Chaman <i>nala</i> through hills and broken, but not difficult ground; road good. Water is passed at intervals. At about 3 miles a few fields on the left bank belonging to Musezai Tarins. At about 4 miles the water-course runs in a shallow hollow through an

almost open country. The sloping banks are covered with green turf, whence the spot and the *nala* acquire the name of *Chaman*. Plenty of room for encampment, and abundant grass and water. There is generally a camp or two of Tarin nomads in the neighbourhood.

From here there is an alternative path, at first down the Chaman, and then south-west, over open country, to where the Barghai *nala*, descending from the high ridge to south-east called Tor Ruidat, enters the low hills east of the Tang (3½ miles). The *nala* is then followed north-west through hills, to the camping-place at its junction with the Tang, about 5½ miles from the Chaman.

Route No. LVIII—concluded.

The ordinary route, however, leads nearly due west from the Chaman, quitting the *nala* and crossing a small ridge at half a mile. Thence, for about 2½ miles, the path threads minor watercourses, among low hills and undulations, till it reaches the spot where the Chaman and Darah *nalas* unite, to form the Tang (7 miles).

Here Route No. LXXVIII from Gulistan is entered and followed down the Tang to the camping-place which is on cultivated ground at the junction of the Barghai *nala* with the Tang.

This route is given because it leads through a country which is little known, and because the Chaman (known as Pinakai Chaman) is valuable in a district so destitute of natural grass as Pishin. However, the shortest and easiest way either to Barghai, or Chaman, would be to march from Segi to Mangalzai, the first stage on Route No. LXXVIII, distance 10½ miles. From thence Barghai camping-place is 10 miles and the Chaman not more than 7 miles.

Route No. LIX.

FROM QUETTA TO JAT POTI (SHORAWAK), *via* CHICHAZAI IN SHORARUD, AND THE SALWATU PASS. 1880-81.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	GIRDI BAGH . . .	16	16	} <i>Vide</i> Route No. LX. A camel road. Cross the Bala Barak pass. (<i>See</i> Route No. LX). At 8 miles the road debouches on the <i>daman</i> , or stony glacis, which slopes down to the plain. Here are three roads: that to the left goes to Panjpai (Route No. LX), that to the right leads to Muhammad Kheli; the centre track is followed to Chichazai.
2	KANAK . . .	18		
3	CHICHAZAI . . .	16	50	

The first mile or so is straight down the stony *daman*; the alluvial plain is then reached and shortly afterwards an old *kafila* tract from Muhammad Kheli is crossed.

At about 11 miles pass, on the left, a small isolated hill. At 13 miles is the Shora Rud. This river has a channel, about 80 yards wide and at least 30 feet deep, with perpendicular banks. The running stream is small, about 20 feet wide and very shallow. The water is so salt as to be undrinkable. Bottom of the ford rather soft. The crossing is easy for camels, but considerable labour would be required to cut down the banks for artillery. Thence, for a mile over the plain to the Abd-i-khas, or Dori, a very large watercourse which carries off the drainage of Kurdagaf, etc. It is 100 yards wide, and otherwise resembles the Shora Rud, except that it is usually quite dry. Crossing is not difficult for camels.

Remainder of the road is easy over open plain. Chichazai has about 40 houses of Mushwani Sayads and one bunniah's shop. Camping-ground good: it is to west of village by a karez stream. Water abundant and good. Camel-grazing plentiful; firewood procurable. Supplies rather scanty, and should be arranged for beforehand.

There is also a good place for encampment at Zalai karez, a Durani hamlet about a mile to south-west. Thence to entrance of Karwan Kushtak pass (*see* Route No. LX) is 6 miles, and to Iltaz karez 17½ miles.

Singbur Chaman on the Nushki road is about 6 miles from Chichazai; easy road over gravel plain.

Route No. LIX—continued.

4	ANJIRGAI	9 $\frac{1}{2}$	59 $\frac{1}{2}$	West by north from Chichazai. Good road, over gravel plain, steadily ascending all the way. At about 2 miles pass through end of the low ziarat range, and cross a broad, shallow watercourse called Takmane. Thence straight on and enter the Sapu hills at 4 miles. Road good.
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At about 5 miles cross a low kotal into the bed of a ravine. It debouches into the plain some distance to the south, and up it comes a track from Panjpai known as Duz, or "the Robbers'" road. From here the general direction is about north-west.

The route turns up the watercourse, which is narrow and winding; hills low and easily accessible. There are a number of small parallel ridges running north-east and south-west, crossed at right angles, or nearly so, by the watercourse.

At 6 miles is a little spring known as Sapu Chasma. Beyond this the ravine becomes very narrow, and for about a quarter of a mile there is barely room for a baggage animal to get along. The bottom is rocky and rough, but presents no great difficulties to camels.

After this the bed of the *nala* is smooth again; it trends considerably round to the right (north).

At about 7 $\frac{1}{2}$ miles the head of the ravine is reached, and the track emerges on to an undulating plateau, draining north-east. The road is good. At 7 $\frac{3}{4}$ miles it crosses a low easy kotal. Half a mile further is another undulation. The top of this appears to be the highest point of the road, and is probably 600 or 700 feet higher than Chichazai.

The descent is somewhat rough, and the track again enters the bed of a *nala*. It is rocky in places, but quite practicable for camels. At 9 miles a large ravine is entered. Here is plenty of water and a little short grass. The ravine, however is so narrow and rocky that there is hardly room for troops even to bivouac. The spot is well known as Anjirgai.

The track following the bed of ravine turns to the right. The water ceases after a few yards. At 9 $\frac{1}{2}$ miles the Anjirgai ravine opens into the hollow of the Kuram, opposite to the point where that watercourse is joined by the Katunki. Both are wide and dry; their beds are filled with tamarisk jungle. The Kuram goes away to the north-east. Up it to the south-west is an indistinct track which joins the road from Panjpai to Iltaz karez at or near the Sarsham kotal (see stage 4, Route No. LX).

About here is room for a detachment to encamp. Water from Anjirgai ravine is abundant, but half a mile off. Wood plentiful; camel-grazing good in summer. No habitations or supplies.

5	PUTLA KHAN, OR ZHIA, in SHORAWAK	22 $\frac{1}{2}$	82	Road west by north or thereabouts. It ascends the Katunki <i>nala</i> for about a mile. It then diverges to the left, and ascends low spurs to the Taznana kotal, which is quite easy. The range now being crossed has no one name. It consists of low, black, rocky peaks, joined by a lower ridge. To the left is a conspicuous peak called Ting.
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Beyond the kotal in the Chuna (Lesser) Dasht, a long narrow plain, about 2 $\frac{1}{2}$ miles wide, stretching north-east and south-west. In the latter direction it is crossed by Route No. LX. On the further side the Dasht is another small range, similar to that just passed; it is called Parah. An easy kotal (6 miles) gives access to the Bala (Greater) Dasht, resembling the Chuna Dasht, but twice the width. The peak of Sarlat (Chari Ting) is nearly due west from the kotal. The whole Sarlat range from this side has a very insignificant appearance.

Descending to the plain, the road bears away to right (a track to the Mohat pass leads nearly straight on). About half-way across the Dasht (8 $\frac{1}{2}$ miles) is a small artificial tank called Shahdin *taluo*. It contains water after rain and is a well-known place.

The road leads nearly straight on and enters the hills at 10 $\frac{1}{2}$ miles. Just inside of the first low elevations the road to the Ushtarlak pass diverges to the right, and from near the same point the road to the Psha pas branches off in the same direction. Neither of these passes is practicable for laden camels. A road from Muhamud Kheli by the Sarsham, or Sanghand kotal also comes in about here. The Mohat pass is about 2 miles south-west, a short distance north of Chari Ting.

Route No. LIX—concluded.

Not far beyond the fork of the roads the ziarat of Pir Gali Chopal is passed on the right. It is 200 yards off the road. The path to the Ushtarlak passes close to it.

At 11½ miles reach the crest of the Salwatu pass (an insignificant kotal). The descent is into a deep, narrow, and rocky ravine. For the first mile and a half it is decidedly a difficult road. In many places there is hardly room for an animal to pass, and where the slate rock crops up are frequent drops of several feet perpendicular. At half a mile below the crest, and a several places lower down, there is water. Here a detachment might bivouac.

All at once the narrow defile gives place to a broad ravine, 40 or 50 yards wide at bottom and widening as it descends. Gradient, at first 1 in 18, decreases to 1 in 25. Road, over firm, slaty shingle, is good.

At 18 miles the hills on either hand—spurs of Sarlat—come to an end. Here is a comparatively open space, and water is sometimes found. Probably it can always be obtained by digging.

In front is the small outer range called Spari. The watercourse, bending to the left, is now quitted, and the road leads straight on into the hills. As it crosses them diagonally to the run of the spurs, there are several ascents and descents, one being rather steep, but the road is very good.

At about 20½ miles the hills are finally quitted and the track continues for 2 miles more over a very gentle, smooth descent to the village of Putla Khan, or Zhihi, in the Shirani district of Shorawak.

The Shirani route through Shorawak to Nushki crosses here. See Route No. LXXXVI.

This march can hardly be divided, unless there is water in Shadhin talao. The Salwatu pass is constantly used by people of the country, and heavily laden camels contrive to get up and down it, but the upper part is difficult, even for mules. Remainder of the road is good.

For further details of Putla Khan see stage 5, Route No. LXXXVI.

6	JAT POTI	7	89	North-west for one mile to crossing of the Lor river. Channel here 250 to 300 yards wide with scarped sides, 25 feet high. It is quite dry, except after heavy rain. Ascent and descent easy for camels.
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From thence a fair road across the plain pretty straight to Jat Poti, the tall tamarisks of which are plainly visible. Two small canals have to be crossed. The first is called Augir and the other Sharuwah. They are difficult for pack animals. Before reaching Jat Poti the channel of the Dori, or Lora nala, has also to be crossed. There are artificial water-channels in this, and it is sometimes flooded. When this is the case, it is a considerable obstacle.

For Jat Poti see Route No. LXXV, Stage 4.

Route No. LX.

FROM QUETTA TO JAT POTI (SHORA WAK), *via* PANJPAI, ILTAZ KAREZ AND THE WALI OR BED PASS.

Authority.—STAGES, 1—3 CAPTAIN YATE, 1884.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	GIRDI BAGH . . .	16	16	The road from Quetta runs west to a hamlet called Simmingli, distant from Quetta $4\frac{1}{2}$ miles. Road appears to have been artificially improved and is passable for wheeled carriage. Soon after leaving Quetta two small streams are crossed, at the close of the 3rd mile

a longish stream, in a broad and deep channel, and 4 miles from Quetta a *karez* of good running water and a small stream. In all cases the water is good, but contains a quantity of vegetable matter and sediment, which causes it to putrefy rapidly when it is drawn off. To the right of the road the valley is studded with hamlets, surrounded by small orchards and cultivated fields. The greater part of the land, though exhibiting traces of previous tillage, now lies fallow. It is said the land here is only tilled once every four years. On the left of the road lies the northern spur of the Chiltan range, along the stony lower slopes of which the road runs. Camel-grazing plentiful. Simmingli is a small collection of mud-huts, through which runs a stream about 5 feet wide and 6 inches deep, bordered by willows. A few apricot and mulberry trees and fields of maize are the only signs of present cultivation. Bellow the village the stream works to flour-mills. Several hundreds of sheep seen grazing over the plain. Camping-ground dry but stony, on slope to south of village.

From Simmingli the road winds towards the south along the lower slopes of the Chiltan range and about 7 miles from Quetta takes a south by westerly direction and keeps it to Girdi Bagh, 16 miles from Quetta. It is passable for wheeled carriage, and follows an irrigation channel drawn off near Simmingli for $3\frac{1}{2}$ miles to a village (Nas Hissar) on the right of the track, around which were some fields of maize and many large heaps of *bhusa* (wheat or barley-straw), aggregating several thousands maunds. Camels and sheep were seen grazing in large numbers on the plain, which is seamed in every direction with *karezes*, many of which certainly contain water. For a mile further on (*i.e.* 8th to 9th mile) the cultivation continues, and large flocks of sheep were seen grazing. Thence to Girdi Talab, a distance of 7 miles, all traces of pastoral and agricultural pursuits cease. Some 3 miles to the right of the road the stony bed of a large water channel can be seen. It is said to contain water, but very brackish.

Girdi Talab is the name given to a small oval tank some 50 yards in circumference and 3 to 4 feet deep, supplied from a small, rapidly-running stream, about a foot broad and 4 inches in depth. The water is good. There is a similar stream, $1\frac{1}{2}$ miles from Girdi Bagh towards Kanak. Half a mile to the west is an orchard and fields irrigated from the overflow of the tank at Girdi Bagh, and under the range of hills bounding the far side of the valley lie three scattered hamlets (Bazai). This place is in the small district called *Barg*; there is no village of that name. There is a remarkable scarcity of fuel in this neighbourhood. The inhabitants themselves largely use the worm-wood scrub. To the best of my observation the only material for fuel consists in the stunted trees and bushes that grow on the higher slopes of the hills or mountains. Camping-ground on either side of stream above tank. The track over the Gogher Kand to the Sebat *nala* and so to Muhammad Kheli on Shorarud (Route No. LXXIV) diverges at Girdi Bagh. Distance to Sebat halting-place about 15 miles. *Bhusa* and other supplies procurable in small quantities from Bazai. Elevation 5,447 feet.

¹ This is the main *kafila* route to Kulat, *via* Shirinab.

Route No. LX—continued.

2	KANAK	18	34	<p>From Girdi Bagh the road runs 18 miles south-west to Kanak, along a valley some 7 or 8 miles in breadth. For the first 14 miles this valley is almost entirely barren. Nine miles from Girdi Talab are three hamlets called Dhulai karez $1\frac{1}{2}$ miles to the right of the road with fields of maize around and cattle-grazing. It is marked by three trees in a triangle. There is good water here and excellent ground for encampment. From Dhulai karez there is a track over the Sayad Kushtak Khand to Muhammad Kheli in Shorarud. Distance about 16 miles. The road most commonly taken (<i>kafil</i>a track) leads on along the east side of the valley. At about 12 miles it passes close to an isolated rock on the left called Khoraghar. A short distance beyond this the main track is quitted and the road bears away to the left, passing a low isolated hill on the right and villages on the left. There is another road inside of this hill, which is just as good and perhaps a little shorter. It diverges from the above at about 6 miles from Girdi Bagh and passes along a string of hamlets collectively known as Dhulai. 13 miles from Girdi Bagh the mountains bounding the valley on either side trend respectively to the east and west, encircling an extensive plain, studded with villages (of which Kanak is one), trees, fields of maize, tobacco, and lucerne (in great profusion) and traversed by numerous <i>karez</i>es, ditches and irrigation channels, the water of which is fairly good, though tainted with vegetable matter. Numbers of sheep and camels seen grazing. This district belongs to Sardar Aliyar Khan Raisani. Crossing this cultivated plain Kanak is reached. The road from Girdi Bagh to Kanak is passable for wheeled carriage, except where ditches have to be crossed, when the banks would have to be ramped or bridges constructed.</p>
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Kanak is a good-sized village situated on the north slope of a hillock, crowned by what may have once been a fort. Under the western slope of this hillock issues a copious stream of excellent water. All ordinary supplies, as barley, flour, *bhusa*, *kirbee*, lucerne grass, melons, milk, eggs, fowls, and sheep, can be obtained here. In fact, from this district a large portion of the supplies laid out across the desert and elsewhere for the use of the Afghan Boundary Commission were procured. Camping-ground among fields lying fallow to west of village. Two bunniahs in the village. Camel-grazing fair in summer; wood scanty. Elevation 5,379 feet.

3	PANJPAI	$14\frac{3}{4}$	$48\frac{3}{4}$	<p>From Kanak the road runs south-west for $4\frac{1}{2}$ miles, crossing at 4 miles a small rapid streamlet of good water. The soil of the surrounding country is somewhat impregnated with saltpetre, but cultivable. At about 2 miles pass the Sayad village of Shori, about 500 yards to left of the road. To the right of the road is good ground for encampment, and water is abundant. Distance from Dhulai karez direct, about 10 miles; to Panjpai, 11 miles. A short distance beyond this the road to the Chuna, or Kurd (Lesser) Barak pass branches to the left. At about $4\frac{1}{2}$ miles enter the Bala or Kalan (Greater) Barak pass. Just outside the hills is a rill of water. There is room for encampment. The road through hills is well marked and easy. (See also <i>Gazetteer</i>, BARAK PASSES.) At $5\frac{1}{2}$ miles descend into a large ravine, up which the track turns. It is followed for about three-quarters of a mile, when the road leaves it to the left and gains the crest of the pass ($6\frac{1}{2}$ miles) by a very easy ascent. Rise from Kanak about 400 feet. The total descent from the crest of the pass to the plain is about 900 feet. It is just possible that artillery and wheeled transport might be taken across this pass, just as it is; but the steepness of the slopes in many places would necessitate lowering the guns by hand. The lower slopes on the Panjpai side are very stony, and would, as they are, severely tax the strength of draught animals. The removal of some blocks of rock by blasting, would also be desirable. The labour of a regiment of pioneers and a company of sappers and miners for 2 or 3 days would make the passage of wheeled vehicles reasonably easy. The first quarter of a mile of descent is by a zig-zag path at a gradient of 1 in 12 to 1 in 15. After this two small spurs are crossed, the gradients being stiff in places. The road then gains the bed of a broad, shallow, and stony watercourse, which is followed for a short distance until clear of the hills. At 8 miles the road enters the <i>daman</i>, or stony glacis, which slopes down to the plain. Here there are three roads. That to the right leads to Muhammad Kheli, 15 miles from Kanak. The centre road goes to Chichzai, 16 miles.</p>
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Route No. LX—continued.

(see Route No. LIX). The left-hand track is followed to Panjpai, the village itself being plainly visible from this point. On the southern slopes a thorny bush suitable for fuel grows abundantly. The distance from the foot of the pass to Panjpai is 7 miles. The valley runs north-east and south-west, and the road crosses it in a westerly direction. The general appearance of the valley is one of sterility, but a few clumps of trees here and there in the distance indicate the presence of water and probably cultivation: 3 miles from the foot of the pass a good-sized stream of salt or very brackish water and further on two dry torrent-beds are crossed. In the channels of all these dwarf tamarisk grows in abundance. Horses and dogs drink greedily from the salt stream (Shor-arud) above-mentioned, and even men drink from it. Camels pass without difficulty, but considerable labour would be required to ramp the banks for guns. Remainder of the road over level plain, but a mile before reaching Panjpai the Abdi Khas or Dori *nala* is crossed. It is here a considerable watercourse, but higher up (*i.e.* to the left) it is a comparatively insignificant obstacle, and artillery can cross about $1\frac{1}{2}$ miles above the direct road.

For the march of a considerable force the distance from Quetta to Panjpai might be conveniently divided into the following stages:—

1. Camp Naohissar	. . . . .	7 $\frac{1}{2}$
2. Girdi Bagh	. . . . .	8 $\frac{1}{2}$
3. Dhulai karez	. . . . .	10
4. Shori	. . . . .	10
5. Panjpai	. . . . .	12 $\frac{1}{2}$
		48 $\frac{1}{2}$

For further details of this stage see stage 5 Route No. LXXIV.

4	ILTAZ KAREZ	18	66 $\frac{3}{4}$	From Panjpai, west by north, across the plain to the hills in that direction. The road is good, principally over gravelly or stony ground, ascending very gradually. At 6 or 7 miles the bed of a watercourse issuing from the hills is entered; here the road from Chichazai comes
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in. At 8 miles¹ is the commencement of the Karwan Kushtak pass. The road continues to follow the bed of the watercourse. It is a fair camel track and the ascent is easy. Within the hills a *kafilā* route from Kalat *via* Kordagap joins in from the left. (Route No. LXXIV, stage 6.) Just beyond this the ravine forks; the right-hand branch should be followed. The road, in the bed of the torrent, is rough in places. The crest of the pass is gained by a steep, though short, zig-zag path; gradient about 1 in 12. The road is bad. On the top is a wayside ziarat called Pir Sherjab. It is half-way between Panjpai and Iltaz karez—9 miles from either.

Open ground to right and left at the top of the pass. Crossing this, there is an easy descent through hills following the bed of a watercourse. At 10 $\frac{1}{4}$ miles the road turns to right, over a very low spur, and descends a gravel slope to the extensive plain called Laghai, or Tilerā, Dasht. At the foot of the descent is a very small stream of good water called Laghai karez. It is 11 miles from Panjpai. Here a detachment might encamp, but the water-supply is not sufficient for a large number of animals.

Thence are two roads,—one nearly due west, by Temur hamlet, to Bara karez on the Ghori *nala*, 5 miles: thence to Iltaz karez 2 miles. The other route is that usually taken. It leads north-west, over the plain, towards a two-peaked hill called Dik. This is passed on the right at 14 $\frac{1}{2}$ miles, and the range is crossed by a double kotal, known as Sarsham. The first ascent is rather steep, but both kotal are low, and the road is good. The second kotal is passed at 15 miles. Beyond it is the narrow plain called Chuna (or the Lesser) Dasht. The Bala (Greater) Dasht is across the next range to the north-west.

The track, turning south-west, crosses the Chuna Dasht diagonally, and quits it by passing over a low ridge with a gentle ascent and descent. Beyond is an undulating plateau, flattening to the northward into the Bala Dasht. The opposite range is the Sarlat, and its peak, called Chari Ting, is conspicuous to the north-west. The Mohat pass is immediately to right (north) of the peak, and further in the same direction is the Salwatu pass. See Route No. LIX.

¹ Seven miles from Chichazai.

Route No. LX—concluded.

The track turning southwards, parallel to the ridge, and in another mile reaches the camping-ground of Iltaz karez. Here is abundant water. The hamlet is a short distance to the south-west.

The road this march is easy, with the exception of the Karwan Kushtak pass. Here a quarter of a mile would have to be regularly made for guns, and requires improvement for camels. As the entrance of the pass is only $4\frac{1}{2}$ miles from Singbur Chaman on the Nushki road, it would be possible to go there from Panjpai (3 miles), and thence to Iltaz karez, $14\frac{1}{2}$ miles.

For further details, see Stage 6, Route No. LXXVII.

5	MIRU KHAN in SHO- BAWAK.	$16\frac{1}{2}$	$83\frac{1}{4}$	From Iltaz karez the hills are at once entered. They are low and almost insignificant. Road easy and ascent gradual to the crest of the Wali or Bed pass, which is reached at $3\frac{1}{2}$ miles. Elevation, 5,900 feet.
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Descent is by a very narrow and steep gully for the first 100 yards, when the bottom of a ravine is reached. It is only just wide enough to allow a laden camel to pass, and the hills rise sharply on either hand. The bed of the *nala* is of rough slate rock, and gradient of descent very considerable. At half a mile from the crest of the pass the ravine is 20 yards wide; the bottom is of fairly smooth, slaty shingle, and gradient of descent about 1 in 15.

Hence the watercourse gradually widens, and the slope becomes easier, while the path is good. At $10\frac{1}{2}$ miles the ravine meets with the outer granitic ridge of the Sarlat range, and makes a sudden turn to the left. Here, on the left hand, is a spring with a few mulberry and willow trees.¹ There is room for a small body of troops to encamp, but the ground is cramped and inconvenient.

After running for a short distance parallel to the granite ridge, the watercourse turns sharp to the right, and escapes through it by a short, but narrow gorge. At 12 miles the road gains the open country. Miru Khan's village is plainly visible $4\frac{1}{2}$ miles off; the road descends slightly over a gravel slope, and is good.

Abundance of room for encampment near the village, which consists of about 60 huts of Shirani Barechis. Water from irrigation streams slightly brackish; of better quality from a deep well. Supplies can be procured in considerable quantities, but previous notice should be given. The people are friendly.

Miru Khan is on the Shirani road through Shorawak to Nushki. (See Stage 6, Route No. LXXVI.)

The elevation is about 3,100 feet; a descent of 2,800 feet from the top of the Wali pass. This pass is the best of those in the Sarlat range. It is frequently traversed by laden camels, but the first half mile from the crest is decidedly difficult. Much time and labour would be required to make it practicable for artillery.

6	JAT POTI . . .	9	$92\frac{1}{4}$	The Lora river runs about a mile north-west of Miru Khan. Its channel is about 200 yards wide and 25 feet deep, with perpendicular banks. It is usually dry, but a good deal of water occasionally comes down in winter after heavy rain. The current of the stream is then very
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swift, but the bottom is of firm sand. When dry, laden camels have no difficulty in crossing at the regular places, but to find them without delay guides are necessary. The tall tamarisks of Jat Poti are plainly visible from the Lora bank, but the intervening plain is intersected by artificial water-channels, and a good deal of land is often under irrigation. Just before reaching Jat Poti the hollow of the Dori or Lora *nala* has to be crossed, and this is sometimes a matter of difficulty.

Altogether this march is not a very easy one for pack animals of any description, and in wet weather it may be absolutely impracticable.

For Jat Poti see Route No. LXXV.

For troops going to Shorawak this route is not so good as that *viâ* Gulistan and the Gwajha pass (Route No. LXXV).

¹Whence the name of the pass,—“willow” being *wali* in Pushtu, *bed* in Persian, *geti n* Brahui.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. LXI.

FROM QUETTA TO MUHAMMAD KHELI (SHORARUD), *via* THE GHAZARBAND PASS AND BURJ. 1879.

No. of Stage.	Name of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	MEHTARZAI	12	12	<i>Vide</i> stage 10, Route No. 125, N.-W. F., Vol. I.
2	TALA	8		
<p>up. Firewood fairly abundant, and camel-grazing good in summer. No habitations and no supplies.</p>				
3	BURJ	12	32	From Tala strike westwards for about 5 miles, and then south-west for 5 or 6 miles more to the Lora above Burj. There is no regular track, but the country can be traversed by all arms. It is open and undulating. Numerous dry, shallow water-courses are crossed, but they present no obstacle to the movement of troops. On reaching the left bank of the Lora a road is entered which comes from Rahim Kakar. For Burj <i>see</i> Route No. LXXIV.
4	SEBAT NALA	9		
5	MUHAMMAD KHELI . .	12	53	<p><i>Vide</i> stage 3, Route No. LXXIV,</p> <p><i>Vide</i> stage 4, Route No. LXXIV, Chichazai¹ (<i>see</i> stage 3, Route No. LIX) is 7 miles south-west, and Panjpai (<i>see</i> stage 3, Route No. LX) is 8 miles south-west by west. There are good roads to these places. By this route the distance is practically the same as by Kanak. (Route No. LIX.) It might be useful as an alternative route for troops proceeding to Nuskhi.</p>

¹ Singbur Chaman on this route would be about 13 miles from Muhammad Kheli *via* Chichazai. From Chichazai to Iltaz karez is 18½ miles.

Route No. LXII.

FROM QUETTA TO THANISHPA, *via* THE TOI VALLEY.

Authority.—DEPUTY ASSISTANT QUARTER MASTER GENERAL, ZHOB FIELD FORCE, 1890.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Interme- diate.	Total.	
1	KUHLACK . . .	11½	11½	} <i>Vide</i> Route No. XX.
2	KHANAI . . .	16	27½	
3	KHANZAI . . .	15	42½	
4	MURGHA . . .	16	58½	
5	HINDUBAGH . . .	13	71½	
6	SHINA KHULA . . .	10	81½	
7	KAZHE . . .	19	100½	The made road stops at Hindubagh, and the road onwards is an ordinary camel-track over stony and sandy ground covered with <i>tsof</i> and camel-grazing. Camping-ground unlimited on a level plain. Water from a single stream, which fills a tank of native construction in 12 hours. A day's notice should be given to have the tank filled. Supplies collected here by political authorities from the neighbouring villages. Camel-grazing plentiful from June to November. Wood scanty. Height of camp, 5,650 feet (aneroid).

The road for about 5½ miles traverses a dusty plain partially cultivated, but now (October) lying fallow. Here and there to the right of the track are solitary watch towers, but no villages. To the left of the track at this point is a hamlet called Tlarai, consisting of a few huts lying ¾ mile to left and at the foot of the hills. At about 6½ miles the range on the left decreases in height, and a footpath leads over it. A few hundred yards further on is a dilapidated well; the channel or watercut is dry, but it is not improbable that a good rainfall might set it working again. The whole valley now is suffering from a 3 years' drought. A quarter of a mile further on the road forks, the path to the left leading into the hills. At 8 miles pass a ruined fort called Khankai. This is similar to others found in the valley, and their construction is attributed to the Mogals. At 8½ miles pass the ruined village of Kila Basharat, about ½ mile to the left of road on low spur. The fort here was destroyed by the Zhob Field Force of 1884. At 9½ miles pass village with tower a mile to the right of road. It lies on a wide *nala* coming down from the hills on the left. At 12½ miles road goes through low sandhills sprinkled with a few tamarisks. It is here somewhat heavy marching for troops. Pass a village (Dillu Khan's) about ¾ mile to the right of the

Route No. LXII—continued.

road. At 14½ miles the road goes through heavy sandhills, and passes another village called Sirahgarh on the left at about the 19th mile. This is uninhabited now. The reason given by the guide is that the inhabitants have taken their cattle to the Zhob Lora and also to the Musa Khel country, where grazing is more plentiful than here. At 19½ miles path forks; keep to the right and the camping-ground is reached at a little over 20 miles. The whole plain here is very much wrinkled and cut up with *churs*. The stream, which flows immediately south of the camp, closely resembles the Pishin Lora. Steep perpendicular banks of clay, some 60 feet high, the actual stream occupying a very small portion of the bed. The water is rather brackish, but drinkable. The camping-ground is very irregular with clay heaps covered with tough sorub and tamarisk. Camel-grazing and fuel abundant. Supplies arranged for by political authorities; for small parties sufficient might be procured from the village, which lies 3 miles to the west. Camping-ground on left bank of the Zhob, from which the water-supply is obtained. Camel-grazing and wood abundant. (Kazhe is stage 21, Route No. XX.)

8	KHUSHNOB . . .	16	116½	For about 1½ miles road over clay, and then through thin tamarisk. At 2¼ miles it turns north, and 200 yards on enters a deep and narrow <i>chur</i> , or watercourse, with steep clay banks 20 feet high, and, going down this for about 300 yards, ascends by a ramp on to an open plain, and continues across it in the direction of a conspicuous peak called Yogwash. At 3¼ miles road descends into another <i>chur</i> , here about 100 yards wide and covered with tamarisk; descent gradual, but soil heavy; small sluggish stream at bottom draining to Zhob Lora. A few ruined huts to be seen in the bed and plenty of tamarisk. A quarter of a mile further ascend opposite bank, also easy, and continue as before across plain, winding round now a little to east of north. A little short of the 4th mile pass small village on left called Shah or Shakh Killi. The road goes over firm reddish clay, but the land on both sides is cut up by branches of the main <i>nala</i> or <i>chur</i> . Road now goes along flat plain covered with tussocks of grass and different kinds of camel forage, and at 7¼ miles passes a ziarat called Sarakhula at the mouth of an opening in the hills, which are here close on the road. Onwards road goes through heavy sand and crosses a low spur. At 10½ miles pass hamlet of Mulla Suja on right. One well here of good water. Troops might halt here and fill water bottles. Half a mile further cross a wide and shallow watercourse, with tamarisk here and there, and about 1 mile further on pass Mullazai karez or Karezgai, a deserted hamlet. There are here two poplar trees, but they are rapidly dying from want of water. The <i>karez</i> has fallen in, but it might be repaired, and probably will, after a rainy season. There are a few stone habitations, and the place shows signs of having been much frequented. Were the <i>karez</i> in working order, this spot would make a better halting-place than Khushnob, where the water is saline. Crossing shallow <i>nalas</i> and going over heavy sand reach Khushnob or Shnob hamlet at 15¼ miles, lying in a corner of the hills immediately on the left of the road. Over a firm gravelly plain reach the Khushnob fort at about the 16th mile. This fort, now in a ruined condition, stands on a mound in the midst of a small amphitheatre of hills. On the north side, under a low ridge, is a fairly large spring, the best for drinking that can be had, but it has a peculiar flavour that nothing can disguise. There are other springs and shallow wells round about, but they are all brackish. Camping-ground unlimited, and very good on firm gravel and clay. A few flocks of sheep and goats seen grazing in the hills around. A sufficient quantity of supplies obtainable for a small force if due notice be given. A sufficient amount of camel-grazing and fuel obtainable at short distance from camp.
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9	JABA . . .	16½	133	Road goes along in a east north-east direction at the foot of a range of jagged peaks to the left, crossing alternately dry sandy watercourses which drain towards the Zhob river, and the stony and gravelly <i>daman</i> of the range. At about 4¼ miles several tracks cross the road, all leading to the Sur tangi, by which goes a footpath into the Khaisor valley. At about 5½ miles a short way up a ravine on the left is a cluster of huts (Hamza), and somewhere near is said to be a well of brackish water. At 8½ miles is another similar cluster of huts on the left belonging to the Hamzas, and at about 9th mile are some stone enclosures on the left of the
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Route No. LXXI—continued.

road, near which is a well of good water about 30 or 40 feet from the surface of the ground. Several tracks cross the road leading from the villages in the Zhob valley into the hills, which belong to the Pantalzais. About the 10th and 11th miles two small hamlets on the right of the road and a little *jowar* cultivation, but the inhabitants have to get their water either from the well abovementioned or from the Lora. At $12\frac{1}{4}$ miles road ascends long rolling spur. Here on right is a ziarat and graveyard. Road now turns to the north into a sort of defile by a stony watercourse, entrance about 200 yards wide; low ridges on both sides. After about $1\frac{1}{2}$ miles it begins to open out. At 14 miles road goes sharp round to the right, leaving the watercourse, and after half a mile descends into the Sebzai or Siwai valley, which it crosses. This valley is wonderfully level, and is about $1\frac{1}{2}$ miles wide, well cultivated, and has a few mat huts. On reaching north side of valley, the road enters the hills by another defile also called the Sarkhula. The ground here, and all along the defile, is considerably coloured, almost every shade of red and grey. At 16 miles road enters narrow tangi, 30 yards wide at mouth, with sharp ridges running east and west. There is water in bed of stream here in shallow wells, but it is very muddy and stagnant. Along this torrent bed, out into another valley, on the opposite side of which is the camping-ground of Jaba or Zhaba at $16\frac{1}{2}$ miles. Camping-ground is very undulating, and tents have to be pitched to suit the ground. Water from a single spring good and fairly plentiful. It flows into a small tank, which is now almost filled up with blackish mud and reeds. It would be worth while to have it cleaned out, and the black mud which lies in the bed of the stream dug out, should this place become a regular halting-place between Upper and Lower Zhob. A little coarse grass is procurable, but for forage and fuel for a force arrangements should be made beforehand.

10	TOI WAR . . .	$10\frac{1}{2}$	143 $\frac{1}{2}$	A path goes straight along this valley in an easterly direction, and strikes the Toi tangi near the entrance, saving about 2 miles; but as this was not known to the guides with the force, we returned to the Sebzai valley, and the road continued in an easterly direction,
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keeping at the foot of the range on the left (north) side, going very easy, and passing a good deal of *jowar* cultivation on the right. At $5\frac{1}{4}$ miles cross a track leading towards a gap in the range on the left (this range is called Tora Khulel). The valley here is covered with tussocks of grass and dry scrub, and there are a few tamarisks lining the watercourse. At $8\frac{1}{2}$ miles reach mouth of the Toi defile. There are here a few stone enclosures, where evidently shepherds halt. The entrance of the pass is about 200 yards wide. The hills on both sides are low, but jagged and broken, and there are some pools of very muddy-looking water in the bed. The road now takes a bend round from north to east, and continues in this direction along the somewhat stony bed of the stream, and over its banks to the camp, which is reached at $10\frac{1}{2}$ miles, and lies at a point where the *tangi* takes another turn to the north. Road easy for camels throughout. Camping-ground on stony plateau above right bank of the stream, and also on a sort of island in the middle of the bed, and again on level patches on the opposite bank, sufficient for two brigades. Water from pools in the bed perennial, but bitter and rather muddy; very little camel-grazing and grass; no fuel. Flocks of sheep and goats seen about grazing on the hills. Height by aneroid, 5,300 feet.

11	SHARAN KACH . . .	$13\frac{1}{2}$	157	The road lies the whole way along the bed and over the banks of the Toi stream. After rain this must be a rushing torrent, filling the whole <i>tangi</i> in some of the narrow places, and rendering the road absolutely impassable. At this (the driest) season of the year (October)
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there are several pools in the bed. There are some good *kaches* on both banks, where troops might encamp, and coarse grass and tamarisk are procurable in many of the *valas* draining into this. The ranges on both sides vary in character considerably. Between the 8th and 9th miles they resemble knife-blades, and one might sit astride of the crests; near Sharan Kach, however, they are a confused mass of gray clay hills quite bare. The camping-ground at this latter place is on level ground on both sides of the stream, sufficient for a brigade at least. Water abundant and good from the stream. Fuel procurable from a distance, and a little camel-grazing.

Route No. LXII—concluded.

12	KURIA WASTA	11	168	<p>The road keeps along the bed of the stream, which has a fairly straight course, in a northerly direction for 2 miles. It then bends round first to east and then north-east, and at $3\frac{1}{2}$ miles the road quits this stream, which now has a good flow of water in it, and goes up the Sarobai, a narrow insignificant looking <i>nala</i>, and dry. There is, however, coarse grass and plenty of wild pistachio trees on the hillsides. Road thus far easy. The hills on both sides up to this point are of clay, covered with <i>debris</i> of stone, gravel, etc., but on both sides of the Sarobai they appear to be of limestones, and are steeply scarped near the crest. The <i>nala</i> is about 7 yards wide at the entrance, and there is only just room for laden camels to go in single file. At 4 miles ascend a small but steep spur, slope about 14°; this cuts off a bend in the stream, the road descending into it again almost immediately by an equally steep gradient. The road follows this <i>nala</i> for about $3\frac{1}{2}$ miles more, and then leaves it, again; crossing a flat watershed, it descends by a steep and narrow path into the Toi stream. This part of the road was improved by the sappers, but it is still very trying for laden camels. The road now follows the stream to the camping-ground at Kuria Wasta, which is reached at 11 miles. Unlimited camping-ground on a stony and gravelly plateau. Water el, and camel-grazing abundant. Height, 6,184 feet.</p>
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13	THANISHPA	$17\frac{3}{4}$	$185\frac{1}{2}$	<p>Road still keeps along the Toi watercourse, which has high, steep banks, and at 1 mile the <i>nala</i> forks. Road keeps to the left branch, and $\frac{1}{4}$ mile beyond is a small tower, with a little cultivation in the <i>nala</i>. Road leaves <i>nala</i> here, and goes over undulating ground on the left, striking <i>nala</i> again at $2\frac{1}{2}$ miles. About $\frac{3}{4}$ mile further <i>nala</i> widens a bit, and there is a well here with some shepherds' enclosures close to it. At $6\frac{1}{4}$ miles road leaves the <i>nala</i>, which here has very precipitous banks from 60 to 80 feet high, and enters a long plateau, undulating at first, but becoming more level as the road ascends. From $7\frac{1}{2}$ to 9 miles cross perfectly level plain, covered with sheep-bitten grass, and then begin to descend into more broken ground. About $\frac{1}{4}$ mile on pass through large graveyard, and at $9\frac{3}{4}$ miles road enters <i>nala</i>, and at this point there is a well in the bed on the left, the inside of which is rivetted with stones, and the water, which is good, is about 10 feet from surface of the ground; 200 yards on is a second well similar to the first one. Road now begins to enter the range enclosing the Khaisor valley on the north, ascending dry <i>nala</i>, with low broken hills on both sides. At $10\frac{3}{4}$ miles small pool in bed of <i>nala</i>, which is narrow and rocky for about $\frac{3}{4}$ mile, the stream going at the right angles to strata. At $11\frac{3}{4}$ miles ascend stiffish spur, and a few hundred yards on through a very narrow gap in the strata, and another stiff ascent. Shepherds' hut and flocks seen here. The ascent to kotal continues to $12\frac{3}{4}$ miles. Road now descends, but path is in places rocky and narrow; 200 yards on is a well nearly filled in; water good, but scanty. Road now bears round to the right (north) through a more open <i>nala</i>, which further on becomes rocky ground, and at $15\frac{3}{4}$ miles crosses a stiffish spur, descending by a zig-zag to an open <i>nala</i>, where are three shallow pits or wells of water. Commissariat camp pitched here. Thence to Thanishpa road winds through low hills for about 2 miles; then enters the Thanishpa valley, and goes west for about 1 mile to where camp was pitched. (See also stage 9, Route No. 101, N.-W. F., Vol. 1.)</p>
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ROUTES ON THE NORTH-WEST FRONTIER.

Route No. LXIII.

FROM BARSHOR TO BALOZAI OR MURGHA, *via*, THE NARIN GLENS.

Authority.—CAPTAIN SHOWERS; AUGUST 1879.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	LANG	5	5	For Barshor <i>see</i> Stage 6, Route No. 128, N. W. F., Vol. I. From camping-ground on the south or Suliman Khel Kakar side of Barshor, a path leads south over the hills. Small ranges or spurs are crossed continually. The road is practicable,

but bad for camels.

There appears to be some little cultivation at Lang. Water and fire-wood probably abundant. Camel-grazing and supplies very scanty.

This place is in the western Narin glen, which joins the Barshor valley at Mamanika Ziarat, $7\frac{1}{2}$ miles from Kala Khushdi Khan. The road down it, however, is reported to be very bad in one place, and impracticable for pack animals.

2	BALOZAI	12	17	South-east or thereabouts to a watershed called Bashal, which is reached at 3 miles, after a very steep ascent, quite impracticable for laden camels. Descent is fairly easy, and thence there is water and patches of cultivation at intervals. At 6 miles cross a second water-
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shed, which appears to be the true one, dividing the western and eastern and Narin glens. It is called Zi. Thence down the eastern Narin glen by a tolerable path. After a mile, huts, scattered or in groups, are met with, but the glen is very narrow and winding, and though the bills are low the country is intricate. At 3 miles from the watershed and 9 from Lang, the Karezat Kakari plain is entered. Thence to Balozai village is about 3 miles south, while Murgha is $2\frac{1}{2}$ miles east. The road is good and open in both cases.

Supplies procurable from Balozai. Camel-grazing poor, even in summer; none in winter. Fire-wood scanty. Water abundant and good from *karez*.

Route No. LXIV.

FROM BARSHOR TO RAGHA IN ZHOB, OR THAL ZIARAT.

Authority.—FROM NATIVE INFORMATION; 1881.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	RAJHJI	13	13	From camping-ground on the south side of Barshor ascend the valley, and pass through Ghabarg. When the fork of the Shishankan and Chinar glens is reached, the latter, on left-hand branch, is taken. The lower part of the Chinar is broad and open, and the hills on the

north side are low. Afterwards the glen is said to narrow somewhat, but the road continues good to Rajhji, which is a patch of cultivation with a few huts of Barakzai Kakars.

Route No. LXIV—concluded.

Water and wood are said to be abundant, and there is some camel-grazing in summer. No supplies and not much room for encampment.

2	RAGHA	15		28
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The road continues for a few miles up the Chinar glen, and at some point above Rajhji, probably at or beyond the watershed, or end of the valley, it forks. The right-hand branch leads to the Mezhlare pass, which is reached at 10 or 11 miles, and appears to be a kotal in

the range between the head of the Zhob valley and the Toba highland, about a march south-east of Kala Haji Khan. It is reported to be a rough road, practicable for cavalry, but not for laden camels. Thence to Ragha is said to be about 4 or 5 miles. This place is in the open country of Zhob. The people are either Isa Khel or Sarau Kakars and have a very bad reputation.

The other road appears to lead pretty nearly straight on to Thal Ziarat, which is understood to be a hamlet two marches (about 26 miles) from Kala Haji Khan on the route to Baba China and Kazhe in Zhob. The distance of Thal Ziarat from Rajhji is said to be about 12 or 13 miles.

Route No. LXV.

FROM BARSHOR TO AMO KACH, 1881.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	AMO KACH	13½	13½	From camping-ground on the north side of Barshor proper a path leads in a general north north-westerly direction, and crosses the hills by the Zarksar pass (see <i>Gazetteer</i>) to Abu China, 5½ miles. This road is practicable for horsemen, but not for camels.

Thence down the ravine in which Abu China is situated, for a short distance to the upper part of the valley or glen of the Lesser Tor Margha. The road turns down this west south-west, and is good. The hills in immediate proximity to the road are of no great height. There is little, if any, cultivation in this glen. At about 4 miles from Abu China (9½ miles) a much larger valley is entered. To the right (north-east) this is closed by a watershed, and the *nala* turns at once to the left (south-west) and runs at the foot of the hills on that side of the valley. On its further or right bank is cultivable land sloping up to the hills, and here, but some little way off the road, are various hamlets, with fields and fruit-trees.

The road is in, or close to, the watercourse; it is good, though stony in places, with a gentle, steady descent. The hamlets of Warzarob Ragha, Bagh, and Zhyar are passed successively. They are all on the right bank of the watercourse, between it and the hills. At about 12½ miles reach Chingai. The houses of this settlement are very much scattered in folds of the ground near the *nala*, and there is a tower in a commanding situation. A few huts are on the left bank under the Ulgai hill.

Below Chingai the *nala* runs in a defile, between a hill on the left and the scarp of a plateau on the right. A small stream appears in the bed about Chingai and continues to the camp. After about a mile the watercourse makes a bend to the left and joins the Greater Tor Margha. Here is Amo Kach, a few fields and huts at the junction of the *nalas*. The camping-ground is under a hill and very small; there is better ground a mile up the Big Tor Margha. People here are Hajizai Suliman Khel Kakars, and very friendly. Water abundant and good; fire-wood tolerable; camel-grazing appears scanty. Supplies for 100 infantry can be procured from the villages passed on the road.

Amo Kach is on the road from Kala Khushdil Khan to Tor Jamat on Toba by the Shiuh-wah glen. See Route No. 143, N.-W. F., Vol. I.

Route No. LXVI.

FROM BARSHOR TO KAMCHUGAI IN ZHOB.

Authority.—MAITLAND.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter- mediate.	Total.	
1	BELA	4	4	From camping-ground on the south side of Barshor proper ascend the valley and cross to the opposite bank of the watercourse. Thence over a slight rise to the ruined fort of Mando Kala, which is reached at about $1\frac{1}{2}$ miles. Opposite to Mando Kala is the entrance to Ghabarg (Sultanai). The road, turning east, passes through Ghabarg to the junction of the Chinar and Shishankan glens. The latter (right-hand branch) is then taken. After a short distance the entrance to the Bela ravine is seen on the left-hand (north) side. Within this ravine are a few huts and patches of cultivation. Water, from springs, abundant and good. Fire-wood is also abundant, but there is hardly any camel-grazing even in summer. Supplies may be procured in small quantities from Ghabarg, and also in tolerable abundance from Barshor. There is, however, no place to form a camp, and troops would probably have to bivouac in the bed of the Shishankan.
2	KAMCHUGAI	20	24	Eastwards up the Shishankan, a long gloomy-looking defile between high hills. It is narrow, and though there are said to be huts and a few small patches of cultivation in places, there is no room to camp even a detachment.

At the end of Shishankan, probably at about 14 or 15 miles from Bela, is the Spanglan pass giving access to the Kamchugai glen. A kotal, or watershed, appears to be crossed; this is followed by a descent through a defile or gorge to the open country at the head of the Zhob valley. Kamchugai is a village near the debouchure of the pass. There is water and cultivation, and about 50 huts of Isa Khel Kakars, who are ill-disposed and at feud with the friendly Taraghari Kakars of Barshor. Hindubagh (or Karezgai) is about 8 miles east.

The road, as far as the head of the Shishankan glen, is said to present no difficulties, but the Spanglan pass is understood to be impracticable for laden camels.

Route No. LXVII.

FROM BOSTAN TO THE MURGI RAVINE.

Authority.—CAPTAIN WAHAB, 1887.

From Bostan the road leads south south-east for 3 miles across the *daman* to the point where a *nala* leaves the hills; thence up this *nala* an easy gradual ascent for 2 miles more, whence south south-west up a steepish ascent for half a mile to a kotal. From this kotal an easy descent by a branch of the Murgi *nala* leads to the main ravine from whence the road downwards is quite easy. About $\frac{1}{4}$ mile above the junction there is an abundant spring and running water for about 100 yards; from this point the Murgi Choki is $3\frac{1}{2}$ miles distant. There is also here a camping-ground on a flat on the right bank sufficient for four companies of infantry.

Distance from Bostan to Murgi Choki 10 miles.

Route No. LXVIIA.

FROM BOSTAN TO SIRAGURGI.

Authority.—CAPTAIN WAHAB, 1887.

Across the *daman* south-south-east for 3 miles, thence along the left bank of a large *nala* in the same direction for another mile and descend into the dry bed of the ravine. At 5 miles the road enters a remarkable defile. The sides rise for several hundred feet almost perpendicular, seeming in places almost to meet overhead. Throughout the length of this *tangi* which is about a mile long, there is a considerable stream of running water.

Immediately above the *tangi* two *nalas* unite, forming a broad open space where a body of troops could encamp. From this point a path leads up the eastern branch to a kotal, practicable for laden mules, and thence descends into the ravine leading direct to Siragurgi at the edge of the Quetta plain. Another path leads by the western branch in a south-west direction, and by another branch of the same ravine to Siragurgi. About 2 miles from where the western track takes off from that going by the eastern branch, a somewhat circuitous path leads to the Murgi ravine. A direct road could easily be made.

The road between the kotal above the *tangi* and Siragurgi has not been traversed by a surveyor, but it is believed to be fairly easy. There is an abundant supply of firewood on the hills above the *tangi*; good camel-grazing, and at some seasons of the year forage for mules.

Distance from Bostan to Siragurgi $14\frac{1}{2}$ miles.

Route No. LXVIIB.

FROM BOSTAN TO THE GHARKAI-KACH ROAD.

Authority.—CAPTAIN WAHAB, 1887.

A road leaves the high road at 6 miles from Bostan (*see* Route No. XX, Stage 27), and goes across the *daman* for a mile, where it strikes a *nala* at its issue from the hills. The road goes up this *nala* for $1\frac{1}{2}$ miles to the kotal. The ascent from the north is very steep, but quite practicable for laden mules. (The camels of a detachment of the survey party marched by this road and had some difficulty.) From the kotal the descent is very easy to a *nala*, down which the road goes.

At about 12 miles a road leads north-west to Khanai station, distance 5 miles, crossing a kotal at about 2 miles. This road is good throughout.

At $13\frac{1}{2}$ miles from Bostan the road goes nearly due south joining Route No. 129, N.-W. F., Vol. I, at 3 miles further on.

Note.—Captain Wahab says:—I have not visited all these roads myself, but I have been over the ground between Bostan and the place where the Gharkai road branches off, and have seen several frontier expeditions go over worse ground without any great difficulty. Attention should be paid to all paths of this sort, for it is a great mistake to look on these hills as in any way inaccessible, or as affording a safe support to a flank of the defensive position, unless carefully watched. If an infantry detachment and a few mountain guns were sent out for a week, they could bring back detailed information which would settle the question at once.

The roads leading from Khanai station are also very important, as they would enable an enemy to take your Gharkai position in reverse, or cut into your communications on the Kach-Quetta road.

Route No. LXVIII.

FROM TOBA TO GHAZNI.

Supplementary to Route No. 128, N.-W. F., Vol. I.

Authority.—THE MULLA, 1887.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter. mediate.	Total.	
1	TARA	19	19	For Toba see Route No. 139, N.-W. F., Vol. I. Starting from Jan Khan, Koro on the watershed between the Karatu and Mandan <i>nalas</i> , the road lies down a level valley about 4 m les wide with low hills on either side, the road lying nearest to the hills on the right. The road throughout lies over an open undulating country, bare of trees except low scrub. There are no permanent habitations; but during the summer people from the Kandahar valley bring up their flocks to graze. At Tara there is water and forage in abundance. Firewood is obtainable. The road so far is practicable for all arms, but for wheels it would in places, require a little making. Soil easy.
2	KADANAI	7	26	Road good throughout, but requires making for wheels in places. The country hereabouts is a mass of low hills. Cross two branches of the Kadanai river. The country in summer is sparsely inhabited. Grass, fuel, and water plentiful.
3	DEH MULIAN	11	37	Road through the same undulating uncultivated country. At 5 miles reach the Saliso Mand river down its bed from side to side as far as Deh Mulian, where there are a few houses and a little cultivation. Water, fuel, and forage plentiful.
4	AGARAH	14	51	Road good for all arms throughout. At 10 miles enter the cultivated district of Agarah, which is a broad and level valley in which both corn and cotton are grown. It belongs to the Popalzai section of the Duranis. Supplies, fuel, forage, and water.
5	NIKU (MARUF DISTRICT.)	9½	60½	At 3 miles cross a low range, the Lakarai Band, practicable for all arms except wheeled artillery. This range is the boundary between Agarah and the Maruf district which belongs to the Barakzai Duranis. The descent is about 2 miles long, but quite easy. At 7¼ miles enter Maruf cultivation, and at 9½ reach Niku, one of the Maruf villages. The Rud-i-Maruf is a very populous and productive district. It pays no revenue to the Amir, but it is attached to the Kabul province and not to the Kandahar. The valley is about 4 or 5 miles wide, the villages being situated on the skirts of the hills.
6	HAWA CHINA	7	67½	At 5 miles cross the Surkhab river. In autumn about 2 feet deep and 10 yards wide. Camp in the village of Hawa China (Maruf valley). Hawa China is the limit of the Durani tribes.
7	HASAN KILI	11¾	79¼	At 1 mile pass a graveyard, beyond which one enters the Hotak valley. At 7 miles ford the Hotak river, which is 2 feet deep in autumn and about 12 yards broad. It is very swift and unfordable when in flood. Pass village of Bawal, 11 miles distant from road. The camping-

Route No. LXVIII—concluded.

Ground is about a mile from the village of Hasan Kili. Supplies for about 500 men would be procurable here, while fuel, grass, and water are plentiful. The Hotak valley, though 4 or 5 miles broad, is thinly populated. The road on this march is practicable for all arms.

8	DEH-I-JALLU . . .	15	94 $\frac{1}{4}$	For 2 miles through low hills. At 3 miles cross a ravine. At 5 $\frac{1}{2}$ miles pass the village of Basu Khel. At 7 miles the road enters Tokhi limits. At 8 $\frac{1}{2}$ miles cross a small stream. At 10 $\frac{1}{4}$ miles enter low hills, the road being a defile. At 11 $\frac{1}{2}$ miles cross the
Hotak river, 3 feet deep and 10 yards wide. The road on this stage, is practicable for all arms. Deh-i-Jallu is a largish village. Supplies, forage, and fuel all procurable.				
9	MULLA ANWAR . . .	10 $\frac{1}{2}$	104 $\frac{3}{4}$	The ascent to the Jallu kotal is about 2 miles in length, but very easy. The road then descends for about a mile to a watercourse, down the left bank of which it goes for 2 $\frac{1}{2}$ miles. At 5 $\frac{1}{2}$ miles cross this. At 8 miles cross the Shinghar; both ascent and descent
are short but difficult, after which the road is in a level plain. At Mulla Anwar supplies of all sorts are plentiful; neither the Jallu kotal nor the Shinghar are practicable for wheels.				
10	DEH-I-KAZI . . .	14 $\frac{1}{2}$	119	At 3 $\frac{3}{4}$ miles pass Mulla Maddu, beyond which the road enters Taraki limits, and passes through a well-cultivated and populous country, the villages <i>en route</i> being Jungal Kili Jamaiat, Kila Painzo, Gaibi Khel, Zerim Khel, etc. Deh-i-Kazi belongs to the Akazai
section of the Tarakis. Here supplies sufficient for 2,000 men could be procurable.				
11	MANSUR KAREZ . . .	9 $\frac{3}{4}$	128 $\frac{3}{4}$	At 4 $\frac{3}{4}$ miles from the south-west corner of the Ab-i-Istadah lake (300 paces distant), pass villages of Mirzai, Zar Kila Tangah and Karudin Khel. The road throughout is good, and supplies of all sorts are procurable. Karudin Khei (9 miles) is perhaps a better
place to encamp. The Ab-i-Istadah is never more than a mile distant from the road.				
12	DAND KILA . . .	7 $\frac{1}{2}$	136 $\frac{1}{8}$	At 2 miles pass Behud Kila, 1 $\frac{1}{2}$ miles to the left. The country hereabouts is very populous. At 7 $\frac{1}{2}$ miles Dand Kila. The road is good throughout, and supplies of all sorts are procurable.
13	MUKUR . . .	12 $\frac{3}{4}$	148 $\frac{7}{8}$	Road easy. At Mukur supplies are plentiful. Here the Mulla's route joins the well-known road from Kandahar to Ghazni. It is therefore needless to give his description.
14	OBA KAREZ . . .	14	162 $\frac{7}{8}$	} See stages 15 to 21, Route No. 85, N.-W. F., Vol. I.
15	JAMRAD . . .	12	174 $\frac{7}{8}$	
16	MASHAKI . . .	9	183 $\frac{7}{8}$	
17	NANI . . .	14 $\frac{1}{2}$	198 $\frac{3}{8}$	
18	GHAZNI . . .	14 $\frac{1}{2}$	212 $\frac{7}{8}$	

Remarks.—The route appears easy, being practicable throughout for laden camels, and easily made practicable for wheels. There are no difficulties as regards forage or water, but firewood is somewhat scarce for the first two marches, and there are no supplies obtainable till Agarrah (4th stage) is reached.—(Sd.) E. G. B.

From Deh-i-Kazi to Mukur the road must be very much the same as that traversed by the Bombay column. (*Vide* Route No. 128, N.-W. F., Vol. I.)

Route No. LXIX.

FROM KALA KHUSHDIL KHAN TO BURJ ON THE LORA, BY HAIKALZAI, SHADIZAI, AND SEGI, 1879.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	HAIKALZAI	10	10	A camel road. From lines of Khushdil due west, through Malikyar village and across the chaman. At about $2\frac{3}{4}$ miles cross a very small kotal, leaving the last of the low hills to the right. There is also a road to the right round the end of the hill. It leads to Sarala, Yasinai, etc., (see Route No. LXX). From the kotal there is a descent south-west towards the little hamlet of Tirkha Malikyar or Payak, around which is some cultivation. Beyond the hamlet is the Tirkha (salt) <i>nala</i> , which is reached at $3\frac{1}{2}$ miles. It is a large and deep watercourse, but the crossing is fairly easy for camels. On the further (left) bank is an irrigation stream. Soon after crossing the Tirkha a well-marked track is entered; it leads straight over the plain to Surkh Kala, which is visible all the way. At $8\frac{1}{2}$ miles pass Surkh Kila, the remains of an ancient fort on a red clay mound, close to the road on the right hand. Thence nearly straight on to Haikalzai. The last $\frac{1}{2}$ mile, after crossing a small watercourse, is a gentle rise. Camp north or north-east of village, near huts and a defensible enclosure erected in December 1878. Good ground. Water from irrigation-channels is slightly brackish and is liable to be cut off. It comes from the south-east, in which direction, at some miles distance, are several water-mills. Supplies should be tolerably plentiful, but the people are not well disposed. Firewood is procurable, and camel-grazing good in summer. Elevation, 4,880 feet. The road this march is very good all the way, but the crossing of the Tirkha <i>nala</i> would have to be improved for guns. For further details of Haikalzai see stage 25, Route No. XLV.
2	SEGI	$17\frac{1}{2}$	$27\frac{1}{2}$	From camp Haikalzai, west to Khwajazai or Kwadadzai village, through which the road passes at $1\frac{1}{2}$ miles. Thence south-west along the right bank of the Surkhab, here quite dry, with a sandy bed.

It is crossed after a short distance. The banks are 12 feet high, but the passage presents no difficulties to camels, and artillery could cross near the village. The track now runs in a general south-westerly direction. The country is quite open and covered only with low scrub: no cultivation is visible from the road. At about $3\frac{1}{2}$ miles (2 from Khwajazai) a *nala* is crossed, difficult for guns. Thence the road bends somewhat to the right, and winds to avoid broken ground on the left hand. At about $6\frac{1}{2}$ miles another watercourse, which would require ramping for guns. From this point a straight line is taken to Shadizai, the trees of which are plainly visible. At 7 miles a conspicuous flat-topped mound is passed, half a mile on the left.

At $9\frac{1}{2}$ miles reach Shadizai village. The road passes close to it on the right. To the left, between the village and the Kakar Lora river, is a good camping-ground, and the road from Kasim Kala and Haidarzai to Gulistan post, or Kala Abdulla Khan, crosses here.

There are two roads from Shadizai to Segi. By either the distance is about the same (8 miles). Guides would usually follow a track leading due west from the village and winding round to south-west west. This detour is to clear the numerous deep watercourses which seam the plain in the angle formed by the confluence of the Pishin and Kakar Loras. They approach close to the path, which must be strictly adhered to. At about $2\frac{1}{2}$ miles reach the Kakar Lora, an enormous channel, at least 200 yards wide, and 20 to 25 feet deep. The

Route No. LXIX—concluded.

banks are perpendicular, and the crossing is difficult for laden camels. The stream running in several channels, is shallow, with a good sandy bottom. After gaining the plain, an ill-defined track leads south-west to the village of Sirashahar, reached at $6\frac{1}{2}$ miles. Here the other road is entered. Distance on to Segi about $1\frac{1}{2}$ miles.

The second, and best, road leaves Shadizai village in a south-westerly direction, and skirts the river-bank, winding somewhat among broken ground. At about three-quarters of a mile descend to the river-bed, and cross it obliquely. It is here 150 to 200 yards wide. The stream is shallow, the ford having a tolerably firm sandy bottom. The crossing is much easier than on the road first described, and is effected by camels without difficulty. Considerable labour would of course be required to make a road for artillery.

At about $1\frac{1}{2}$ miles the plain is regained. From hence a straight, level, and well-marked road leads to Sirashahar. The village of Mulla Gulam is passed a short distance to the left. At $6\frac{1}{2}$ miles reach Sirashahar. The main Lora river has now to be crossed to Segi. There are two ways. The easiest for baggage, etc., is leave the hamlet to the right, and to go on half a mile or more to the main road from Quetta (Route No. 125, N.-W. F., Vol. I), which descends to, and ascends from the river-bed by well-made ramps. The other road is a path passing through the hamlet and crossing the river straight to Segi. It is a fair country camel track, quite practicable for cavalry and baggage mules and saves at least a quarter of a mile.

On the whole the road this march is very good.

It is necessary to pass over the river to Segi, although it may have to be recrossed next march, as there is no good road down the left bank till the village of Rahim Kakar is reached. (See also stage 12, Route No. 125, N.-W. F., Vol. I.)

3	BURJ	16	43 $\frac{1}{2}$
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From Segi south-west along the right bank of the Lora, the edge of the perpendicular bank being nowhere more than 200 to 300 yards distant. The road is very good and well marked. At about $3\frac{1}{2}$ miles bend to left (south) to cross the river. The passage is

easy for baggage animals. From the crossing the road leads on to the village of Rahim Kakar, which is passed at about 5 miles. Thence south-west passing the hamlets of Dramanzai (6 miles?) and Malizai (8 miles?). This part of the road has not been reconnoitred, but is said to be quite easy for all pack animals. However, as seen from the opposite bank, several hollows containing watercourses draining to the Lora have to be crossed. South of Malizai is the considerable hollow of the Ghabarg *nala*, but beyond this for several miles the country near the river (which can now be crossed without much difficulty) is open and slightly undulating. Low scarped hills at some distance to the left. For the last 4 miles into Burj the country has been gone over. It is a succession of gravel ridges and undulations, in the hollows, between which are dry watercourses running to the Lora. It can be traversed by all arms. Road near the river-bank is good. Burj hamlet has a fair amount of cultivation, watered by a cut from the Lora. There is ground for encampment here, though the regular place is on the opposite (right) bank of the river. Room for a division.

Water abundant, but slightly brackish. Firewood and camel-grazing (in summer) abundant. Some *bhusa* is generally procurable, but no other supplies can be counted on. Elevation, 4,900 feet.

This place is on the *kafila* road from Gulistan karez to Muhammad Kheli in Shorarud. See Route No. LXXIV.

The left bank of the river may also be followed to Burj. From the point where the road bends to left (at $3\frac{1}{2}$ miles) to cross the Lora, strike half right (south-west) across the plain towards the nearest of the low hills in that direction. There is no defined track, but the country is flat and open almost up to the hills, at whose base runs a large watercourse known as Tirkha (salt). It is 30 yards wide and 15 feet deep. There is some running water, quite salt and undrinkable. The crossing ($4\frac{1}{2}$ miles) is rather difficult for pack animals, but could be made easy with little labour. Beyond the Tirkha it is necessary to hug the base of the low hills for some distance to avoid broken ground and watercourses on the left. At about $5\frac{1}{2}$ miles the *kafila* route from Gulistan karez is met above Ayaz karez, and thenceforward allowed to Burj. Burj camping-ground is reached at 15 miles. The village is about three-quarters of a mile on, across the river.

Except where the Tirkha *nala* is crossed, this road is excellent all the way.

Route No. LXX.

FROM KALA KHUSHDIL KHAN TO GULISTAN POST BY KARBALLA, 1880-81.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	TOTAL.	
1	KARBALLA . . .	12½	12½	A camel road. Westwards, past Malikyar and across the chaman as in Route No. LXIX. Instead, however, of bending slightly to the left at 2 miles to gain the kotal, the road keeps straight on, passing between the end of the low hills and the broad bed of the Pishin Lora. At

about 3¼ miles pass the small village known as Sharin (wrongly marked on map). At about 4 miles cross the Tirkha *nala* at its junction with the Pishin Lora. No difficulty for pack animals. On the further side of the watercourse is the village of Sarala. Passing it, the road goes straight on over open level plain to Yasinzai. The first of the villages so called is passed at 5½ miles and the second as 6½ miles. Thence in a general south-westerly direction to Malizai, a large village closs to the precipitous bank of the Lora.

From Malizai the track is not very well defined, and it might be necessary to keep near the river for a mile or so to avoid cultivation. However, the village of Karballa is visible to the south-west; the country is open and road good.

Karballa is reached at 12½ miles. It is a long, stragglng village, of about 100 houses. Country around perfectly flat and open. Best spot for encampment is probably to the north-west. Water, from wells in the village, is slightly saline. There are about 20 wells altogether, but the supply is not very abundant. West of the village are two or three rain-pools, but the small amount of water in these is often very filthy. Supplies are procurable. Firewood tolerable; camel-grazing very good, except in winter. The people are Karballa Sayads and friendly. Elevation, 5,000 feet.

The road this march is good all the way. There is cultivation and water at all the villages passed, but the latter is brackish.

The telegraph line from Gulistan post to Kala Khushdil Khan passes through Karballa.

By marching on to the Lora bank, 5 miles, Gulistan post can easily be reached next day in one march of 14 miles.

2	POPALZAI . . .	10	22½	Westwards, inclining south, over open plain covered with low scrub. At 2 miles cross the gun road from Bazar and Haikalzai to Kala Abdulla Khan. After 4 miles the plain is pretty thickly grown with "lani" jungle, affording good camel-grazing. At about 5 miles cross
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the Pishin Lora. It has a large channel with scarped banks; width about 100 yards, depth about 30 feet. The running stream in winter is 15 to 20 yards wide and 1½ to 2 feet deep. Bottom of ford muddy, but not too soft for pack animals. The crossing is well marked; descent steep, and hardly practicable for laden camels; ascent tolerably easy.

Beyond the river the flat plain is covered with a thin jungle of dwarf tamarisk. The road bends west by north, and at 7½ miles passes the hamlet of Torkhel. Immediately beyond is the Badezai *chur*, a deep watercourse, having perpendicular banks nearly 20 feet high. Its width is 10 to 15 yards. At bottom is a small running stream. Passage practicable for pack animals, but decidedly difficult for camels. Thence in a general south-westerly or west south-westerly direction, passing village of Kulazai at about 9 miles.

Country is open plain, with tamarisk scrub; little or no cultivation visible from the road,

Popalzai is village of rude wattle-and-daub huts. A small stream of good water flows past it to irrigate land some distance to the south. Ample room for encampment on bare plain, covered in places with saline efflorescence. Water abundant; firewood procurable; camel-grazing good in summer. *Bhusa* and grain should be obtainable here and from Kulazai. Elevation, 5,100 feet.

Route No. LXX—concluded.

This march is easy, except at the crossings of the Pishin Lora and Badezai *chur*, which are certainly practicable for mules, but hardly so for camels. They could, however, be easily improved.

3	GULISTAN POST .	9½	32	Westwards. At about 2 miles pass four scattered hamlets belonging to Firalizai Achakzais near a large mound. The plain about here is sprinkled with dwarf tamarisk, but very salt.
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The road is not at all well defined. Many tracks run in various directions to the numerous small hamlets scattered over the plain, and it is well to have a guide, though Gulistan post and the adjacent village are plainly visible to the west, under the hills.

At 2½ miles cross a small irrigation stream; beyond it is cultivation, with the ruins of a village. At about 3½ miles the hamlet of Mulla Ghulam is passed on the left hand. There are other hamlets on the right at some little distance. The road now bends west south-west. Plain here is covered with the plant called "pranai" or "zmai," which is excellent camel forage. At about 6½ miles cross the Habibzai *chur*, just below the junction of the Lajwar *nala*. The *chur* is an ordinary watercourse containing a small stream in winter. Passage easy. On the further side is a hamlet belonging to Dramanzai village to the south-west. Thence a well-marked road gently ascends a gravel slope for nearly 3 miles towards the village of Inayatulla karez, before reaching which bend to the left for the post, which is half a mile south-west of the village.

This is an easy march, practicable for all arms.

This route is 7 miles shorter than that by Kala Abdulla Khan, Badwan, and Alizai. Artillery and large bodies of troops would, however, take the latter, unless the passages of the Pishin Lora and Habibzai *chur* are much improved.

Route No. LXXI.

FROM KALA ABDULLA KHAN TO SHADIZAI, BY PAIZAI, THE FIRALIZAI HAMLETS, AND SAYAD KALU.

No of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter- mediate.	Total.	
1	SHADIZAI . . .	16	16	Take the cart road till clear of the low hills. Then, instead of following it towards Gulistan, go straight on (south-east) to get across the Habibzai <i>chur</i> before that watercourse becomes impassable. At about 2½ miles strike the Segi <i>chur</i> , and turning to the

right (south) follow its left bank past the Musezai hamlets to Paizi (5 miles). At Paizi cross the *chur*. It is broad, but not very deep, and the road is easy. Thence by an indistinct path south-east for 2 miles to the Firalizai hamlets (7½ miles) over a salt plain grown with low tamarisk. Passing through the hamlets, the track leads straight on to the Lora. After about 1½ miles the salt ceases, or is only visible in patches, and from thence the country becomes cultivable. It is irrigated by the Popalzai stream, and detours may have to be made to avoid wet fields. At about 10 miles pass on the right the hamlet of Shamsher Firalizai (Mir Afzal is also visible further off). At about 13 miles reach the Lora a little below Sayad Kalu, which is merely a but or two on the right bank, 1½ miles above Sayad Hamid. Here the river-bed is 150 to 200 yards wide, with perpendicular banks 30 feet high. The running stream, in dry weather, is about 10 yards across, and 18 inches deep at the ford. Passing over a tongue of land so narrow as to resemble a wall, enter the channel of the Surkhab. It is not so broad as that of the Lora, and is dry. The road leads up this for a short distance before again ascending to the plain, which is gained at 13½ miles. From thence about 2½ miles to Shadizai, nearly straight, over perfectly open ground. Room to encamp a division; water abundant; forage, fuel, and camel-grazing scarce; supplies procurable. Elevation, 4,950 feet.

Route No. LXXII.

FROM KALA ABDULLA KHAN TO SHADIZAI, BY BRAHIMZAI AND MIR AFZAL,
1881.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	SHADIZAI	16	16	A camel road. From the post southwards, either by the cart road or by the old road to the mound (2½ miles or 2 miles), where the road from Segi joins the main route (see stage 12, Route No. 125, N.-W. F., Vol. I. Follow the Segi road for 2 miles southwards, to

Habibzai (4 miles), and cross the Habibzai *chur* to Brahimzai. The Segi road is now quit- ted, and an indistinct track diverging to the left is followed across the uncultivated plain to Pechili (8 miles). Thence nearly straight on to the hamlet of Mir Afzal (10 miles). About here cultivation commences, and if irrigation is going on detours have generally to be made. However, the general line is south-east to the Lora opposite the hamlet of Sayad Hamid (13½ miles).

Here, as elsewhere, the river-bed is of great size, but the running stream is small, and if the path be adhered to there is no difficulty in crossing. From Sayad Hamid the road bends to the left to avoid deep impassable *nalas*. It must not be quitted. The last mile to the village is straight over the plain. Best camping-ground between the eastern part of the village and the Kakar Lora. Water from the latter abundant. Fuel, forage, and camel- grazing scarce. Supplies procurable in small quantities. Elevation, 4,950 feet.

For road from Shadizai to Haikalzai and Kala Khushdil Khan, see Route No. LXIX.

Route No. LXXIII.

FROM KALA ABDULLA KHAN TO GULISTAN BY THE ROAD INSIDE THE HILLS.

Authority.—MAJOR STORY, DEPUTY ASSISTANT QUARTER MASTER GENERAL,
QUETTA DIVISION, 1881.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	GULISTAN POST	9½	9½	This route runs in a south-westerly direction from Kala Abdulla post, over ground slightly undulating, rising almost imperceptibly to the south-west, and passable for all arms. At 1 mile the village of Kala Abdulla Khan. The route lies between the village and a range

of low rounded hills to the west, at the foot of which the village lies. To the east is another range of hills of similar appearance, but distant from 1 mile to 1½ miles.

At 2½ miles from Kala Abdulla post is the source of the spring from which that place and the village draw their water-supply. The ground between the village and this point is

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. LXXIII—concluded.

undulating; the route in places crosses, and in others follows, a dry river-bed. The ranges of hills north-east and south-west converge at this point, forming a V-shaped valley, the base towards the north-east. They are connected by a low *col*, over which the road passes. It is passable for all arms, except at the *col*, where some improvement would be necessary to render it practicable for wheeled artillery. Leaving the *col*, which is about 300 to 350 feet above the level of Kala Abdulla post, the route traverses an open undulating plain, much intersected with dry *nalas*. A rocky range of hills, generally running in a north-east and south-west direction, divides this plain from the Pishin valley.

At $3\frac{1}{2}$ miles from the post the route arrives at the foot of a second low range of hills stretching nearly east and west.

At 4 miles, ascending at a gradient of about $\frac{1}{3}$, it reaches the summit of a *col*; and at $4\frac{1}{2}$ miles enters on undulating plain, the general slope of which is from north-west to south-east. The main drainage channel of this plain runs in a south-westerly direction at the western foot of the rocky range dividing it from Peshin. There are many collateral *nalas* with deep and perpendicular sides, running from west to east. The route follows the course of the main watercourse, and is practicable for all arms.

At about 6 miles, patches of cultivation are found extending along both banks for about $\frac{3}{4}$ mile. These are apparently irrigated artificially by water brought in small channels from ravines to the west.

At $6\frac{1}{2}$ miles a pathway joins the line of route running from the Pishin valley across the hills east.

At about $7\frac{1}{3}$ miles the route is joined by a foot-path, crossing the hills east from the village of Mazat Ullah. The plain to the west is now less intersected by *nalas* and slopes more unbrokenly from west to east.

At $7\frac{1}{2}$ miles the Roghani Pass route, running north-west and south-east, is crossed; some 200 yards further on, the watercourses of this part of the plain converge and pass through the rocky range to the east, which is here double. The route, after a slight ascent to the *col* of the westernmost range, follows the watercourse abovementioned in a south-east direction.

Distance to Gulistan post from Kala Abdulla post about $9\frac{1}{2}$ miles. In point of distance from post to post, this route appears a little shorter than the cart road in the Pishin valley; it is practicable for all arms, and might be used as an alternative route, should the necessity arise.

Route No. LXXIV.

FROM GULISTAN POST TO KALAT (BALUCHISTAN). *viâ* SHORARUD AND KURDAGAF.

Authority.—STAGES 5 TO 10, MAITLAND, 1879.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	SARGHABI . . .	12	12	<i>Vide</i> Stage 1, Route No. LXXVII.
2	BURJ	13	25	A good camel road all the way. South-east, parallel to the low hills. At about $1\frac{1}{2}$ miles cross the dry bed of the Kanobai <i>nala</i> . Beyond this is a low gravel ridge; after which the road, very good and well-marked, passes over a slightly undulating plateau. At about 3 miles it descends to the

Route No. LXXXIV—continued.

valley of the Lora and turns south south-west. At about 4 miles is a *karez* with cultivation and two or three huts. It is known as Ayaz, or Badañ *karez*. There is good ground for camping at this spot. *Bhusa* is procurable, and some lucerne in spring. Water good; camel-grazing tolerable; firewood rather scanty.

Thence by well-marked and easy road, south south-west, between the river and the hills. Several dry watercourses are crossed, but they present no difficulties. At 13 miles is the halting-place. It is on the right bank of the Lora. The village is nearly a mile, south, on the opposite side of the river. There is cultivation and a water-mill. Some *bhusa* is procurable, but other supplies are scanty. The camping-ground is wide and level. Water from the Lora abundant, but slightly brackish. Firewood plentiful; camel-grazing good in spring and summer. The people of Burj are Sur and Sira Kakars, peaceable and obliging.

This march is practicable for all arms.

3	SEBAT WELLS	9
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34 Cross the Lora by a good ford; then southwards, leaving village to the right. First half the distance is level; there are then short ascents and descents, as the road successively crosses the hollows of the Khwaja Kazi and Sewi *nalas*. These are not difficult for

camels, but a little cutting might be required to enable artillery to pass. The ascent from the Sewi is the longest and steepest. Country bare and stony. Road as a whole very good. The *Sebat nala* is a large hollow into which the road descends at 9 miles. There are 8 wells of good water along the bed of the watercourse above the road; also a little surface water. The wells are small pits 3 feet deep; 400 yards below are two more wells, and some surface water, which runs even in a dry season. Further down is more surface water. There is therefore no doubt about the water-supply at any time of year, but there is very little room in the hollow, and troops would generally have to camp on the plateau at some distance. No grass or forage. Camel-grazing scanty. Firewood is procurable at some distance down the *nala*. This spot is notorious as having been the scene of many robberies and murders.

4	MUHAMMAD KHELI	12
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46 Ascent from *Sebat nala*, like the descent, is steep but not difficult. It is practicable for artillery. The next 3 miles are over a tolerably level plateau, with one or two trifling hollows. At 3 miles descend into Saoduni hollows, which is double, being separated from

that of the Ghoghar by a narrow ridge. The road winds across this hollow, the first descent and last ascent being nearly 2 miles apart. As before, the camel track is good, but some preparation would be required for artillery. After quitting the Ghoghar, the road resumes its general southerly direction and enters an extensive and tolerably level plain sinking to south and west. It is bounded to right by low hills, beyond which is the Shora river. There are no more difficulties on the road, and at $9\frac{1}{2}$ miles the village of Muhammad Kheli is sighted from the last stony undulation, the remainder of the march being over alluvial soil. The village is of some size, and a moderate amount of supplies, including firewood, is procurable here and in the neighbourhood. Water from *karez*. People, Mushwani Sayads, very peaceable and obliging.

5	PANJPAI	8
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54 *Kafilas* appear to keep a track running along the *daman* or stony skirts of the hills, and to make one march of somewhat more than 20 miles to Kurdagaf. For troops, however, it would be better to take the road to Panjpai. At about $4\frac{1}{4}$ miles the Shora Rud (river) is

passed at the same spot where the road from Chichazai to the Barak pass crosses. Here the channel of the river is about 80 yards wide and 30 feet deep, with perpendicular banks. The running stream is about 20 feet wide in winter and quite shallow. The water is so saline as

Route No. LXXIV—continued.

to be undrinkable. Bottom of the ford rather soft. The crossing is, however, easy for all pack animals.

Thence for about $2\frac{1}{2}$ miles in the same direction as before. The track from Panjpai to the Bala Barak pass is then struck at the point where it crosses the Abd-i-khas *nala*. The latter has here a considerable channel, but little inferior in size to that of the Shora Rud. A mile lower down, however, between Panjpai and Landi Shabar, the passage is easy.

Turn to the left (west), crossing the Abd-i-khas, and reach Panjpai in about another mile. The village consists of about 30 houses of Mushwini Saiyads. They are peaceable and friendly. Good ground for encampment to south and south-west of village. Water, from a karez abundant and good. Firewood procurable; camel-grazing good, except in the middle of winter. Supplies scanty, but can be procured in small quantities if previous notice is given.

The road to Nushki, from Mastung and Quetta is met here. (See No. 65, Baluchistan Routes). From here to Iltaz karez (Route No. LX) is 18 miles.

6	KURDAGAF . . .	$13\frac{1}{2}$	$67\frac{1}{2}$	From Panjpai in a south south-westerly direction between the Abd-i-khas and low hills, for nearly 6 miles, to the hamlet of Shahnawaz Kala, which consists of about 10 houses of Mushwanis near an old fort. There is a karez with good water, but no supplies. A camel-
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track from the Chana Barak pass to the Singbur *nala*, and so to Nushki crosses here.

The road now turns south and cross the Abd-i-khas a short distance below Shahnawaz Kala. It appears to continue south over the plain¹ till about 9 miles, when it strikes the *daman* of the hills and continues south by west for another $4\frac{1}{2}$ miles to Kurdagaf. Here there are hamlets of Sarpara Brahuis and a karez, but fuel and camel forage appear to be scanty. Elevation, 4,800 feet.

7	GHULAM JAN (south OF ZARD-I-KABEZ).	22	$87\frac{1}{2}$	The whole of the country through which the route passes has been surveyed, but very little information is obtainable about the road between Shahnawaz Kala and the Shirinab ² valley. The map, however, has a very distinctly marked route leading in a southerly direction
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diagonally through the hills which divide the valleys of the Shirinab and the Abd-i-khas. At about $15\frac{1}{2}$ miles from Kurdagaf hamlets, this road appears to join that known as the *Sarband*³ in a "thal" or basin behind the hill called Nalli. It then turns eastwards and emerges into the Shirinab valley at about 19 miles.

Thence to Ghulam Jan, or Ghulam Muhammad, on the further, or right, bank of the Shirinab, is about 2 miles. This place is a village immediately south of the camping-ground known as Zard-i-karez on the main *kafila* route from Quetta to Kalat. Water is abundant and good. *Bhusa* procurable in tolerable quantity, but other supplies are scanty. Camel-grazing good in summer; firewood rather scanty.

There is little doubt that the road is good all the way; that is it presents no great difficulties to heavily-laden camels. If, however, the distance be considered too great, it would be easy to march from Kurdagaf up the valley to some place near the road from Kalat to Nushki. The distance would be about 11 or 12 miles. Thence *viâ* the Sarband pass to Barenchinao, 18 miles or to Ghulam Jan, 14 miles. The pass is three-quarters of a mile in length and rather difficult for camels. Remainder of the road easy.⁴

The people at Ghulam Jan are Mahmud Shabi Brahuis and friendly. Supplies might be arranged for.

¹ Here the boundary line between Shorarud and Kurdagaf district of Baluchistan is crossed. It run nearly east and west across the valley.

² The Shirinab is the main branch of the Shora Rud.

³ The direct road from Kalat to Nushki goes by the Sarband.

⁴ Report by Mr. O. T. Duke, Assistant Agent, Governor General, Baluchistan. (1879).

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. LXXIV—concluded.

8	BARENCHINAO	6½	96	Southwards, parallel to the hills. Good roads but several open karezés would require to be bridged for artillery. At about 6 miles cross a stream. There is only one point of passage. Halting-place is immediately beyond this, near the north end of a low ridge, on the east side of which is Barenchinao village. The camping-ground is good. <i>Bhusa</i> procurable, but not in large quantities. Supplies might be drawn from the Mungachar valley to the south-east by previous arrangement. Camel-grazing moderate; fuel scanty.
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The people here are Mahmud Shahi Brahuis and friendly.

9	GAROK	22	118	South south-west over an open plain, gradually narrowing. The road is level and very good. At about 10 miles slight undulations commence, and the track lies near the hills on the east. At about 12 miles the narrowest part of the valley is reached. It is here about a mile and a half across. At about 13 miles the road bends south-east by south. At 14 miles pass a well called Pardu. <i>Kafilas</i> occasionally halt here, but the water-supply seems to be uncertain. Thence over a stony plain sloping to the west. Various shallow watercourses are crossed, but present no difficulties. At about 21 miles bend to the left (south-east) for Garok camping ground, ¹ which lies in an angle between low hills on the Girani stream (artificial). Plenty of good ground for encampment. Water excellent and abundant. Camel-grazing moderate; fuel scanty. <i>Bhusa</i> and other supplies can be arranged for. Garok consists of 2 or 3 small villages situate in a valley short off from the Kalat valley by a low ridge of hills.
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10	KALAT	7½	125½	West by south round the end of the low hills south of camp, and then turn south-east. The road lies either in the bed or on the right bank of a considerable watercourse. At about 4 miles is the village of Maliki, surrounded by fields and orchards.
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From here there is a direct track to Kalat town, south by east, through hills. It is a good road, and the "Kandahar gate" is reached at 8½ miles from Garok camp.

The road taken by troops continues south-east up the bed of the watercourse. At 6½ miles from camp, after passing the end of the Baba Wali hill, it ascends the left bank and goes south for about a mile to the British post, where are quarters for two companies of native infantry, bungalows for the military and political officers, etc. The spot is properly called Kohing.

Kalat town is about 2 miles south.

Route No. LXXV.

FROM GULISTAN POST TO NUSHKI, *viâ* THE GWAJHA PASS AND SHORAWAK.

Authorities.—MAJOR W. M. CAMPBELL, R.E., DEPUTY SURVEYOR GENERAL, SURVEY OF INDIA; CAPTAIN P. J. MAITLAND, 1879; CAPTAIN R. HENNELL, 1881.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter- mediate.	Total.	
1	SPINTIZHA	14½	14½	<i>Vide</i> Stages 5 and 6, Route No. 133, N.-W. F., Vol. I. This route is practicable for all arms, but heavy for wheels.

¹ Ziarat village is about 1½ miles south.

Route No. LXXV—continued.

2	ARGUTAI	10½	24½
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The Kandahar road goes on north-west, but that to Shorawak turns south south-west down the Wach Dara. Very good road down watercourse, with a steady descent of about 1 in 35. At first the valley is about 1 mile wide, but it gradually narrows, hending at the same time

to south-west. On the right are rocky hills of no great height and easily accessible. On the left, low hills and broken ground sloping up to the base of the main range, here called Shasta. At about 5 miles the dara bends round to the north-west and may be considered a defile, though the bed of the watercourse is nowhere less than 200 yards wide. On the right are the same hills; on the left detached rocky hills, which are outliers of the main range.

At about 7 miles the hills come to an end, and the road, turning west, debouches on the stony *daman*, sloping down to the extreme south corner of the Kunchai plain. Beyond this, and but a few miles off, are the red sand-hills of the desert running nearly north and outh.

At about 8 miles the road runs abruptly to the left, south south-west, and runs parallel to the detached outer hills. It is tolerably level, but rather stony. At 10½ miles is the large bed of the Argutai *nala* issuing from the hills on the left. There is a watering-place about a quarter of a mile up, near which a detachment might camp, but it is within the hills. The head of the spring is 1 mile higher. It is said to fail in dry reasons.

There is a track up the Argutai and over the main range by the Surkh kotal to the Shastaglen. It is understood to be practicable for pack mules, but not for camels.

Plenty of open ground at Argutai, but it is rather stony. Firewood and camel-grazing abundant. No habitations and no supplies. The people about here are Badezai Achakzais. Good road all the way; practicable for artillery. Elevation of camp, 4,580 feet.

3	SPINAKHULA	14	36½
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The crossing of the Argutai is easy. Thence south-west over stony undulating ground, falling on the right to the sand-hills of the Registan. Close on the left are low gravelly hills, and behind these a considerable extent of broken ground, intersected by hollows and

large watercourses, extends for several miles, to the base of Shasta. Numerous shallow *nalas* are crossed and the *daman* is sprinkled with thorny shrubs and bushes. In front are seen the Sargu hills in two groups, with a wide gap between them.

At about 4 miles the northern end of West Sargu is close at hand on the left, and the road skirts the base of the hills pretty closely. It is here decidedly undulating; some of the gradients are sufficiently stiff to be trying to artillery horses.

At about 9½ miles the road passes through the gap between West and East Sargu. It is apparently about 600 or 700 yards wide, quite flat and open. Two small tanks occasionally contain water, and the spot has been used as a halting-place. Beyond the gap is a small plain called Chawal or Tsawal, here a mile, to a mile and a half wide. The road bends slightly to the left, and continues over gravelly and somewhat undulating ground. On the right, at some distance, are the rocky heights of East Sargu, and on the left, broken difficult ground, stretching up to the Khwaja Amran range, here known as Tang or Siah.

At about 12½ miles leave the main track, which leads straight on to the Band pass, and take a small path to the left. This crosses low sandy ridges for about 1½ miles and descends into the Spinakhula *nala*. Here a plentiful supply of good water runs down from the hills through a mass of large granite boulders. The only camping-ground is in the bed of the *nala* itself, where there is room for a battalion, but it is commanded on all sides. Hardly any grazing near at hand, and but little wood. No habitations and no supplies. The people hereabouts are Badezai Achakzais.

Good road all the way.

Route No. LXXV—continued.

4	JAT POTI . . .	16	54½	There are two roads from Spinakhula into Shorawak. One follows the main <i>kafila</i> track through the Khurma hills by the Band pass to Ahmad Khan's village in the Poti district of Shorawak, (see Route No. LXXVI), thence to Jat Poti 6½ miles. The Band is not practicable for
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artillery. The route now given turns the west end of the Khurma range.

This road follows the deep bed of the *nala* for about 1¼ miles to the open plain.

The *kafila* track to the Band pass is then crossed, and the road leads along the left bank of the now shallow watercourse, west-south-west over the Chawal plain, towards an isolated rock. Near this, at 4½ miles, a well-marked path is struck, and followed in nearly the same direction for about another 4 miles to the western end of the Khurma hills. Here, about a mile off the road to the left, is a small spring of good water. There is no place to camp.

Thence cross a small spur at the end of the hills, the road bending round to south-west. Half a mile further (9 miles) pass through the Alu Tarez gap between Khurma range on the left and the rock called Shabash Khan Taraki on the right. A heavy sand-drift to the left (over which the track passes) should be avoided, and a line taken to right of a low isolated mound over a fine expanse of hard open plain, in a south-south-westerly direction.

At 12 miles enter sandy ground, and pass the high sand-ridges called Shpul Poti. At 14 miles pass the Ziarat of Haji Makal, and debouch on to the great plain of Shorawak about three-quarters of a mile west of Amunzai village.

Thence cross an irrigation channel by a bridge, and straight on by a well-marked track to Jat Poti, the sand-hill and trees of which are plainly visible about 2 miles distant.

The road is good, and practicable for artillery, all the way from Spinakhula. Halt can be made on the irrigation channel near Amunzai if desired.

There is no village at Jat Poti, but a few ruins and several very large tamarisks. Camp on sand, west of irrigation channel. Water in the latter is fairly good and abundant, from about November to April. In the Dori hollow, 300 yards south, are irrigation channels in which it is said there is always water. There are also several wells, about 150 feet deep east of camp beyond the canal; they are now dry (1881), but two or three could be cleared without much difficulty. The country people would do it on payment. Camel-grazing abundant; supplies, except barley, can be procured in considerable quantities from villages in the neighbourhood, and grass from the desert; but previous notice should be given. The people are Barechis and friendly.

Elevation of Jat Poti about 3,150 feet.

5	ZIABAT . . .	8½	63¼	The considerable hollow of the Dori or Lora <i>nala</i> is close south of Jat Poti. It here turns from west to south. Two rather deep cuts run in the channel, and when the Lora river is high, a considerable amount of spill-water comes down. The bottom being soft and
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muddy, the slightest wet renders the Dori almost impassable by pack animals, and entirely so by artillery.

The best road is to go west from Jat Poti and follow the right bank of the Dori in a general south-south-westerly direction. Detours may, however, have to be made to avoid irrigated land.

At 4 miles the hamlet of Sayad Yahiya is passed on the right hand, perched on a sand-bluff. To the left, and about 1 mile distant across the Dori, is the village of Abuzai. At 5 miles bend to the right (west-south-west) and cross a sand-ridge, ascending 50 or 60 feet in a quarter of a mile. The sand is very fine, soft, and deep. Descent similar to the ascent. At 5½ miles reach a small perfectly level plain of alluvial soil entirely surrounded by sand-hills. The track turns down this, south-west. At 7½ miles reach the narrow valley of the Dori just below where it quits Shorawak plain for the desert. The path now turns to the left and cuts off a corner by crossing a small sand-hill. It then keeps along the right bank of the Dori for a few hundred yards before passing over to the opposite side, on which is the camping-ground. The crossing is fairly easy.

The place takes its name from a small white-washed tomb, near which is a miserable hamlet of *fakirs*.

Route No. LXXV—continued.

Plenty of ground to camp; water, from the Dori, abundant in winter, but rather salt. Camel-grazing abundant. Grass can be procured (by previous arrangement) from the Registan; and supplies from the very large village of Mandozai, plainly visible some 3 or 4 miles to the eastward.

Another road would be to cross the Dori near Jat Poti, and thence south south-west to Abuzai village, after passing which the track keeps on the left bank of the Dori and follows it to Ziarat. Camp would be half-a-mile south-east of the tomb. This road is about the same length. It avoids the sand, but the crossing of Dori is more difficult, and there is greater likelihood of meeting with irrigated land. Both roads may, however, be considered practicable for all arms.

6	SAIADBUT	17	80 $\frac{1}{2}$	A well-defined and nearly a straight track runs in a south south-westerly direction, over level plain, parallel to, and pretty near, the sand-hills, which are continuous on the right hand for the whole distance. On the left the country is open, bare, and flat, without cultivation
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or inhabitants.

At about 10 $\frac{1}{2}$ miles pass a good-sized tank close to the sand-hills on the right of the road. The country about here is pretty thickly sprinkled with smalgai bushes (a species of tamarisk), and patches of sand are occasionally crossed. At 13 miles a small tank called Musa talao. Here on the right and close to the road, are high sand-bluffs called Reg-i-khar. Thence cross in succession three low ridges of sand; between them are sometimes found patches of cultivation. There is also a little cultivation beyond the sand-ridges, followed by more sand. It was on this ground that the detachments under Major Humfrey, 30th Bombay Native Infantry, defeated the assembled Barechis on the 27th March 1879.

At 15 miles pass an old ruined fort to left of the road. It is called Pirosh Kala. About 1 $\frac{1}{2}$ miles beyond, is a tomb, the Ziarat of Saiadbut. There is a rather large artificial tank close by, but it appears to be usually dry. A short distance south-west are two villages a few hundred yards apart. Camp would probably be near four wells, about 1,000 yards west of the tomb near the sand-hills. These wells are 30 feet deep, and water is said to be always abundant. Some supplies can be procured at Saiadbut, but previous notice should be given. Firewood and camel-grazing abundant; also grass from the Registan. People are Barechis and friendly. Elevation, 3,050 feet.

The road is practicable for artillery all the way, but heavy where sand is crossed. From here a route to Sistan and the Garmsel branches south-west.

7	RAHMAN KHAN KALA IN NUSHKI.	19	99 $\frac{1}{4}$	The road runs immediately to the east of Saiadbut village and leads nearly due south. At 2 miles pass (on the right) a mound with ziarat called Haji Reg. At 3 miles (from village—3 $\frac{1}{2}$ from camp near wells), reach the Lora river. The channel is
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here only 60 yards wide and 15 feet deep, with banks alternately scarped and shelving. When dry artillery can cross without difficulty, but in floods the river may be impassable for several days. The bottom is soft and treacherous, approaching a quicksand. If in the least wet, brushwood should be cut from the banks and laid down the whole way across, to form a roadway for animals. A quantity should also be kept ready to fill up as fast as the roadway is trodden under. This precaution appears to be absolutely necessary, as the brushwood sinks very fast.

Beyond the Lora low sand-hills approach in places close to the river-bank. The country is thickly sprinkled with smalgai bushes. On the left, some miles off, is a black rock called Siab Sang. South of this is the spot called Taraki. (See Route No. LXXVI.)

The first sand is crossed at 5 miles. It runs in long strips a few yards wide, alternating with narrow plains of alluvial soil. The country is sprinkled with shrubs and a little grass. At 6 $\frac{1}{2}$ miles a certain small sand-ridge is the boundary between Shorawak and Nushki, i.e., between Afghanistan and Baluchistan. At 9 $\frac{1}{4}$ miles pass round a sand-hill rather higher than the rest, which is considered to be half-way between Saiadbut and Rahman

Route No. LXXV—concluded.

Khan Kala. Beyond this is much more sand. It is noticeably of a lighter colour than the red sand of the Registan, and is easier to travel over. It appears to contain a large admixture of clay. There is a good deal of low scrub about, and here and there patches of flat hard ground. At about 13½ miles the path forks; both come out on the Nushki plain at about same point, but the right hand branch is almost clear of sand, and better suited for troops. At 18¼ miles enter the alluvial plain of Nushki plain proper. To the right front, and close to, is the village of Alam Khan, Rakshani Baluch; Rahman Khan Kala is about half a mile further, and slightly to the left. Camp west or south-west of Rahman Khan Kala. There is plenty of good ground. Water, from irrigation-channels, good and abundant. Firewood and grass procurable from the sand-hills. Camel-grazing abundant. The people here are half Zagar Mingal Brahuis, whose sardar, Rahman Khan, is the principal man in this country; and half Rakshani Baluch, under sardar Alam Khan, also a person of importance. Both are very friendly. The Khan of Kalat has also a naib here. In Rahman Khan's village near the fort, are 20 bunniahs, and supplies are abundant. Elevation, 2,900 feet.

The small plain of Nushki is almost surrounded by sand. On the east are high hills, and on the south a range running nearly east and west called Shekh Husen, or the Jaorak hills. About 2 miles south-west is the village of the Dad Karim, and 10 miles south, on the Kharan road is a fourth village called Baghak.

This march is practicable for artillery, but would be very trying to draught horse. It does not appear possible to shorten it unless there is water in the Lora.

Here the Shirani kafila route (No. LXXVI) joins in. There are also roads from Gulistan *via* Iltaz Karez (Route No. LXXVII); from Quetta and Mastung (Baluchistan Route No. 65); and from Kalat. Southwards there is a road to Kharan (Baluchistan Route No. 52), and westwards there are three roads leading to the Helmand (*see* Routes I, II, and III, Helmand series).

Route No. LXXVI.

FROM GULISTAN POST TO NUSHKI, BY THE BAND PASS AND SHIRANI KAFILA ROUTE.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate	Total.	
1	SPINTIZHA . . .	14½	14½	} <i>Vide</i> Route No. LXXV. A camel road. Follow the deep bed of the <i>nala</i> in a westerly direction, for 1½ miles; then strike off half left (west south-west), crossing low sand-ridges to the open plain, in which the main <i>kafila</i> track is regained at 2 miles. The route now turns to the left and follows the <i>kafila</i> track
2	ARGUTAI . . .	10¼		
3	SPINAKHULA . . .	14		
4	PAIN KHAN . . . (IN POTI).	11¼	50	

south-south-west, over undulating stony ground intersected by watercourses. Huge granite boulders are passed at 4½ miles, and the track bends south. At 5 miles is a sharp turn to the left to the Band or Chawl pass. Here is a gap where the Khurma hills overlap, but do not touch. Its width is 180 to 200 yards. There is a slight rise and then a descent over rocks for about 200 yards. The gradient is not steep, but the pass is very rough; the camel-track was, however, cleared by the 5th Bombay Native Infantry in November 1880. Beyond the Band a small basin is entered, and the road turns to the right round the end of the southern ridge and resumes its original direction.

Route No. LXXVI—continued.

Low undulations of loose sand, thickly sprinkled with bushes, are now crossed; the ridges increase in elevation towards the south, and small isolated peaks and ridges of rock stand up through the sand some of which are close to the road. Soon the ruined fort of Murad Khan becomes visible in the distance, and to its left a tower in Ahmad Khan's village shows over the sand-hills. At about $7\frac{1}{2}$ miles a track branches to the right (south-west) to the village of Amunzai, which is reached at $14\frac{1}{2}$ miles from Spinakhula. The main road, however, leads straight on, and at 9 miles the summit of the last sand-ridge is reached. From it there is an extensive view over the cultivated plain of Shorawak, Ahmad Khan's village being about a mile in front. This end of the plain is called Poti.

Thence a short descent to a dry watercourse, beyond which the route turns sharp to the left (east), and runs parallel to the sand-hills over alluvial soil, more or less cultivated, for about 2 miles towards Pain Khan, which is situated near the sand hills.² Camp west of village. Water, from irrigation-canals, abundant except in summer. A good deal of cultivation in the neighbourhood of this village, and supplies, except barley, are procurable. Numerous water-mills a few miles to south-east. The people here are Badalzai Barechis and friendly.

This place is usually very damp in winter on account of the amount of irrigation, and over-flow of the irrigation-channels.

Elevation about 3,300 feet.

Road this march is fair for pack animals, but impracticable for artillery.

5	PUTLA KHAN (in SHIBANI).	11	61	About 2 miles east of Pain Khan is a high range of the hills called Tang or Siah. They terminate in a semi-isolated peak on the plain. The road goes south of the peak between low outlying rocks. The gap is about 3 miles south-east from Pain Khan in a straight line;
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but the intervening ground being much cut up by deep irrigation channels, it is necessary to keep away to the left (eastward), skirting first the sand and then the base of hills. The gap is reached at about 4 miles (from camp west of village). Several irrigation channels pass through it and have to be crossed. They would have to be ramped for guns, and are difficult for cavalry. Possibly a roadway would have to be made for pack animals; however, the channels are easier higher up (north-east). In any case a guide should be taken to show the best track.

Thence south-east crossing the dry and stony bed of the Lora river, which is here of considerable breadth, but the banks are not high. The road then turns south south-west down the left bank, and at about 6 miles passes the ruined fort of Mir Alam Kala. It is a good track over cultivated alluvial soil.

A mile and a half further cross a watercourse. The hamlet of Pir Muhammad Karez is passed here; it is off the road to the left near low hills. The road continues straight on to Putla Khan, which is a village of 60 or 70 huts about a mile from the left bank of the Lora. Ample room for encampment. Water from irrigation channel. Supplies, except barley, are procurable; but there are no water-mills nearer than those between Pain Khan and Mir Alam Kala. The people are Shirani Barechis and very friendly. Elevation, 3,400 feet.

The Salwatu pass road from Chichazai to Jat Poti, etc., crosses here. See Route No. LIX.

6	YAR MUHAMMAD OF SALARZAI.	$12\frac{1}{2}$	$73\frac{1}{2}$	Well-marked track south-west along the edge of <i>daman</i> (stony skirts of hills). At 3 miles pass village of Zabardast, and at $5\frac{1}{2}$ miles reach Miru Khan. These places are in the Shirani district. At Miru Khan, Route No. LX from Quetta to Jat Poti crosses.
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Thence in a general south south-westerly direction. At about $8\frac{1}{2}$ miles is a small village called Muhammad Raza, Jani, or Samezai. The road has not been reconnoitred beyond this point, but as it is the ordinary *kafil* route, it is certain to be pretty good. At about $10\frac{1}{2}$ miles passed the hamlet called Sahibzada, at which is a *karez*. Thence to Yar Muhammad, also called Salarzai, is about 2 miles. There is cultivation here and water from an irrigation channel, but it is rather brackish. It appears that there are also wells, but this is not quite

²Both this village and Ahmad Khan appear to have been shifted back on to the sand in 1880-81 and will probably be found there in future.

Route No. LXXVI—concluded.

certain. If there is any difficulty as regards water it would be better to halt at Sahibzada karez. There is plenty of ground for encampment about either of these places. Supplies (except barley) procurable in small quantities; abundance may be got from Mandozai on the other side of the Lora by previous arrangement, but there are no water-mills. The people hereabouts are Mandozai Barechis and very friendly. Wood, forage and camel-grazing scarce.

The road this march is said to be good all the way. Generally there is cultivation on the right, beyond which, at a distance of a mile, or a mile and a half, is the great channel of the Lora, only passable at a few points. On the left hand is a stony plain sloping gently up to the base of the Sarlat range.

7	TARAKI (OR SABBAT-KAREZ).	14	87½
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The general direction of this march is south south-west, inclining to south. There is little or no cultivation after leaving Yar Muhammad and the road is either along the edge of the *daman*, or over bare open plain. It is probable some sand is crossed before reaching the halt-

ing-place. The road is understood to be good all the way, and the Lora is at no great distance to the right, as before.

There is said to be a stream or spring at the camping-place at the foot of two small, but conspicuous, black rocks called *Alagh*. They are on the *daman* of the Sarlat range, near the well-known land-marks Koh Khabar and Siah Sang. Water abundant and good, and there is probably fire-wood and camel-grazing, but certainly no supplies, though there are a few huts on or near the stream. Elevation, 3,100 feet.

8	RAHMAN KHAN KALA, IN NUSHKI.	15	102½
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The general direction is south-south-east. It is possible the road from Saiadbut may be struck (*see* Route No. LXXV), but more probably there is a distinct track, keeping pretty close to the foot of the hills. At any rate the road is said to be easy, though it is not

unlikely a good deal of sand is crossed.

For Rahman Khan Kala *see* Route No. LXXV.

Route No. LXXVII.

FROM GULISTAN TO NUSHKI, *via* ILTAZ KAREZ IN SHORARUD. 1880-81.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	SARGHARI . . .	12	12	An easy road for pack animals. South south-west towards Gulistan village, which is left to the right at 1½ miles. Just beyond it strike the <i>kafila</i> track, which is henceforward followed. It leads south by east over the open plain. Good road. At about 6 miles reach the village of Faiztalab, a miserable-

looking place of about 40 huts of Sarghari Kakars. Thence due south, still over open plain, but an impassable watercourse, called the Naorak *chur*, runs nearly parallel on the right. At about 9 miles cross the Naorak *chur*, which is some 20 yards wide and 25 feet deep, with perpendicular banks. Path not difficult for laden camels, but impracticable for artillery. Thence in the same direction along the right bank of the *chur*. At about 10 miles cross the Tirkha salt *nala*. It presents no difficulties. On to Sarghari village is about 2 miles; the road is over plain, slightly ascending towards the hills, and crossing the dry, shallow, and stony bed of the Sarana *nala* before reaching the halting-place.

Sarghari, also called Daruzai, is a hamlet of a dozen huts near the low hills which bound the plain of Pishin to the south-west. There is ample room for encampment, east and north-

Route No. LXXVII—continued.

east of village. Water, from a spring (250 yards south of village) and two small wells, is good. It is fairly abundant in winter and spring, but scanty in summer. Firewood is also scanty, and hardly any supplies are procurable, though some *bhusa* can generally be obtained.

The people are Sarghari Kakars and harmless.

The road this march is good for pack animals all the way.

This place is 8 miles from Segi by an easy road. Elevation is about 4,700 feet.

2	AZAD KHULAI	11½		23½	South-east for about a mile to debouchure of the Sarana <i>nala</i> from the hills. The Saranah is then ascended; gradient easy and path good. The hills on either hand are of no great height and easily accessible. At 2½ miles there are pools, and a mile further several springs with
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patches of grass and reeds.¹ At about 4 miles the path to Shambeli water at the head of the Chaman *nala*, 10 or 11 miles from Sarghari, diverges up a branch ravine to the right. (See stage 2, Route No. LVIII.)

Beyond this the hills are hardly more than undulations, intersected by ravines draining to the Saranah.

At about 6 miles gain the plain, or plateau, called Kuram, which is of considerable size and surrounded by low hills. Thence in a general south south-westerly direction over the perfectly open plain gradually approaching the hills on the left (south-east). A track diverges to Shambeli, and another leads straight on to the head of the Shariu *nala*. There is water about the latter, but no place to camp.

At about 9 miles begin to descend through low hills in a general southerly direction. The ravines here drain to the Azad Khulai *nala*, by which there is a good path to Burj on the Lora. Several of them contain water. The best place for camping is in a ravine running north-east. Here is an excellent pool of water, with abundance of short grass. Jowassa (camel-thorn) grows in the *nalas*, and a mile or so down the main watercourse is plenty of tamarisk, affording camel forage and fuel. There is not, however, very much room to camp and the spot is commanded.

The people hereabouts are Pirkani Brahuis and Musezi Tarins, quiet and friendly. The road this march is good all the way. The elevation of camp is probably about 5,300 feet.

3	LORA RIVER	12½		36	South-west between low parallel ranges, through which the watercourses run from right to left. Good road. After some miles cross a very easy ridge to the right, and regain the plain, or plateau, traversed last march. Its southern end, now entered, is known as Pinake. Road
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south-west. At about 5 miles begin to descend a water course running south south-west to the Sharin *nala*. The gradient, in one or two places, is somewhat steep, and in one spot the path is rather difficult for laden camels. After a mile or so the ravine becomes wider and gradient easier. The main Sharin appears to be entered at about 6½ miles. It is descended in a south-westerly direction to the Lora. Good road. In the latter part of its course the Sharin runs in a tolerably wide valley, but the enclosing hills are high. Where the Sharin joins the Lora are wide flats affording excellent ground for encampment. Water from the river abundant. It is slightly brackish. There is perfectly sweet water in certain of the neighbouring ravines. Firewood and camel-grazing abundant; there is also some coarse grass. No permanent habitations and no supplies, but a few camps of Pirkini (Sumalari Mingal) and Sasuli Brahuis are always in the neighbourhood, except in the middle of winter. They are very friendly and will furnish guides.

On the whole this march is easy.

Elevation of this camp is probably about 4,000 feet.

4	SOKHTA WATER	7		43	Up the Lora. General direction south, keeping generally along flats on the right bank. At about 2 miles pass Aliabu ziarat, a mere heap of stones with poles, etc. Half a mile beyond the ziarat, the end of the Aliabu ridge is rounded, and the path, in the bed of the river,
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¹ After the winter rains there is probably a continuous stream running down the *nala*.

Route No. LXXVII -continued.

lies through a gorge, in an easterly direction. At about 3 miles the Sokhta enters the Lora from the south, and the road turns up it. The bed of the watercourse is a winding defile, 20 to 40 yards wide, and confined by high and steep hills, but it is of smooth gravel and good going. At about 3½ miles is surface water, good and plentiful. About half a mile further is more water similar to the first. Between the two, on the left bank, is space for a battalion to encamp. It is, of course, commanded by hills, but there is no other known place. Tamarisk grows in the Sokhta, affording fuel and camel forage, and there is also abundance of coarse grass.

The road is good for pack animals all the way.

5	SARCHUR WATER	12		55	Ascend the watercourse, south-west. Little is known about the course of the Sokhta, but above the camping-place the hills are lower, and the ravine opens out. On either hand is a confused mass of spurs coming down to the bed of the ravine. On the right these rise to
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the crest of the Sarlat range, on the left to an elevated plateau known as the Batu Dasht. The road up the Sokhta appears to be excellent, and the gradient of a-cent is not steep.¹

The Sarchur *nala* is a main branch of the Sokhta. Near its head, and also in a ravine to the east, there is water. The country around is much cut up by hollows and watercourses, though easily traversable by troops, including cavalry. A tolerable camping ground might be found near the water. Firewood rather scanty, and no camel-grazing in winter. No habitations, but camps of Sarpara and other Brahuīs may be found in the neighbourhood in summer. They are quite friendly.

The road is believed to be good all the way. A track from Muhammad Kheli to the Salwatu pass crosses at the water.

6	ILTAZ KAREZ	9		64	South-west up the Sarchur, which continues to be a considerable <i>nala</i> nearly all the way to its watershed on the Bala Dasht, reached at 2½ miles. Here the road from Quetta to Jat Poti (Shorawak) <i>via</i> Chichazai and Salwatu pass (Route No. LIX) is crossed. The
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Dasht is a small upland plain (elevation, 5,650 feet) about 3 miles in breadth. The route keeps down its centre, about south by west, inclining to the low hills on the left hand. Those on the other side of the plain are the Sarlat range, only a few hundred feet high on this side, but falling 2,800 feet to Shorawak. There is no defined track in the Dasht.

At about 6½ miles pass by a large patch of tamarisk jungle. Thence south-west, following a small path. As Iltaz karez is neared, the ground becomes undulating, and for some part of the way a shallow watercourse is followed.

Halt at a small tank filled by an open karez. The hamlet of Iltaz karez is ½ a mile south between it and the tank, and also near the latter there is room for two or three battalions to encamp. There are low hills on all sides commanding the ground, but the country in ordinary times is quite safe; water excellent and abundant, camel-grazing good in summer; firewood procurable, but not plentiful. No supplies, except a little *bhusa* and some mutton (in summer). Flour, etc., can, however, be sent up from Shorawak by previous arrangement, but there is very little grain for horses in that country.

Iltaz Karez belongs to a few families of Mandozai Barechis. There are also a good many nomad Brahuīs in summer. They are all perfectly friendly.

This march is easy for pack animals.

The road from Panjpai to Shorawak by the Wali or Bed pass (Route No. LX) crosses here.

Elevation of camp 5,507 feet.

7	BININDI	10		74	From camp at the tank, south-east, passing Iltaz Karez hamlet at about half a mile. Thence south, following the course of a broad shallow <i>nala</i> , known as the Ghori, through a small valley or hollow with low hills on either hand. There is cultivation on both banks of
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¹ Somewhere on his march (perhaps at the junction of the Singband, if that watercourse joins the Sokhta which is uncertain) there is said to be a place called Girdi Jangal, where is abundant tamarisk and running water.

Route No. LXXVII—continued.

the watercourse. After some distance the Ghori bends round to east south-east, and at 2 miles from the hamlet ($2\frac{1}{2}$ from camp) is a spot known as Bara karez. Here the Kotori *nala* comes from the left, and there is good ground for encampment about the junction. There is also a little cultivation, watered by a small stream, and a few scattered huts.

Thence follow the course of the Ghori in a general south-westerly direction. The hills gradually approach the watercourse, and also become somewhat higher, particularly on the right hand. The road is mostly in the bed of the *nala*, which is of gravel, mixed with sand and alluvial soil. It is good travelling.

At about 5 miles pass the debouchure of the Sirkao *nala*, a broad ravine running south-west up into the Sarlat hills. By it is said to be a path over the main range practicable for lightly-laden camels. It leads to Sahibzada and Yar Mahammad in Shorawak. (Route No. LXXVI.) The bed of the Ghori continues to be broad and flat. Descent all the way very gradual; in fact, the gradient is too slight to be estimated by the eye. Tamarisk, etc., grows thickly, but not so much so as to impede progress.

At about $8\frac{1}{4}$ miles pass the ziarat of Haibat Shah. It is a heap of sticks and stones a short distance up a broad ravine on the right. The hills about here are decidedly higher and steeper. They are spurs of more considerable ranges lying further back from the stream.

At 10 miles is the spot called Binindi. It is a flat, or *kach*, on the left bank, and would accommodate a native battalion pretty comfortably. There is more ground a little lower down on the opposite side. Here water appears in the bed of the Ghori and runs for a short distance. In winter and spring it ought to be tolerably plentiful, but dries up in summer, and the supply is at all times somewhat uncertain. However, water can always be got at a foot or two below the surface. Firewood and camel forage (tamarisk) abundant. No habitations and no supplies. Considerable hills command the camping-ground on both sides—the country is Brahui and ordinarily quite safe.

The road this march is good and practicable for artillery.

By halting at Bara karez ($11\frac{1}{2}$ miles from Sarchur water) it would be practicable to make one march of 16 miles to the next stage—Ghori-na-bah—and thus avoid stopping at Binindi.

8	GHOBI-NA-BAH	•	8 $\frac{1}{2}$	82 $\frac{1}{2}$	The route continues to descend the watercourse in a general south south-westerly direction. For about $1\frac{1}{2}$ miles the Ghori continues to be of tolerable width,—that is, about 100 to 150 yards. It then narrows gradually to about 80 yards, and high hills approach close to the bed of the watercourse, which contains a good deal of tamarisk.
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At about 5 miles the Ghori is narrowed to about 40 yards, and heights rise sharply from the bed of the *nala* to an elevation of 300 or 400 feet. This defile is about 2 miles in length. The descending gradient is about 1 in 30 to 1 in 35, but the *nala* bed is smooth, gravel and easy travelling, though in one place high tamarisk brushwood is so thick that a path would have to be cleared through it for troops.

At about 7 miles pass, on the left, a high rock called Sakht; a large watercourse comes in from behind it. Beyond this the Ghori is about 70 yards wide; its bed is easy travelling, as before. At $7\frac{3}{4}$ miles pass the debouchure of the Chaokul *nala*. There is a track up it, and over the main range, into Nushki. It is impracticable for laden camels, but appears to be a good deal used at certain times of the year.

At about $8\frac{1}{2}$ miles the Ghori joins the Kaisar stream. Its junction is well known as Ghori na-bah, or mouth of the Ghori. There is no good camping ground, but a small flat on the right bank, if cleared of jungle, would afford room for a native battalion. It is commanded by hills, but the country is quite safe. The bed of the watercourse is also tolerably smooth, though stony, and might be utilized in fine weather. Water from the Kaisar abundant and good; firewood and camel-grazing abundant; no habitations and no supplies.

This march is practicable for all arms.

At Ghori-na-bah the road from Quetta to Nushki (No. 65, Routes in Baluchistan) is met.

Route No. LXXVII—concluded.

9	RAHMAN KHAN KALA in NUSHKI.	10½	93	Down the Kaisar to Nushki. Good road. The road, in the bed of the Kaisar, is stony, but fair. There is a good running stream all the way. At about 1 mile the hills are much higher, and the bed of the watercourse begins to wind considerably. At 3½ miles the road
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cuts off a long bend by passing over a low kotal in a very narrow ridge. It is called Uchna-lak, or the "Camel's Pass." Artillery would go round. Half a mile further is a flat called Phundagari, a summer camping-ground of Rakshanis.

Thence the Kaisar winds between scarped rocks and low hills, or plateau, the spurs of the high ranges on either hand. Occasionally the road makes a short cut over an elevated flat, but is mostly in the bed of the watercourse, which is of fine, slaty shingle, and good travelling. The width of the winding defile decreases until its average is about 60 yards. On the right are cliffs of conglomerate overlying slate 400 feet high. On the left are lower slaty hills and elevated broken plateau. The stream is frequently crossed, but is quite shallow.

At about 7 miles the defile opens, and the road bends to the right (west) round the base of the high conglomerate hill called Kuti. Here the direct road from Kalat comes in. The valley is now half a mile wide, with the broad bed of the Kaisar on the left of the path. Its perennial stream is drawn off by a channel which follows the north bank near the road.

At about 8 miles the track bends to the right (north-west) and crosses a low outer ridge through which the Kaisar escapes, by a gap or gaps, to the south. Leaving Charasiab (4 water-mills) to the left, the road descends the stony skirt, of the hills to the alluvial plain of Nushki. Having gained this at 9 miles, it again turns to the right (north) and continues for one mile to Rahman Khan Kala.

The road this march presents no difficulties to pack animals, and may be considered practicable for artillery. The stream of the Kaisar is crossed very frequently between the 1st and 7th miles. In winter its width is about 15 to 20 feet and depth 6 inches to 1 foot. In summer it is considerably diminished. The bottom is firm, slaty gravel. In winter floods sometimes fill the whole bed, and the road is then impassable, but seldom, it is said, for more than 24 hours. Tamarisk, etc., grows abundantly in the Kaisar.

The distance from Gulistan post to Nushki by this road is a little less than by the routes passing through Shorawak (LXXV and LXXVI). The road is also perfectly practicable, and even easy, for all pack animals. but there is an almost complete absence of supplies.

For Nushki see Route No. LXXV.

Route No. LXXVIII.

FROM GULISTAN POST TO JAT POTI (SHORAWAK), *via* THE TANG AND LORA DEFILES 1879.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	MANGALZAI . . .	11½	11½	A camel road. From Gulistan post, south-west, passing Gulistan Karez village on the right hand at 1½ miles. Thence in the same direction over very stony and rough ground (beds of watercourses escaping from the gap west of Gulistan) for quite another mile and a half. After this
<p>good road over open plain. At 3½ miles (from Gulistan post) pass the first of the Naorak villages on the right hand near the hills. At about 6 miles pass the second Naorak village. There both some distance off the road to the right.</p> <p>Here leave the well-marked track and strike south south-west, towards the low isolated hill called Abrash. The path is indistinct; it leads over a salt plain, sparsely grown with thin grass and scrub, and intersected by numerous little trickles of brackish water, running south-east to the Tirkha salt stream. At about 11 miles reach the Abrash hill, a small gravel ridge, and cross a low part of it. It can easily be turned to the right (south-west), if necessary. Mangalzai hamlet is just beyond. There is a small <i>karez</i> and a little cultivation. Water good and tolerably abundant; firewood scanty; camel-forage tolerable in summer. Some <i>dhusa</i> is procurable, but no other supplies can be counted on. The people are Suliman Khel Taragarhi Kakars and friendly.</p> <p>The road left near the second Naorak village leads straight on to Tang, but there is no water for fully 19 miles from Gulistan post.</p> <p>This march is practicable for all arms.</p>				
2	TANG (JUNCTION OF BARGHAI NALA) ¹ .	10½	22	South-west over the plain, skirting low hills on the left. At about 5 miles the plain ends in a small rise. Here the beaten track, left at 6 miles on the last march, is regained. A broken country of low hills is now entered and the road generally follows a watercourse

THE MAGZAI BEDAWAN PASS.

¹ Marching down either the Dara stream (*vide* Tang defile, pages 124-125 of Gazetteer, Part III, Appendices, etc.) from the north, or the course of the Lora river from the east, the locality called Tang is reached, that is the junction of the Lora river and Dara stream. Following the course of the former 2 miles further south, the Shista glen is reached on the right. Go up the glen for about 3 miles, the ascent being gradual; then turn up the Bedawan stream on the left, which is the third of any importance joining the main stream. The course then continues along the Bedawan until the crest of the range is reached called Magzai Bedawan. There are two springs here, one on either side of the pass, that on the west having a plentiful supply of water; encamping ground by no means extensive, but in any case of the emergency a good deal could be made of the situation. Wood plentiful, grass rather scarce. The road then leads down, skirting three spurs, after which it enters the Sorbod stream, the course of which is followed for about 2 miles further. Here there are two roads; the one continuing along the Sorbod leads to the encamping ground of Argutai on the main road (Gwajha pass) to Shorawak; the other, after crossing two small spurs, enters the Gongu stream, the course of which is adhered to until the main road to Shorawak is reached, about 4 miles north of the Spinakhula encamping ground. This read is quite practicable for heavily laden camels, the descent on the western side of the Shista range being of easier gradient than the approach on the eastern slopes.

CAMP GURGINA,
3rd April 1886.

T. E. M. CLAUDIUS,
Surveyor, Baluchistan Topogr. Survey.

Names of streams and places mentioned by Mr. T. E. M. Claudius in his Report on the Magzai Bedawan Pass.

- | | |
|----------------------------|---|
| 1. Shista. Shasta on map. | 7. Shorbod (Shorbod—"Salt Stream" not on map, |
| 2. Dara (Chaman?). | 8. Argutai. |
| 3. Tang defile (Tangi N.). | 9. Jwazha; Gwajha on map. |
| 4. Lora (Lohrah N.). | 10. Shorawak. |
| 5. Bedawan. | 11. Gongu; not on map. |
| 6. Magzai. | |

12. Spinakhula.

J. K. WILMER, Lieut.-Col., S.C.,
Deputy Supdt., Survey of India.

Route No. LXXVIII—continued.

running south south-west. It is well marked and easy. After about 2 miles (7 miles) the junction of three considerable watercourses is reached. That followed is the centre one. That coming in from the right is the Dara *nala*, and that from the left the Chaman *nala* down which Route No. LVIII comes. The latter is the largest and has water. The large watercourse formed by the union of the three is known as Tang, and is henceforward followed. It runs in a general south-westerly direction, and contains a strong clear stream, which first appears a short distance below the junction of the *nalas*. The bed of the Tang is broad and stony, but fair travelling. The hills on both sides increase in height as the watercourse is descended, and close in on the bed of the *nala*. At about 3½ miles below the junction of the *nalas* above mentioned, a large watercourse comes in from the left (south-east). This is the Barghai *nala*. Here there is a small open space and a few fields on which camp might be formed if bare of crops, but the ground is confined and commanded on all sides; there is, however, no better place. Wood and water abundant, but no supplies, except, perhaps, a little *bhusa*. There are no permanent habitations. The country is that of the Usmanzai, Gurjazai, and Badezai Achakzais, but the fields belong to Musezai Tarins. The latter is friendly, but the former not to be trusted.

This march is practicable for all arms.

3	MIRZA KACH . . .	14	36	Down the Tang defile. The general direction is south-west, but the defile winds considerably. The road is stony, but fairly good marching. and the gradient very easy. As the Tang is descended, the hills become higher and steeper and the bed of the watercourse narrower.
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At about 2 miles from camp, the hills, especially those on the right, are lofty and precipitous. Here the defile is hardly more than 10 or 15 yards wide. and it continues to be narrow, winding, and enclosed by high and steep hills, until it opens into the Lora at 4 miles. There is a good running stream all the way.

The Lora is now descended in a general south-westerly direction through a tortuous defile averaging about 100 yards in width. On either hand are high and steep, but not inaccessible hills; those on the right being spurs of Shasta and Tang (Khwaja Amran range), and those on the left under-features of Sarlat. The track is usually well defined and tolerable marching, but the stream of the Lora is crossed continually. It is swift, shallow, and somewhat muddy. The fords in winter are from about 1 to 1½ half feet deep, and average about 15 yards in width. Bottom generally firm, and free from large stones, but the track must be adhered to. Patches of sand or mud to be strictly avoided. In summer the water is much decreased in volume.

At 2 miles from entering the Lora (6 miles from camp), the Shasta *nala* comes in from the right. Its debouchure looks insignificant, but gives access to a large glen running up under the main range parallel to Tang. At about 7 miles cross a plateau on the left bank, and at 7½ miles regain the Lora by the mouth of a watercourse known as the Guldarah.¹

For the remainder of the march the road continues to follow the winding defile of the Lora, as above described. Mirza Kach is a low plateau on the left bank. On the flat, and near it, about 3 battalions of infantry might be accommodated, but the ground is commanded by high hills on all sides. Water abundant from the Lora; it is slightly brackish, but quite drinkable. Wood and camel forage also abundant. Some coarse grass grows on the flat. No habitations and no supplies. The country is only inhabited by a few Badezai and other Achakzais, who bear a bad reputation.

The whole length of this march is through continuous defiles. The road may be considered practicable for all arms, but it would be a very trying stage for draught horses.

4	SILI KACH . . .	10	46	Continue to descend the winding defile of the Lora, which is very much the same as before. At about 2 miles pass a plateau called Lashkar Kach, which closely resembles Mirza Kach. After 3 miles the hills gradually begin to decrease in height, but the defile continues
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narrow until about 7 miles, when it opens into a *dara*, or glen, of increasing width. Here the road takes to the left bank and passes over undulating plateaux, keeping parallel to the

¹ A halt might be made on the plateau, if desirable. Thence to Lashkar Kach (see next stage) about 9 miles.

Route No. LXXVIII—concluded.

river bed. The halting-place, a well-known spot, is marked by two trees and a graveyard at the edge of the plateau.

There is plenty of room for encampment, with wood, water, camel-grazing, and a little grass. The width of the valley here is about $2\frac{1}{2}$ miles. Opposite to Sili Kach under the hills on the right bank of the river there is also good ground for camping on. Plenty of room, with abundance of water, etc., and a strip of short grass. Supplies can be procured by previous arrangement from the Shorawak villages, and there are several water-mills on the right bank. Sili Kach is considered to mark the boundary between Achakzais and Barechis, but the real boundary of Shorawak is much higher up at the Tang junction. The Barechis are friendly. This march is practicable for all arms. From Sili Kach to Mir Alam Kala (see Route No. LXXVI, stage 5) is 3 miles. The road is good.

5	JAT POTI	10		
		10	56	

Due west or nearly so, across the river bed, to the end of the range of hills on the opposite side the valley. At about 1 mile pass through a gap between the end of the hills and out-lying rocks on the left. At least one large irrigation cut has to be crossed at or near the

gap. There is then a tolerably straight track over the plain to Jat Poti, keeping to north of the main cut and of the Dori or Lora *nala*, but one large water channel has to be crossed and the plain is also broken in places by *nalas* and intersected by irrigation-cuts. A guide is therefore necessary, although the Jat Poti trees are plainly visible bearing west by south immediately after clearing the gap.

In the case of a considerable body of troops it would perhaps be better to keep away to the right after passing the gap, and to skirt the rocks and sand to Pain Khan's village, which is passed at about 4 miles. Thence east passing Ahmad Khan's village at 6 miles. From here there is a good road, passing north of Murad Khan Kala to Amunzai ($9\frac{1}{2}$ miles), and then south-west to Jat Poti, which is reached at $12\frac{1}{2}$ miles. This road is practicable for all arms.

For Jat Poti, see Route No. LXXV, Stage 4.

This route is considered to be the shortest between Pishin and Shorawak. However, the difference is only nominal, as from Gulistan post to Ahmad Khan in Poti by Route No. LXXV is 48 miles; and from the same place to Sili Kach by the above route is 46 miles. The former is the best for troops, although it crosses the Gwajha pass. The latter is that commonly used by the country people; it presents no real difficulties, but the long succession of stony defiles and the continual crossing and re-crossing of the Lora make it very wearisome. This route is also liable to be closed for some days if the river is in flood, as may happen any time in winter or spring, and to be caught by a freshet in the gorge of the Lora might entail serious consequences. The defiles are also infested by robbers.

Route No. LXXIX.

FROM OLD CHAMAN TO MULA MUSTAFA (KUSSA PASS ROUTE TO KANDAHAR),
via MARGHA CHAMAN.

Authority—"AFGHAN GAZETTEER," PART III OF 1884.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Interme- diate.	Total.	
1	SINA	$6\frac{1}{2}$	$6\frac{1}{2}$	From Old Chaman camping-ground northward under the fort, and along the foot of the hills. The road is good, though stony and slightly undulating. Water is frequently met with. At about $3\frac{1}{2}$ miles is an orchard watered by a small stream. It is called Bogara Bugh, and

belongs to Parodin Khan, Ashazai Achakzai.

Route No. LXXIX—continued.

Sina is a camping-ground at the entrance of the Bogra pass, which leads to that part of the Toba plateau known as Tobin. A good stream issues from the Bogra ravine, and affords a copious supply of water. Firewood is tolerably abundant, and so is camel-grazing in summer. No habitations or supplies. The country belongs to Ashazai Achakzais, who may be considered friendly. Elevation about 5,400 feet.

2	MARGHA CHAMAN .	10	16½	Road northward along the base of the hills. It is stony, and crosses numerous watercourses and small ravines, the descents into, and ascents out of, which are often trying to laden camels otherwise the road is good. At about 3 miles cross a large watercourse known as the Shere Obo (sweet water). On the further, or right, bank is an artificial water-channel, in which runs a strong stream. The first halt might be made here, if thought desirable. Ground, etc., much the same as at Sina. ¹

At about 6½ miles reach the summit of a rise, from which the whole of Margha Chaman is visible. It lies about 1,000 feet below and 3 miles off, though neither descent nor distance seems to be nearly so much. The gradient is regular, and road good all the way. On the right of the road is the large channel of the Sarghai *nala*, near which took place the skirmish in which Sashkar Khan, Alizai, was killed in January 1879.

Margha Chaman is a small grassy plain lying in a bay of the *daman* talus, or foot slope of the hills, which is here altogether wanting for a space of about 2 miles. The actual length of the chaman is about 1½ miles, and its breadth 1 mile. It is watered by springs rising under the hills, and is covered with excellent grass. Being perfectly level, it affords a splendid site for encampment, except sometimes in winter and spring, when, if there has been much rain or snow, it may be too wet for camping on. There is, however, plenty of dry, gravelly ground in the vicinity. To north and north-west are several villages of Nurzais, from which supplies can be obtained in tolerable abundance. There are also water-mills.

Grass is abundant; camel-grazing is also plentiful. Firewood can be procured from the hills.

Several passes lead from Margha Chaman on to the Toba plateau (*see* Routes Nos. 140 and 142, N.-W. F., Vol. I.

3	MULA MUSTAFA .	17	33½	North north-west skirting the <i>choman</i> , and past the village of Sultan Nao. The dry channel of the Kadanai is crossed at about 3 miles. The route then turns westward (or north-west) and at about 4 miles reaches the spot where Sir Hugh Gough's cavalry brigade of the Kabul-Kandahar Field Force camped on the 25th September 1880. ²

From thence, in a general north-west or west-north-west direction, passing near or through the village of Shah Pasand, and perhaps through that of Ashad, the country is a wide open plain, in which are various hamlets and camps of Nurzais; but the former, being mere groups of mud huts without trees, are invisible in the bare plain at a short distance. There is some cultivation, watered by karez, and a few dry beds of watercourses are crossed. The road is good all the way, and the last 3 or 4 miles are in a north-westerly direction. About 1½ miles before reaching Mula Mustafa, the road appears to pass near village of Saiadan (*see* Route No. LXXX).

Camp N. of the group of hamlets. Water good and plentiful from two lines of *karez*. Supplies of barley, bhusa, etc., should be procurable.

¹ By halting at Shere Obo, instead of at Sina, the next march might be made to Akhtar Khan (*see* below), 11½ miles, leaving Margha Chaman to the right; thence to Mula Mustafa, 13 miles. This would divide the distance better. Cavalry might easily make one march of 16½ miles to Margha Chaman, and from thence reach Saiadan or Mula Mustafa in another march of 15½ or 17 miles.

² The report by Major Royce Combe, 10th Hussars, Deputy Assistant Quarter Master General, has the following:—Camped at Shahgahi, close to a water-mill, about a mile to west of Akhtar Khan proper. The 3rd Bengal Cavalry had camped at Juma Kana (village of Juma Khan, Samzai Nurzai), a good mile or more to the south, and about a mile or so due west of Akhtar Kana, close to the high road (Arghastan Kafila track?) leading to Chaman; but we found the water here had been cut off, so we encamped along the open *karez*, getting supplies from villages, a mile or two east and south. Grain and *alta* sufficient to replenish our stock of four days' supply. *Bhusa* for the day.

Next day the brigade marched to Chaman post. The distance is entered in the report as 18 miles, but must have been fully 20 miles.

Route No. LXXIX—concluded.

From Mula Mustafa to Kandahar by Route No. LXXX is 58 miles, which can be covered in 4 or 5 marches.

From Saidan or Kushobai to Kandahar by Route No. 147, N.-W. F., Vol. I, is 51 miles, which can be accomplished in 4 marches.

Barghana, or Balol Karez, can also be reached from Mula Mustafa by a direct road branching to the left (north-west) after passing the first rise from the Kushobai valley, at 1 mile from Mula Mustafa camp, north of the hamlets. Thence by a narrow, awkward path through a long ridge, after which the route lies nearly due east over a plain dotted with low hills, and at about 8 miles passes near and south of a steep rocky cliff, the end of the Hada range. Here in winter may be found a nomad camp, and the locality is apparently known as Bedak, although the Bedak of N.-W. F., Vol. I, Route No. 147, is 3 miles or so south-west in a small valley. Tandukai on the same route is probable 3 or 4 miles due west. There are also wells a mile or two west of the road.

After passing the end of Hada the road leads north-west over an open bare plain for about 10 miles, and joins Route No. 147, N.-W. F., Vol. I, at or near the Barghana kotal. Thence to Barghana, 6 miles; total from Mula Mustafa, 24 miles. On the whole, the road is good, and it is probable the march might be broken at the wells abovementioned or at Tandukai.

This route, and also Route No. LXXX might be used by cavalry covering the flank of an advance on Kandahar.

Route No. LXXX.

FROM OLD CHAMAN TO KANDAHAR, *via* THE KUSSA PASS.

Authority.—CAPTAIN H. D. HERVBY, 1879, AND QUETTA STANDING ORDERS.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter- mediate.	Total.	
1	SURKAI TALERAI	7	7	Follow the main road north-west for about 5 miles down the stony skirts of the hills, and the strike north for 2 miles. At Surkai Tale- rai are two pools (artificial ?), the water filling which comes from the hills north of Old Chaman.
Probably it is the tail of the stream issuing from the Bogra pass, in which case there would not be much difficulty in securing a sufficient supply when required. Plenty of room for encampment. No supplies. Fuel plentiful.				
2	AKHTAR AND AKH- BAR VILLAGES.	11	18	North-west over the open plain, nearly parallel to the main road. There appears to be no beaten track. The ground is stony for the greater part of the distance, and there is a gradual fall to the first channel of the Kadana passed at about 8 miles. The Kadana, almost
always dry, is no obstacle. After very heavy rain on Toba, it may be impassable for a day or two. At the villages there is good ground for encampment, with water and supplies.				
Akhtar and Akhbar are not marked as such on the map, but are probably the same as Rasul Khan and Mula Omir. Camel-grazing scarce,				
3	MULA MUSTAFA KA- BEZ.	10	28	North-west over open plain partially cultivated. There is apparently no defined track, but after 5 or 6 miles the route turns northward. After about 2 miles the route reaches, or passes to the right of, the village marked Saiadan on the map. At 1½ miles to the south-west of this place

Route No. LXXX—concluded.

is the halting-place called Kushobai in Stage 2, Route No. 147, N.-W. F., Vol. I. This leads almost in a direct line to Kandahar, and may be followed.

Thence through cultivated ground for several miles more to the ground of hamlets known as Mula Mustafa. Some places on this march are bad for artillery and baggage animals. No doubt this could be avoided with a good guide.

Camping-ground, on right bank of watercourse, is open and spacious. The water is good and plentiful from two lines of karez. Supplies of barley, Indian-corn, *jowari*, and *bhusa* were procured by Sir Hugh Gough's cavalry brigade in September 1880, but very little *attu* could be obtained. Camel-grazing scarce.

The people in this neighbourhood are Nurzais.

4	SARWAR KAREZ	16	44	Road northward over Kushobai plain for 3 miles, ¹ when it enters the Kussa pass, a long and narrow defile, which runs at first north-west and then north-east. The defile is about 200 yards in width. Road indifferent, and would require making before thoroughly practicable
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for artillery. The pass is cleared at 14 miles, and the road runs nearly due west, over undulating country, to the camping-place, which is in the Malhed plain, north of Sarwar Khan's village. There is room here for the encampment of a division. Water excellent and abundant; supplies procurable. The people about here are Barakzais. Sarwar karez is not marked on the map.

5	BALOL KAREZ OR SAIAD MAHAMAD KAREZ OR BAR- GHANA.	13	57	Road west across the Malhed plain. It is very good. At 11 miles the Patukhai kotal, over which the road passes into the Patukhai plain or valley, which is crossed for 2 miles to the camping place. ² The country is hilly and the road is stony, but fairly good. Water at
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Balol karez abundant and good. Supplies procurable from Saiad Mahamad's village about $1\frac{1}{2}$ miles north-east. Camping-ground near the village is sufficient for 2 or 3 battalions. Instead of halting here, it might be better to go on to Maku karez, 17 miles, where there is tolerable water; thence to Mandi Hissar, 13 miles, without stopping at Deh-i-Nao. It would probably be better still to march from Balol karez straight to Mandi Hissar, 17 miles. Good, easy road all the way after passing Maku karez. Supplies procurable.

See Stage 4, Route No. 147, N.-W. F., Vol. I.

6	DEH-I-NAO	9	66	} See Stages 5, 6, and 7, Route No. 147, N.-W. F., Vol. I.
7	MANDI HISSAR	8	74	
8	KANDAHAR (CAMP)	12	86	

This road is rather longer and not so easy as that *via* Bedak (see Route No. 147, N.-W. F., Vol. I), but might be useful as an alternative route, or for cavalry protecting the right flank of a force advancing on Kandahar.

In September 1880 the cavalry brigade of the Kabul-Kandahar Field Force returning to India partly followed this route from Kandahar. The country had then undergone three years' drought, and the guides asserted that there was no water either at Bedak or Sarwar karez. The brigade therefore made one march of 24 miles from Barghana to Mula Mustafa.¹ Not a drop of water was found during the whole march, and the followers suffered much from thirst.

¹ According to report by Major Boyce Combe, 10th Hussars, on march of cavalry brigade, Kabul-Kandahar Field Force, under Sir Hugh Gough, there is a steep ascent from the Kushobai valley at 1 mile from Mula Mustafa, and a narrow awkward path through small hills. This is shown on the map as the *Saraband*. Captain Hervey's route perhaps turned these hills to the east.

The brigade at first took the Bedak road from Barghana, but, being ordered to go to Mula Mustafa, diverged from it after crossing the Barghana kotal, and passed under the south end of the Hada hill, joining the Kussa pass road before the last descent into the Kushobai valley, 1 mile from Mula Mustafa. Had the Bedak road been followed, it is probable that water would have been found at that halting-place.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. LXXXI.

FROM OLD CHAMAN TO JAT POTI (SHORAWAK), *via* ARGUTAI. 1879-81.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter- mediate.	Total.	
1	KARWABI TALAO . .	14	14	} <i>Vide</i> stages 3 and 4, Route No. 134, N.-W. F., Vol. I.
2	GWAJHA CAMP . .	14		
3	ARGUTAI	6	34	From Gwajha camp, southwards over stony <i>daman</i> , skirting the hills on the left. The road is said to be tolerable, but crosses numerous watercourses. ¹ At the Argutai <i>nala</i> the road to Nuskhi from Gulistan (Route No. LXXV) is entered. Camp here.
4	SPINAKHULA . . .	14	48	
5	JAT POTI in SHORAWAK.	16	64	} <i>Vide</i> stages 3 and 4, Route No. LXXV.

¹There is said to be a watering-place called Sira Shan, where there are three wells, somewhere on or near the track.

Route No. LXXXII.

FROM JAT POTI (SHORAWAK) TO KANDAHAR DIRECT.

Authority.—FROM INFORMATION OBTAINED BY CAPTAIN R. HENNEL, 1881.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter- mediate.	Total.	
1	ABU CHAH	20	20	Through sand desert. Water at halting-place from wells. Firewood and grass procurable. Achakzai country.
2	GALHED	12		
3	TANGAI	18	50	Sand desert. Wells at halting-place. Firewood and grass procurable. Achakzai country.
4	TABABAZ	20	70	

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. LXXXII—concluded.

5	DORI RIVER . . .	16(?)	86	Sand desert. Halt on the Dori at some spot west of the Arghastan junction. Water abundant and supplies procurable.
6	KANDAHAR . . .	14	100	Road over cultivated plain with villages. The existence of this road is a fact worthy of note, but it is in itself of no importance.

Route No. LXXXIII.

FROM SAIADBUT (SHORAWAK) TO ZABU.

Authority.—MAITLAND.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	PURTOS TANK . . .	24	24	Saiadbut is stage 6, Route No. LXXV. Road south-west, passing Haji Reg and taking a tolerably straight line towards Chihilduktaran ziarat. The country is a flat open plain, without water, except after rain. Chihilduktaran is a ziarat on the desert edge. It marks the boundary between Shorawak and Nushki, the latter being a part of Baluchistan. There does not appear to be any water here, and the road continues, skirting the sand desert, to Lal Khan, which is the first of a line of semi-natural tanks at the foot of the sand-bluffs. In these tanks the drainage of the "dak," or clear plain, which is towards the sand hills, and therefore <i>away</i> from the river, is collected. They are shallow hollows, said to be 100 yards or so across. In summer the tanks are generally dry, but water is procured from wells or pits sunk in their beds. Purtos tank is near Lal Khan, and seems to be invariably made the halting-place by people of the country. Firewood and grass are abundant. The tank is large and a great watering-place for the flocks of nomadic Mingals and Rakshani Baluch. The chiefs of these tribes reside in Nushki.
2	SHERSHAH . . .	14	38	Westwards, or west south-west. The road is over sand. Tanks called Rahman and Rustam Khan are passed. Shershab is described as a large tank resembling Purτος. Firewood and grass abundant.
3	ZABU . . .	10	48	Road as before, mostly over sand. Tanks called Zainadin, Isai, and Umar Shab, are passed, Here the road from Nushki is joined.—See Route III, Helmand series.

Route No LXXXIV.

FROM KALAT TO KANDAHAR *via* NUSKHI.

Authority.—MAITLAND.

Kafilas returning from Karachi to Kandahar frequently take this route. They march from Karachi, by the well-known road *via* Bela and Khozdar, to Kalat. Thence the following stages are made to Nushki: (1) Garak, (2) Barenchinao, (3) Gurghina (some place in the Gurghina valley, (4) Jangi Shahar (apparently some village in Kishingi), (5) China.

Camel-grazing abundant, mutton procurable. (*Quetta Standing Orders.*)

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. LXXXIV—concluded.

The latter is probably a halting-place on the irrigation channel from the Kaisar stream, near the water-mills, a mile or more south of Kahman Khan Kala in Nushki. (See Baluchistan Route No. 23).

From thence the route is as follows:—

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter- mediate.	Total.	
1.	SARBAT KAREZ . . .	16-17	}	Probably the same as Taraki spring near the Alagoh rocks (Route No. LXXIV.)
2.	SHIBANI . . .	20		
3.	POTI . . .	17 18		} <i>Vide</i> Routes Nos. LXXV and LXXVI.
4.	SPINAKHULA . . .	16		
5.	MAKKA . . .	...		This place is unknown.
6.	BOLAK-ZIABAT . . .	...		Unknown.
7.	TAKHT-I-PUL . . .	...		Halting-place in the Takht-i-pul district. (See Route No. 133, N.-W. F., Vol. I.) The three stages from Spinakhula must be long ones, as the distance is 60 miles in a straight line.
8.	KANDAHAR . . .	29		<i>Via</i> Deh-i-Haji and Khushab. (See Stages 10 to 13, Route No. 133, N.-W. F., Vol. I.) Total from Nushki about 165 miles.

Route No. LXXXV.

KANDAHAR TO ZANGIABAD, *via* SHAMSHIR-I-KAREZ.

Authority.—CAPTAIN HENNEL, OCTOBER 1880.

No. of Stage.	Name of Stages.	DISTANCES.		REMARKS.
		Inter- mediate.	Total.	
1	KAREZ-I-SHAMSHIR . . .	14	14	Leaving Kandahar by the Shikarpur gate, keep the southern road for about a quarter of a mile; then branch off to the right between low walls and through the villages of Deh Agarah (1 mile) Deh Khati (1½ mile), and Gur Khana (2 miles), which are divided from each other by fields and

stretches of turf. Turn sharp south at south side of Gur Khana over a little bridge and keep track

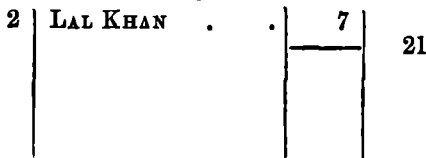
Route No. LXXXV—continued.

south south-west over turf and cultivation to the village of Fakiran (3½ miles). Pass through a graveyard on east side, and keep right hand track, and make for the minar of the ziarat of Nur Mahamad at Manora (4½ miles). Thence follow a deep water channel through open and level fields to Angurian (6½ miles). Keeping track close under walls on east side, turn sharp along southern face, and, keeping a south-westerly direction, cross (7¼ miles) the Tarnak at a point where a well-beaten track marks the ford. The banks are broken and steep 16 to 20 feet high, and would require a little ramping for artillery. About 200 yards beyond river cross near a little hillock a deep karez; then take right hand track straight to Hindubagh (8½ miles). From the hillock above mentioned can be seen the square fort-shaped mound near Gand-i-Mansur, also the minar at Manora, both good landmarks. Make straight for Gand-i-Mansur (12 miles) over a plain covered with *jowassa* (camel-thorn), some of which is stacked; capital grazing for camels. The track is still well-marked. At 10½ miles pass a line of karez pits; then another, and at 11¾ miles a third.

At 14 miles reach village of Karez-i-Shamsir. Good camping-ground ¼ mile south-east of village on north side of karez.

The country between Kandahar and Karez-i-Shamsir is almost level, sloping slightly towards Dori river. Rich alluvial soil. Between Kandahar and Fakiran the country is cut up by karezes and between Fakiran and Gand-i-Mansur, by the bed of the Tarnak, and the deep karez just beyond it. Otherwise there is nothing between Kandahar and the Dori that a good cavalry horse could not jump, or that artillery could not cross with a few minutes' ramping. The whole country is over-grown with camelthorn in autumn. Gand-i-Mansur is an important village with high walls and a fort. Supplies at Karez-i-Shamsir fairly abundant; water good; fuel scarce. Supplies procurable from neighbouring villages named Rubabad (?) Rahwain to the north-east (?), Imarat to the west (?), Karez-i-Maruf and Gurgan to the north-west. Large numbers of camels could be purchased in this district.

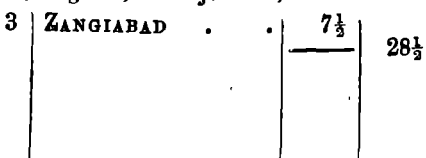
NOTE.—From Karez-i-Shamsir a road runs through small villages of Deh-i-Nau and Sultan Mahamad southward across fields of wheat, carrots, etc., divided by deep irrigation channels, which are bridged. At the villages above named many camels grazing. At 2¼ miles reach Dori river, bed about 160 yards wide, water 2 feet deep and 30 to 40 feet wide. Salt pans near river, Registan on far or left bank. Vilayat Torabaz (?) on left bank collection of huts and stacks of camel-thorn. The ziarat of Mulla Tirab lies about 1 mile up river. Water brackish; large saline deposits.



The road from Karez-i-Shamsir to Lal Khan runs a little west of north (the direction of Lal Khan is north-west but an impassable karez intervenes) over fields covered with camel-thorn between two small mounds; then between old karez pits, and across water channels to

village of Karez-i-Maruf (2½ miles). Crosses the two karezes on south and north side by little bridges and along eastern wall of village, track then makes for a mound 1 mile north of village of Gurgan (3¼ miles). Good deal of *jowassa* stacked here. Passing mound road turns west and crosses Tarnak. Banks very steep and broken; little water. On far bank broken ground and deep old karez. Thence keep right-hand track well north of village of Nauroz (5½ miles).

Thence to Lal Khan 1½ miles easy going. Good camping-ground ¼ mile north-east of Lal Khan and ¼ mile south-east of the rocky ridge at foot of which is Deh-i-Kadir. Close to the camp is a watercourse, and between camp and ridge a deep karez. As far as the eye can see from the top of the ridge (3,850 feet), the country round is laid out in fields. Soil alluvial. Many villages and some orchards. Very good camel-grazing, no grass, little lucerne. Supplies plentiful, except *bhusa*. Wood scarce, but is said to be procurable from a place in the desert three marches off. Supplies obtainable from neighbouring villages of Ashraf, Mulla-dost, Regwah, Khunjukak ?, Kala-i-Furusakerim ?, and Karimabad.



Leaving Lal Khan, make towards Deh-i-Kadir; then strike across country over one or two channels to foot of the north end of the southern ridge (on the eastern face of which is a ziarat with a few trees), where a good road, but stony track, is found. Country bare even

of *jowassa*. Road then runs due west to Panjpai 4¼ miles, and thence a little west of south to a mound 3 miles off. To the south-east lies the little village 5 miles called Zabab of Sartip Faioz Mahamad, Alikzai. Country fertile, but intersected by water channels, the bridges over which are broken. At the mound (6½ miles) the road bifurcates, one track going to

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. LXXXV—concluded.

Sperwan (7 miles,) and the other taking southerly direction. The road to Zangiabad is by the former. The villages called Sperwan extend for 2 or 3 miles to the north and join on to those termed Panjwai.

About $\frac{1}{2}$ mile west of Sperwan the village of Zangiabad is reached. Camping-ground on the banks of, and at a bend in, the river Arghandab, close to the north side of the village of Zangiabad. Opposite, on the right bank of the Arghandab, the village of Sarohin. Zangiabad is about 5 miles above the junction of the Dori and the Arghandab. Broad stretches of meadow land on the right bank. Excellent grazing supports thousands of sheep and cattle. Sheep here very cheap (about ₹2-8 each). Bed of Arghandab gravelly and about $\frac{1}{4}$ mile broad; stream small in autumn. Banks no obstacle. Supplies plentiful; 1,800 maunds of barley and 380 maunds of *bhusa* collected there in a few days in October 1880. Lucerne plentiful; wood less so. Supplies can be collected from 14 or more villages in this neighbourhood.

From Zangiabad there are several routes leading to different points on the Helmand, among others to Kala-i-Bist.

Route No. LXXXVI.

FROM KANDAHAR TO ZANGIABAD, *via* SUNDRI.

Authority.—COLONEL BELL, 1880.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	SUNDRĪ (SINJĪ ?)	9	9	After passing through the suburbs of Kandahar, the road to Kohkaran is followed as far as the Sartip's (Nur Mahamad Khan) garden (5 miles). Then, instead of turning off to Kohkaran, keep straight on for about a mile and cross the Arghandab to the right bank.
2	ZANGIABAD	12	21	From Sundri the road continues in a west south-west direction for about 3 miles till a water-mill to east of road is reached. Here it branches off from the Girishk road, and takes a south-west direction. A mile further another mill is passed, and road, now becoming a mere track,

Current slight; depth of water 12 to 18 inches.

The road along the right bank to the village of Sundri is well marked. Camping-ground rather confined to left of road beyond village. Canal of good (general direction west south-west) water to left of camping-ground. Road fair all the way from Kandahar to Sundri, though a little rough for wheeled carriage, crossing the numerous watercourses, over which the bridges are broken down. *Bhusa*, grain, and lucerne, procurable from villages near Sundri.

has a southerly direction. It then crosses three *nalas*, quite impassable for wheeled carriage without being ramped; skirts the western walls of numerous villages through fields for $1\frac{1}{2}$ miles; then turns eastward between walled gardens and villages, crossing numerous watercourses. At about 8th mile comes out on a beautiful grass plain on the right bank of the Arghandab.

At 11th mile crosses river, and at 12th reaches Zangiabad. Village surrounded by high-walled orchards and gardens, fields, etc. Camping-ground north of village between it and river roomy. Supplies plentiful (*see* Route No. LXXXV) from many villages around. Excellent grazing. Water good from river.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. LXXXVII.

FROM KANDAHAR TO KALAT-I-GHILZAI, *via* THE ARGHASTAN VALLEY.

Authorities.—LIEUTENANT H. S. MASSY; MAJOR PRIOR, DEPUTY ASSISTANT QUARTER MASTER GENERAL.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Interme- diate.	Total.	
1	MANDI HISSAR .	12	12 19 35 44 57 69 77	} <i>Vide</i> Route No. 85A., N.-W. F., Vol. I.
2	MURGHAN KECHA .	7		
3	ATA MUHAMAD .	16		
4	AMIN KALA . .	9		
5	SARBILAND . .	13		
6	WUCHAKBARG .	12		
7	KALA SHEER KHAN (Gwari Valley).	8		
<p>avoid steep descent. At 4 miles there is another steep ascent from a hollow. Thence over a spur, and along a level plateau. At 5 miles road crosses low range of hills; descent short but steep; guns would require assistance. At 5½ miles cross small <i>nala</i>. Here guns would have to make a short detour to the left. From here Route No. LXXXVIII goes to Maruf.</p>				
8	AKRAM KHAN .	11	88 98 106	} <i>Vide</i> stages 1 and 2, Route No. LXXXVIII.
9	KALA KHANAN .	10		
10	KALAT-I-GHILZAI .	8		

Route No. LXXXVIII.

FROM KALAT-I-GHILZAI TO MARUF.

Authority.—PRIOR.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Interme- diate.	Total.	
1	CAMP KALAH KHANAN.	8	8	Road Kalat-i-Ghilzai-Kandahar to Puli-Sang, 6½ miles. Here turn south, and cross Tarnak river at 7 miles. Camp 1 mile from left bank of river.

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. LXXXVIII—concluded.

2	AKRAM KHAN	10	18	Road nearly due south, slightly ascending between two hills, and across a broken rugged granite plateau, bounded north-east and south-west by high rugged hills. Barley, Indian-corn, wheat, and <i>attu</i> plentiful; camel-grazing scarce; water good and plentiful.
				Road, a mere camel track, practicable, but difficult, for artillery.
				At $1\frac{1}{2}$ miles cross small <i>nala</i> , beyond which road is blocked by broken granite rock. The path taken is between this rock and the hill slope, here 1 in 15, which must be cut away to allow guns to pass. Road here turns south-west.
				At 2 miles a rough stony incline required to be improved to make it practicable. At $2\frac{1}{2}$ miles the same. At three miles road runs along hill slope for 50 yards covered with boulders, and requiring working at. At 4 miles a nearly level plateau broken with small hill. From this point guns can pass easily. At 5 miles Sultan Mahamad ¹ ; large village on right; on left two small villages—Kila Sefoo and Kila Sherbad. At 9 miles a steep descent.
3	SHER KHAN-KA-KILA, GWARRIE VALLEY.	11	29	Road due south through a gap in the hills, $\frac{1}{2}$. No track; ground partly cultivated. Cross a small stream which should be ramped for guns. After crossing, take direction south south-east at 2 miles. Pass Majid Kila; at 4 miles Salaam-ka-gaon, ² then cross a small stream,
				direction south-east. Country broken by numerous large knolls, round which road winds; ground in parts rough. At 8 miles pass Bismilla. Camping-ground good. Water good and plentiful. Camel-grazing scarce.
				Maruf lies east by south 25 miles.
4	KHUSHBARAK	8	37	Road due south for $3\frac{1}{2}$ miles, and south-west for remainder of distance. At $2\frac{1}{2}$ miles road crosses a small <i>nala</i> . Here guns would have to make a short detour to the right. Road then ascends, and at 3 miles crosses a low range of hills; ascent short, but steep.
				Guns would want to be assisted. Then along a level plateau, on leaving which road crosses another hill spur. At 4 miles there is a steep descent into a hollow, and at 6 miles a steep ascent, where guns would have to detour to the left. This is succeeded by another descent, after which the road runs over undulating ground. Water good and plentiful from stream; wood plentiful; camel-grazing scarce.
				Guns would have to diverge again at $6\frac{1}{2}$ miles. At $7\frac{1}{4}$ miles the road crosses a small stream, and reaches Khushbarak village at 8 miles.
				Pass Gwarrie at 1 mile, Rorah at $1\frac{1}{2}$ miles, Nabbi, Ramdal, and Noarshere at $3\frac{1}{4}$ miles, Sirdane at 6 miles.
5	NAWA KHEL	5	42	Road south-west, hard and stony, running along the foot of a high range of hills on the left. At 4 miles cross Lora river by fords. It is here $\frac{3}{4}$ mile, and runs in three small channels. It is 3 feet deep in the deepest part; good hard bottom. Pass village of Nawa Khel at $4\frac{1}{4}$ miles.
				At $4\frac{1}{2}$ miles road turns south, and crosses a very steep range of hills, difficult for artillery.
				From here are two roads to Arghastan valley, the most southerly one being difficult and steep, that to west, 2 miles longer, being easier.
6	CAMP SIX MILES EAST OF NUB HAMAD KALA.	5	47	Road west over hill spurs to $2\frac{1}{2}$ miles; here turns south by west, and descends gradually to camp.
7	A STAGE	15	62	} (<i>Vide</i> stages 28 and 29, Route No. 83, N.-W. F., Vol
8	MARUF	15	77	

¹ At Sultan Mahamad camping-ground, good water, and camel-grazing plentiful. Supplies from neighbouring village.

² See stage 6, Route No. 86, N.-W. F., Vol. I, for Salaam-ka-gaon.

Route No. LXXXIX.

FROM SARBILAND (ARGHASTAN VALLEY) TO DABRAI.

Authority.—LIEUTENANT H. MASSY.

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	BADOZAI . . .	6½	6½	Sarbiland is stage 5, Route 85A., N.-W. F., Vol. I. The road leaves Sarbiland in a south-easterly direction over a sandy soil cut up by small watercourses. At about 1 mile from Sarbiland the main road is left, and the Lora river is crossed at a point opposite the pass over the Shaikh Khan hill. An easterly direction
<p>is then taken along the bank until an old brick tower is reached, when the road turns to the south, and passes round the east end of the Shaikh Khan hill. The ground between the tower and the Shaikh Khan hill is under cultivation, and, when irrigated, is difficult for the passage of wheeled carriage and camels, and it would take a considerable time for a large force to get over it. Cavalry, and laden mules and ponies, should be sent over the Shaikh Khan pass. The ground between the hill and the Arghastan river is rough and stony, but passable for guns. The Arghastan is crossed opposite Badozai. Between the river and the village is a strip of cultivated land crossed by watercourses.</p> <p>Badozai is a Popalzai village of some 50 or 60 houses. There is a good camping-ground to the south-east, and water is obtained from a small canal close by. There is grazing for camels on the low hills over the village and along the river bank. It would be advisable to bring on some supplies from Sarbiland, as there are few villages near Badozai from whence to collect forage, etc., and no supplies are procurable at next halting-place, Camp Karez. The march from Sarbiland to Badozai is only about 6½ miles, but it would be inadvisable to make it longer, two rivers and much bad ground having to be crossed on the way.</p>				
2	CAMP KAREZ . . .	8½	15	On leaving Badozai, the road crosses the low hills over the village, in a south-westerly direction. A small kotal is then crossed, and at about the 5th mile is the Kanaksai <i>nala</i> . The road then crosses a wide and level plain, called Bala Jer, leaving the village of
<p>Bukha Khan about 1 mile to the right. With the exception of a few places near the Kanaksai <i>nala</i> and near Camp Karez, the road is good and passable for all arms. The karez is at the southern extremity of Bukha Khan hill. The ground in the neighbourhood is good for encamping, and the supply of water sufficient for a large force. There is a tank near the camping-place, which should be allowed to fill at night for watering animals, during the day, the drinking water being procured higher up the karez. There are no supplies at this place, and the only village in the neighbourhood is Ayubzai, about 1 mile north of the camp.</p>				
3	LUI KAREZ . . .	17	32	From Camp Karez the road runs in a south-westerly direction across a sandy plain, on which there are a few villages of 8 or 10 houses each. A few small <i>nalas</i> are crossed at about 2½ miles from the karez. At 12 miles, leaving the Torgarh hills on the right,
<p>the road enters a large <i>nala</i>, and follows its bed, which is rough and stony, until it arrives at the village of Khwaj Muhammad, on the left bank. The road then leaves the <i>nala</i>, crosses</p>				

ROUTES ON THE NORTH-WEST FRONTIER.

Route No. LXXXIX—concluded.

some low, rocky hills to the left, and after passing over an undulating, sandy plain, arrives at Lui karez.

Lui Karez is a large village with a good camping ground to the east. Here supplies (which should be also collected from Mullah Anwar Fakir-uddin, Shah Pasand, and Dad Muhammad) are plentiful, and there is good grazing ground for camels; the water-supply is good, being obtained from a *karez*, and there is a large tank near the camping-ground.

4	DABRAI . . .	15½		47½
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The road, leaving Lui karez in an easterly direction, passes through the villages of Shah Pasand, Asad Mulla Dost Muhammad, and Lal Muhammad. There is a small *nala* to be crossed between Shah Pasand and Asad. The soil here is sandy and the ground undulating.

At the 11th mile the Kushobai *nala* is met, but it offers little difficulty for the passage of wheeled carriage. From the Kushobai *nala* to Dabrai, the country is perfectly open and easily traversed in any direction. The number of village here show that this district is thickly populated. Dabrai being one of the posts on the direct road from Quetta to Kandahar, supplies can be procured there the water is good and camel-grazing abundant. (See stage 17, Route No. 125, N.-W. F., Vol. I.)

Route No. XC.

KALA DOST MAHAMAD KHAN TO KALAT-I-GHILZAI.

Authority—TALBOT (from native information).

No. of Stage.	Names of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	GARI KAREZ . . .	6	...	
2	SUB KAMAR . . .	8	...	
3	BORJHUNDI . . .	...	...
4	HAK SHAHIDAN . . .	6	...	
5	SAKIBA SAR . . .	7	...	
6	BARA or BABAK KHEL	10	...	
7	NAWA . . .	...	...
8	KHARIRA . . .	...	...
9	KALA FATEH KHAN . . .	7	...	
10	BANDSAR . . .	8	...	The Gardanai Kwadanai band or kotal.
11	SHAHABUDDIN (KHAN GUNDI.)	9	...	
12	TAZI . . .	9	...	In Gore's map. A mill on the Tarnak.
13	BAHO BAGH . . .	12	...	
14	KALAT-I-GHILZAI . . .	13	...	

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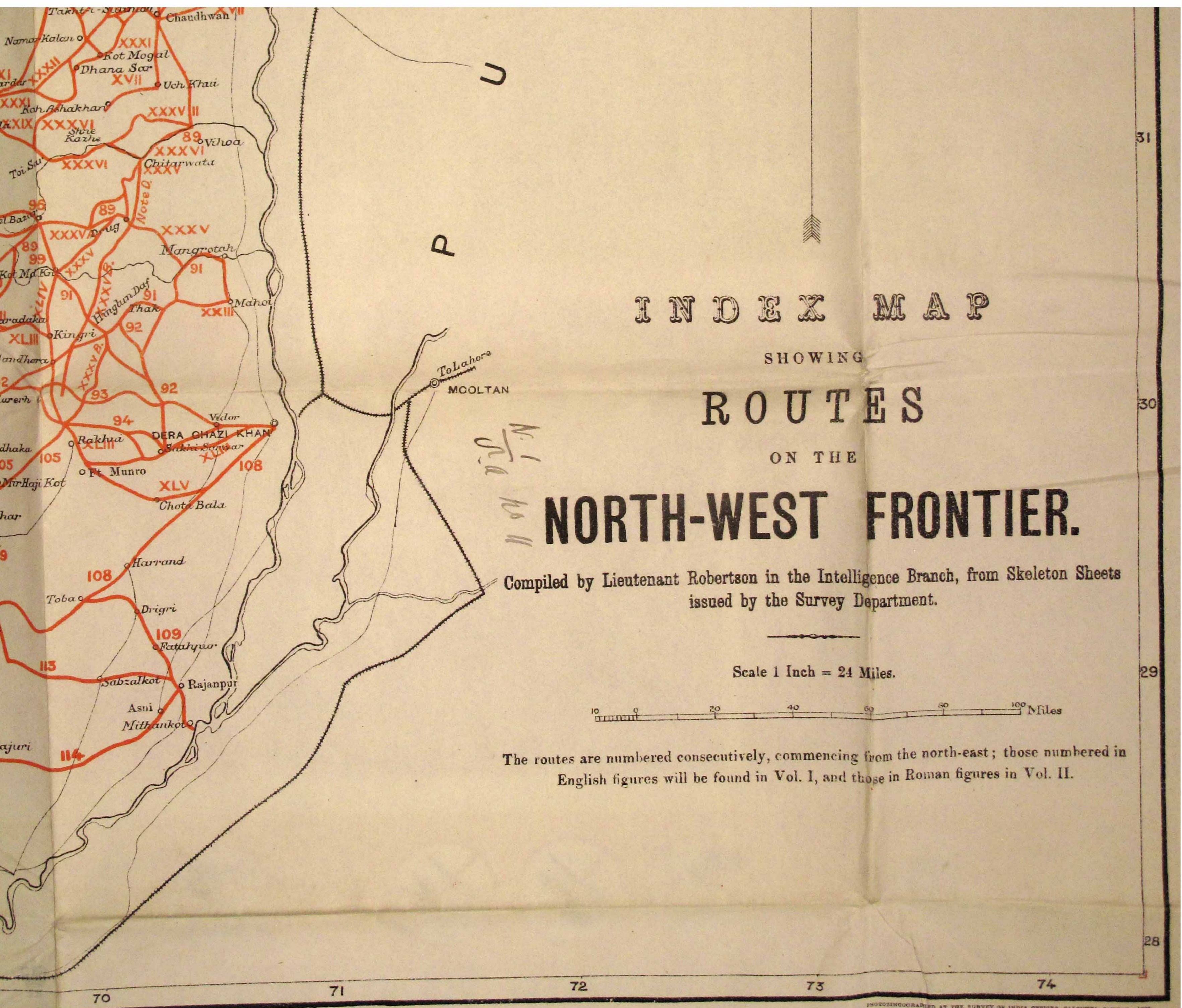
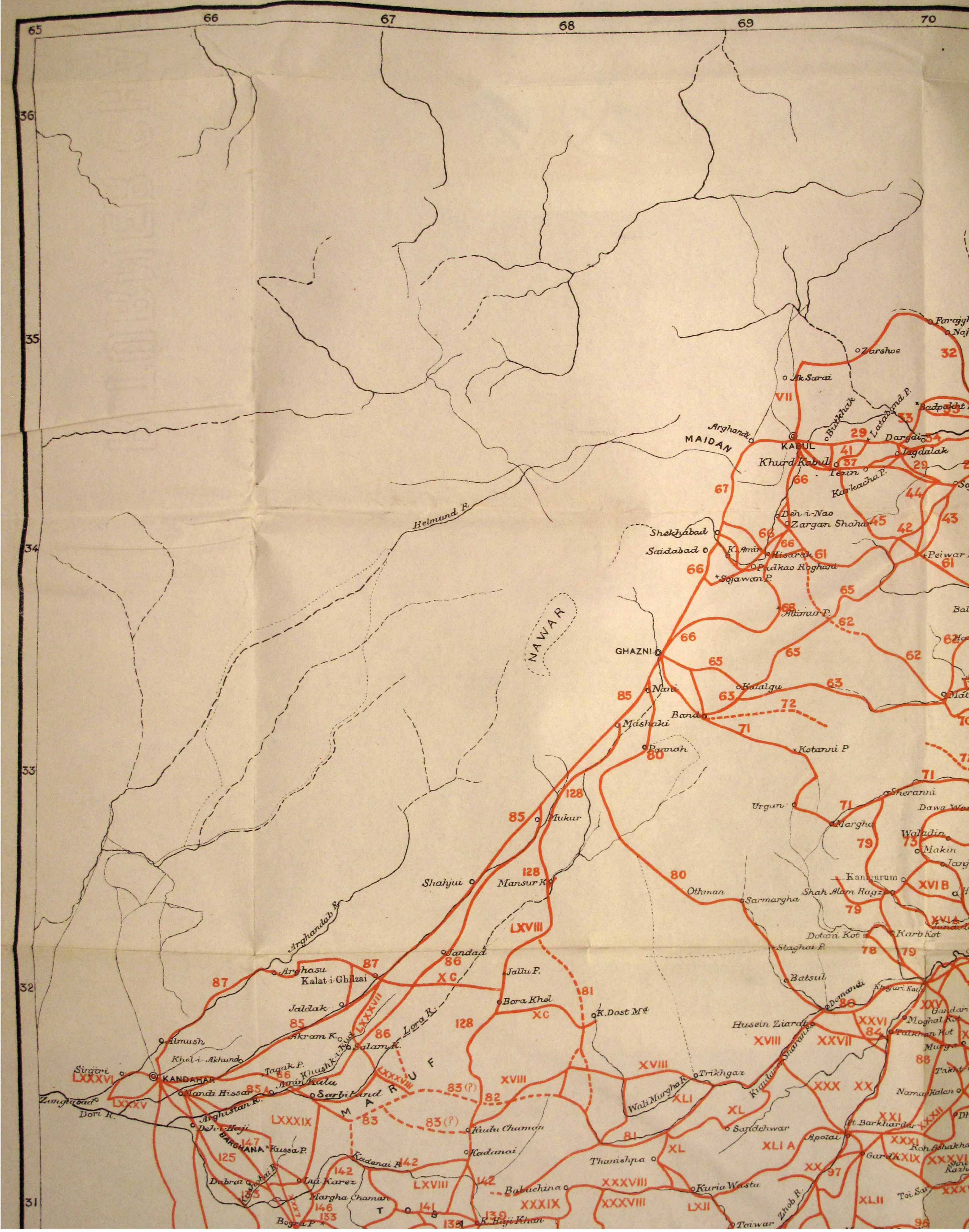
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INDEX MAP
SHOWING
ROUTES
ON THE
NORTH-WEST FRONTIER.

Compiled by Lieutenant Robertson in the Intelligence Branch, from Skeleton Sheets issued by the Survey Department.

Scale 1 Inch = 24 Miles.

The routes are numbered consecutively, commencing from the north-east; those numbered in English figures will be found in Vol. I, and those in Roman figures in Vol. II.