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'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra'

Holding Institution	British Library: India Office Records and Private Papers
Reference	Mss Eur F111/377
Date(s)	1901 (CE, Gregorian)
Written in	English in Latin
Extent and Format	1 volume (77 folios)
Copyright for document	<u>Unknown</u>

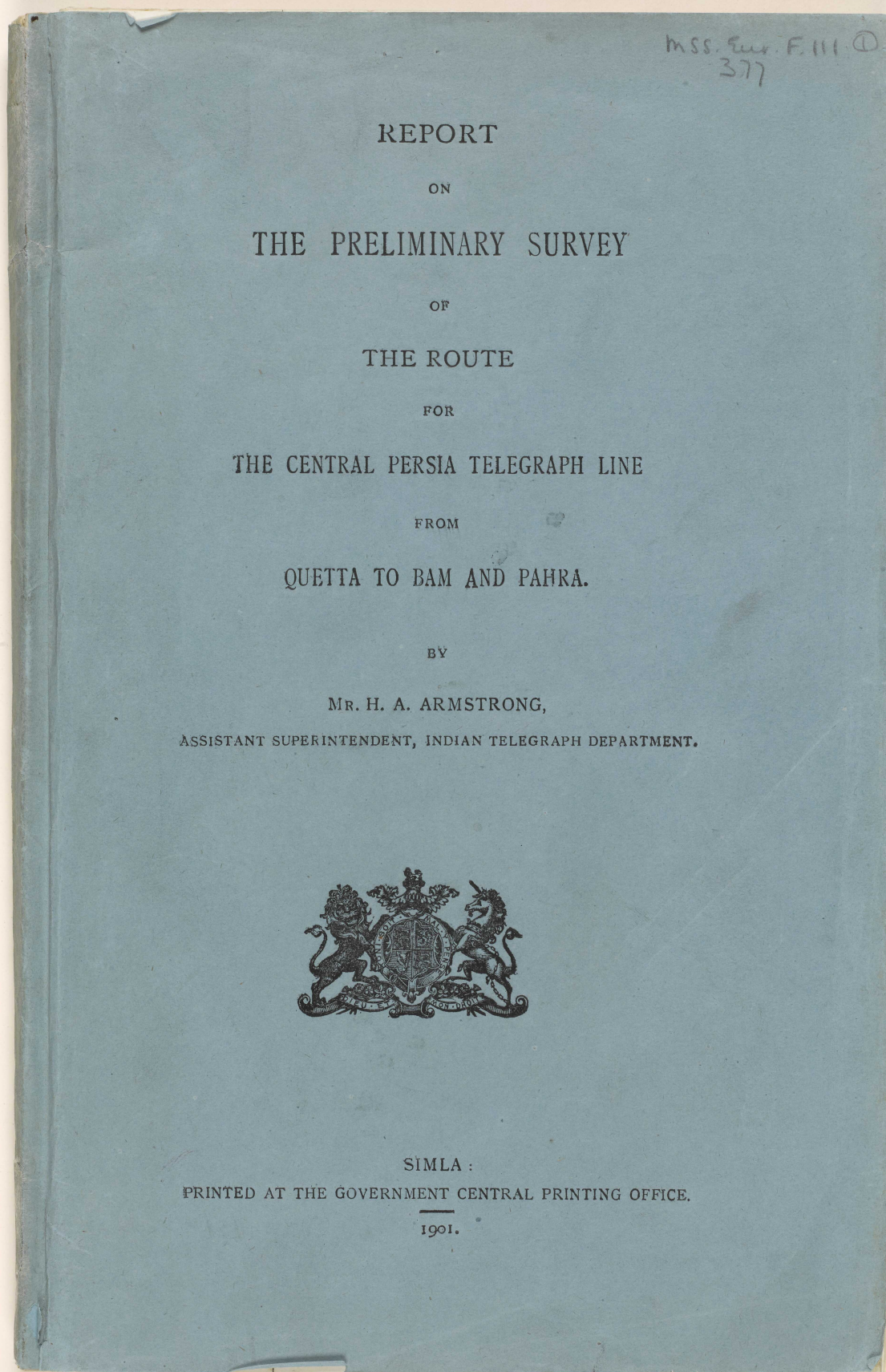


About this record

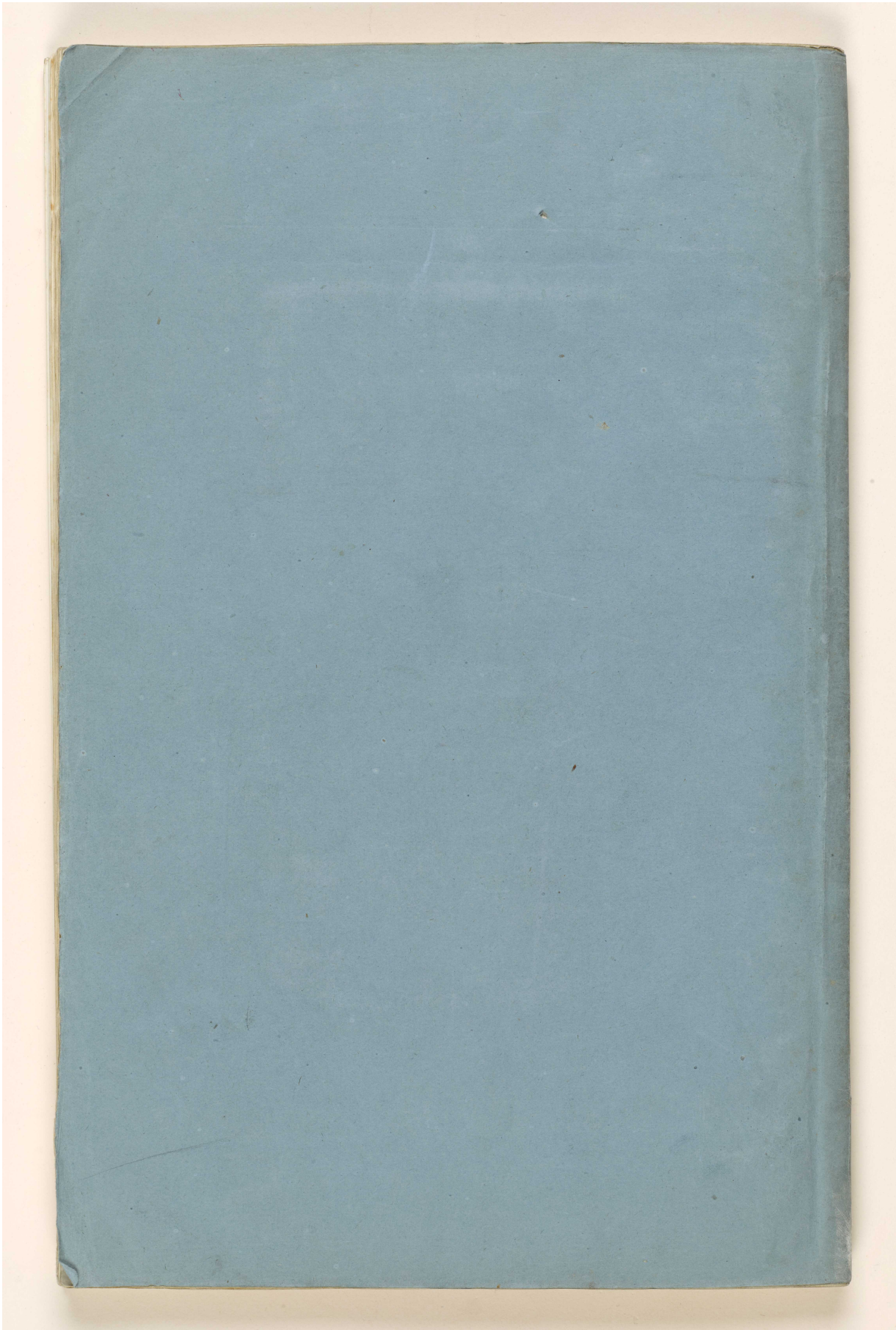
A report by Mr H A Armstrong, Assistant Superintendent, Indian Telegraph Department. Printed at the Government Central Printing Office, Simla, 1901. The report is a survey of a potential route for extending a telegraph line from India to Persia, running from Quetta to Bam, with an alternative route going to Pahra. The volume contains a description of the routes taken, estimates of cost, and notes on alignment, marking out, location of offices, shelter huts for linestaff, maintenance, water, sand, supplies, climate, and the Quetta-Sistan [Sistan] trade route.

Throughout the report are black and white photographs of the route that accompany the descriptions (folios 26, 28, 30, 32, 34, 37, 39, 41, 46, 49, 51, 52, 63, 67, 70, and 71). Folio 23 is a map showing the route taken. Enclosed at the front of the volume is a copy of the 'Convention between The United Kingdom and Persia extending the System of Telegraphic Communication between Europe and India Through Persia', 1902 (folios 2-6), and twelve loose sheets of manuscript notes on the report written by George Curzon (folios 7-18).

'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [front] (1/162)



**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [back] (2/162)**



**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [spine] (3/162)**



**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [edge] (4/162)**



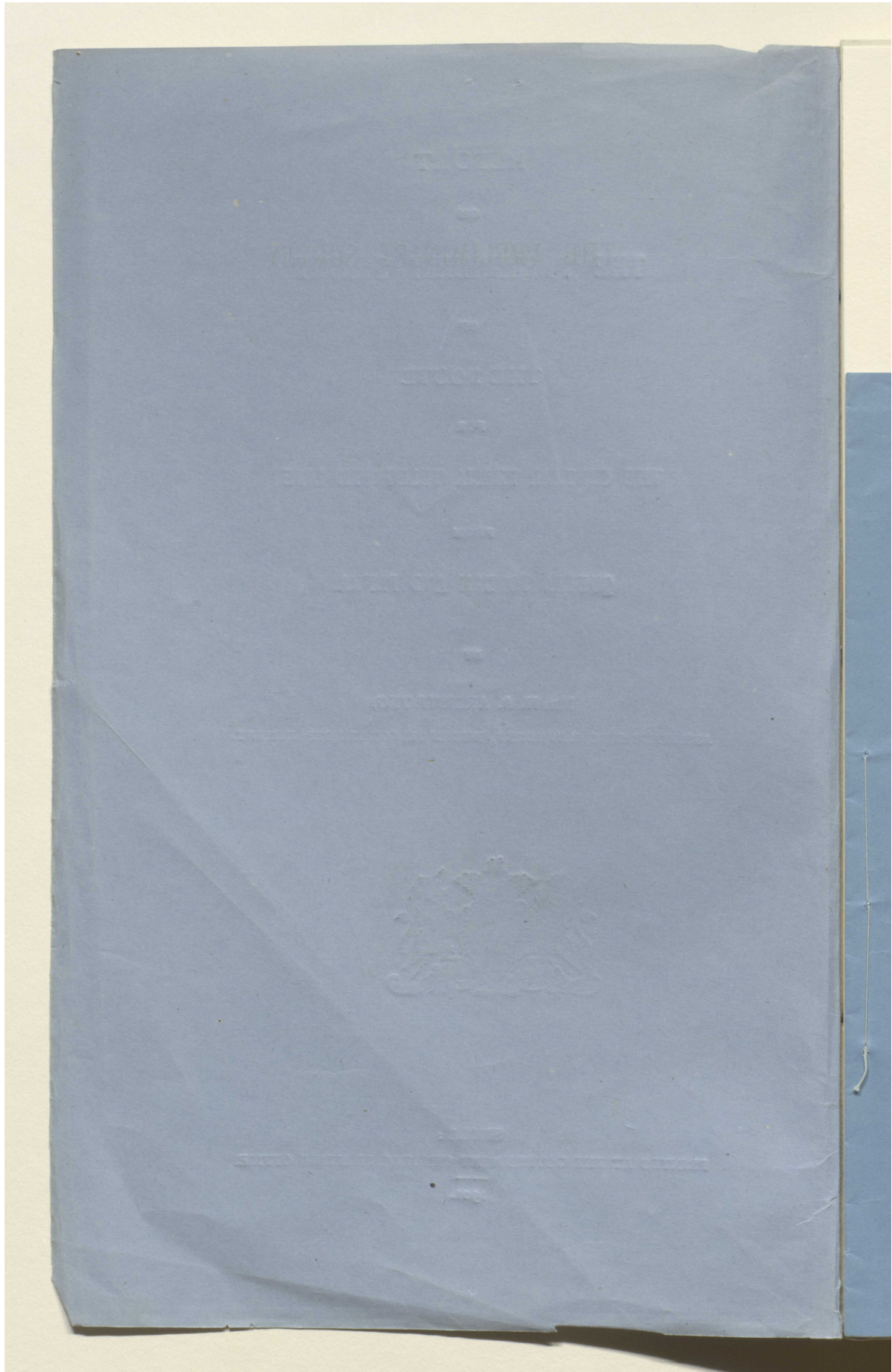
**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [head] (5/162)**



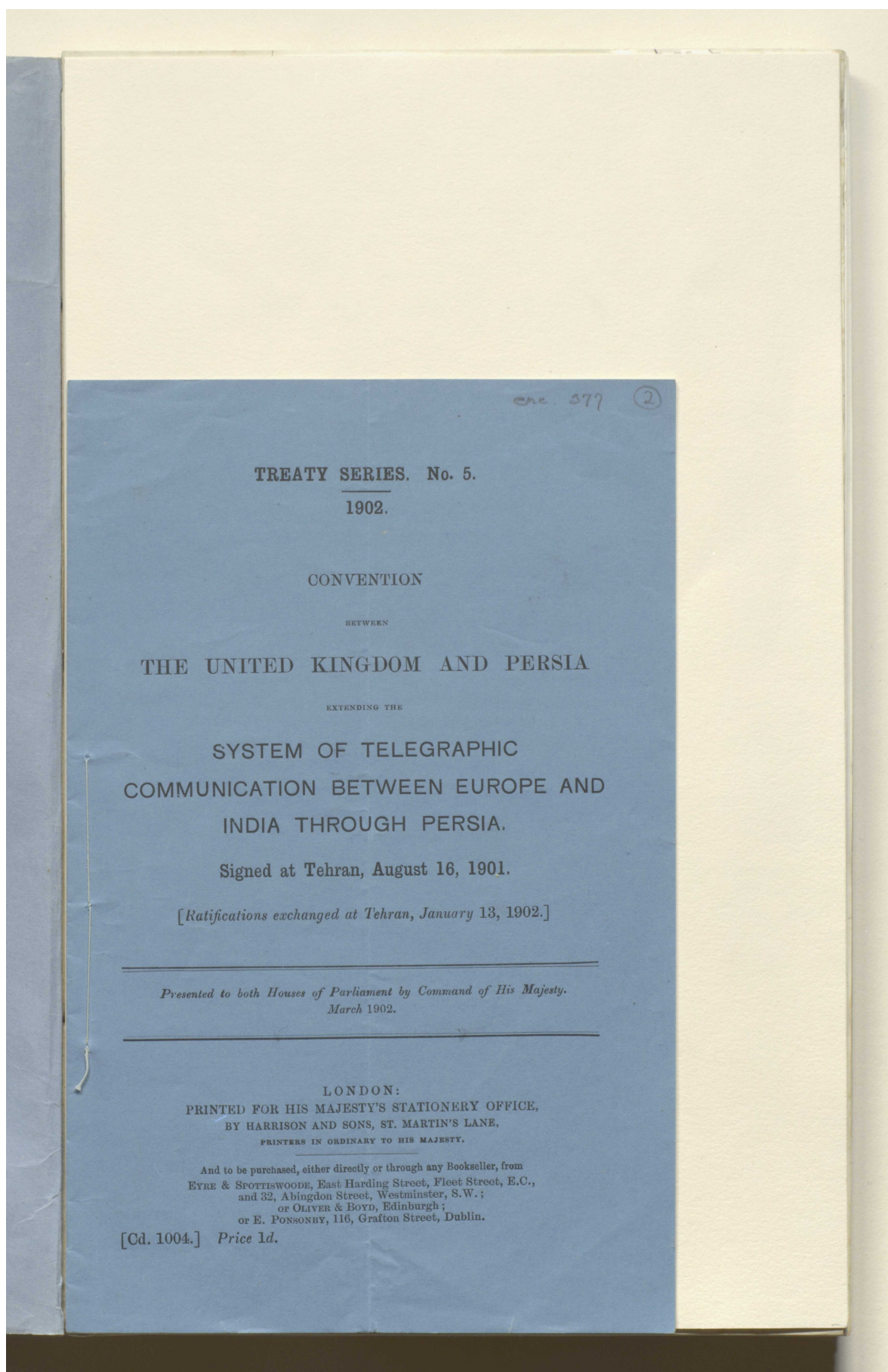
**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [tail] (6/162)**



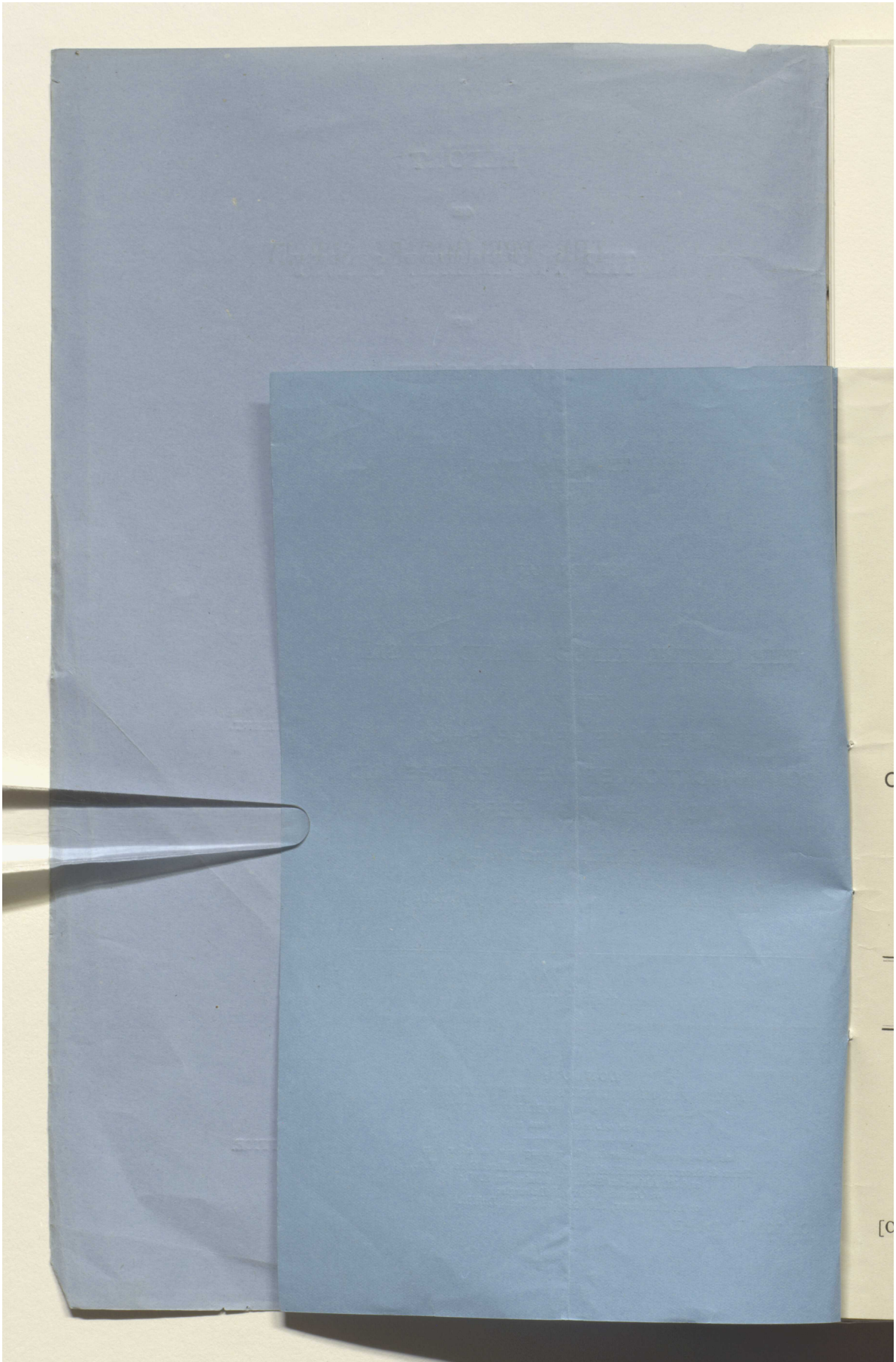
**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [front-i] (7/162)**



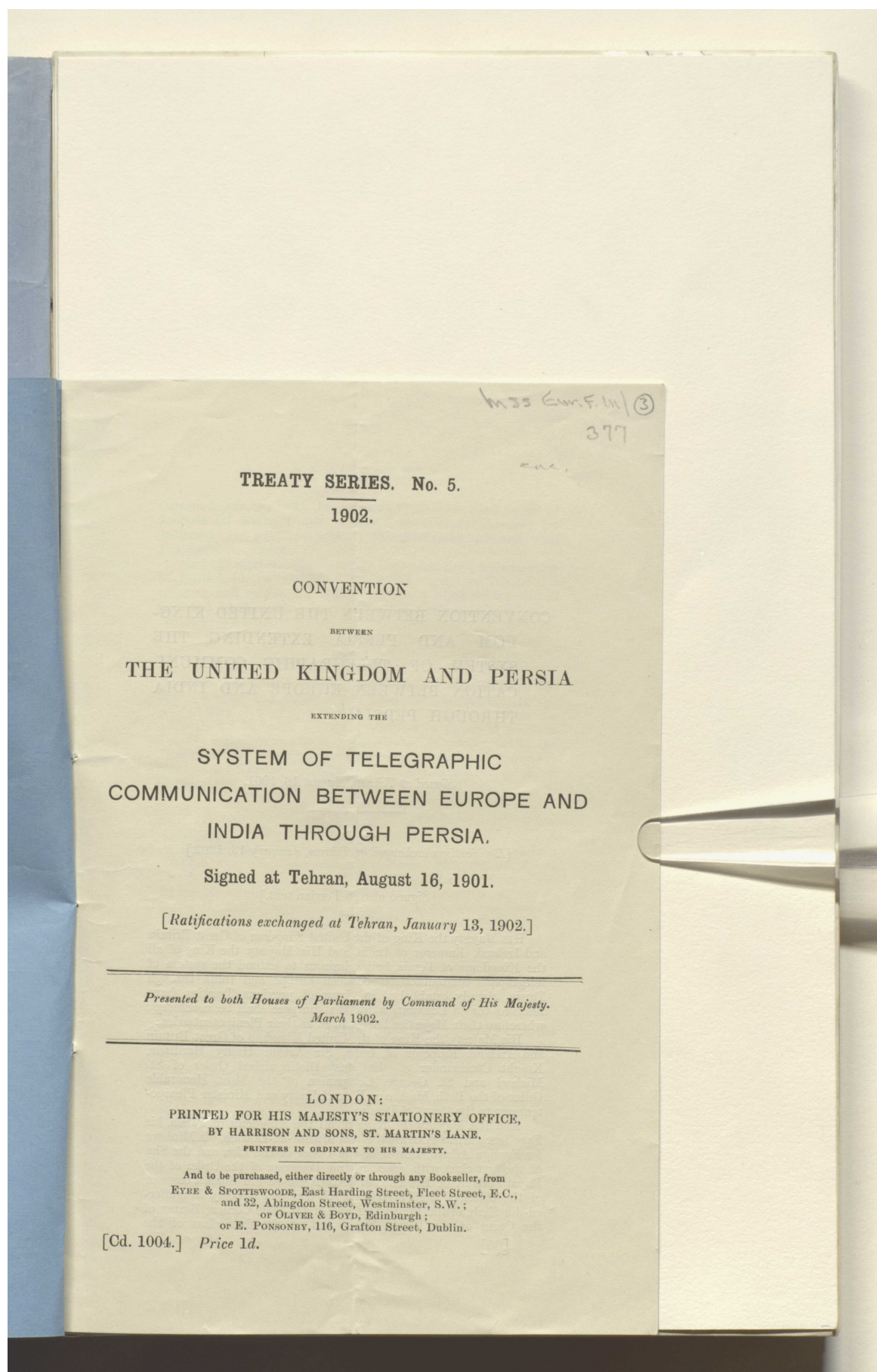
'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [2r] (8/162)



**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [2v] (9/162)**



'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [3r] (10/162)



'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [3v] (11/162)

CONVENTION BETWEEN THE UNITED KING-
DOM AND PERSIA EXTENDING THE
SYSTEM OF TELEGRAPHIC COMMUNI-
CATION BETWEEN EUROPE AND INDIA
THROUGH PERSIA.

Signed at Tehran, August 16, 1901.

[Ratifications exchanged at Tehran, January 13, 1902.]

[Signed also in Persian text.]

His Majesty the King of the United Kingdom of Great Britain and Ireland, Emperor of India, and His Majesty the King of all the Kingdoms of Persia, being desirous to extend the system of telegraphic communication between Europe and India through Persia, already established in virtue of previous Treaties, have resolved that a Convention for that purpose shall be concluded; wherefore their Majesties have named as their Plenipotentiaries:

His Majesty the King of the United Kingdom of Great Britain and Ireland, Emperor of India, Sir Arthur Henry Hardinge, Knight Commander of the Most Distinguished Order of St. Michael and St. George, Companion of the Most Honorable Order of the Bath, his Envoy Extraordinary and Minister Plenipotentiary to the Court of Persia;

And His Majesty the King of all the Kingdoms of Persia, his Excellency Mirza Nasrullah Khan Mushir-ed-Dowleh, his Minister for Foreign Affairs, Bearer of the Order of the Lion and the Sun of the first class with green riband, Possessor of the Order of the Royal Portrait of His Late Majesty Naser-ed-din Shah, Possessor of the Order of the Portrait of His Present Majesty Mughfer-ed-din Shah, of the First Class, and of the Blue Cordon, Bearer of the Order of the White Eagle, and of the first class of the

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'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [4r] (12/162)

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Osmanieh adorned with Diamonds, and of the First Order of Leopold (of Austria), and of the First Order of Leopold (of Belgium), and of the Order of St. Alexander adorned with Diamonds, &c., &c., &c. ;

And the aforesaid distinguished Representatives, after meeting at Tajrisch in the neighbourhood of the capital of Tehran and perusing and exchanging their full powers, which were found in good and due form, have agreed upon and concluded the following Articles :—

ARTICLE I.

With the view of securing uninterrupted communication between Europe and India, it is agreed that, in addition to the present line of telegraph from Tehran to Bushire and submarine cable thence to India, already established in virtue of previous Treaties, a three-wire line of telegraph shall be constructed by the Persian Government from Kashan to the Baluchistan frontier, via Yezd and Kerman, traversing wherever possible inhabited districts.

ARTICLE II.

In order that the line of telegraph may be constructed in a complete and effective manner, the Persian Government agrees that it shall be built under the direction and supervision of the British Telegraph Staff now controlling the international line in Persia, the British Government advancing to the Persian Government the salaries and allowances of the men actually employed on the work.

ARTICLE III.

The British Government agrees to procure for the Persian Government at a reasonable price all the posts, wire, insulators, &c., that may be requisite for this work, and to arrange for the carriage of the stores to the sites required, receiving payment for the same without interest as hereinafter provided. An account of the expenses incurred for this purpose, and certified, in so far as they have been incurred in Persia, by the Persian Telegraph Department, and in so far as they have been incurred outside Persia, by the British Government, shall be submitted as early as possible to the Persian Government.

ARTICLE IV.

The Persian Government agrees to lease the use and the transit revenue of the line, which is its property, when complete to

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'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [4v] (13/162)

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the Indo-European Telegraph Department at a rental of 4 per cent. on the capital expended on its construction, including cost of material—three quarters of such rental to be retained by the British Government to recoup them for the advances made, and one quarter, subject to a minimum of 25,000 fr., to be paid annually to the Persian Government in two half-yearly instalments. It is understood that should the Persian Government's quarter share of the rental exceed 25,000 fr., such excess shall belong to the Persian Treasury.

ARTICLE V.

The maintenance of the line, including repairs and the appointment, control, and payment of the line guards, who must be Persian subjects, shall remain in the hands of the British Director and Staff, the cost being defrayed by the British Government. The duties of the Telegraph Inspectors and line guards are strictly confined to repairing and maintaining the line.

ARTICLE VI.

The principal offices constituting the permanent residences of the British Electricians and Inspectors shall be situated in towns or large villages, but pending further arrangements to be agreed upon between the two Governments, there shall only be one such office between Kerman and the Indian frontier.

The protection of the line and of the officials, whether Persian or British employed on it, shall be the special duty of the Persian Government, and should the English officials wish to proceed on inspections in districts proclaimed as dangerous by the Persian Government, they shall inform the nearest local authority, in order that they may be provided with an escort. The telegraph stations shall be built according to plans approved by the Persian Government, and in towns the houses to be used as such stations shall, wherever possible, be rented.

ARTICLE VII.

The line will be of three wires. One wire will be used by the Persian Telegraph Administration for its local work, and the remaining two wires be for international traffic as provided in Articles IV, V, and VI of the 1872 Convention.

ARTICLE VIII.

The revenue derived from the local traffic on the Persian wire

'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [5r] (14/162)

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shall belong entirely to the Persian Government. By local traffic is meant messages originating at one Persian station and terminating at another Persian station.

ARTICLE IX.

As regards International messages originating or terminating in Persia, the Persian Government shall receive two-thirds of the receipts of all *bond fide* terminal messages.

And as regards transit messages, as this line is merely an alternative one to that now existing between Tehran and Bushire, the arrangement already made, as detailed in Article VIII of the 1872 Convention, will remain as at present. State telegrams passing between the Government of India and the British Minister at Tehran shall be sent at half rates.

ARTICLE X.

In view of the erection of the new line and of the increase of telegraph stations in Eastern Persia, and in order to facilitate intercourse with them, the Indo-European Telegraph Department shall place an additional wire along the existing line between Tehran and Kashan, and the expenses of procuring, transporting, and putting up this wire will be borne by the Persian Government in the manner provided by Articles II and IV of this Convention.

ARTICLE XI.

The following Articles of the Telegraph Convention of 1872 shall apply to this line, viz. :—Articles VI, VIII, IX, XI, XIII, XV, and XVII.

ARTICLE XII.

This Convention shall remain in force until the 1st January, 1925, or for such longer period as the debt due by Persia for the construction of the line remains unpaid, and at such date it may if necessary be renewed or revised, but it shall be competent for the British Government at any time before the expiry of this Convention, on giving six months' notice, to hand over the line in its existing condition to the Persian Government, and to withdraw its officers and employés from the country, ceasing from that date to have any further connection with this Persian Telegraph. But

'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [5v] (15/162)

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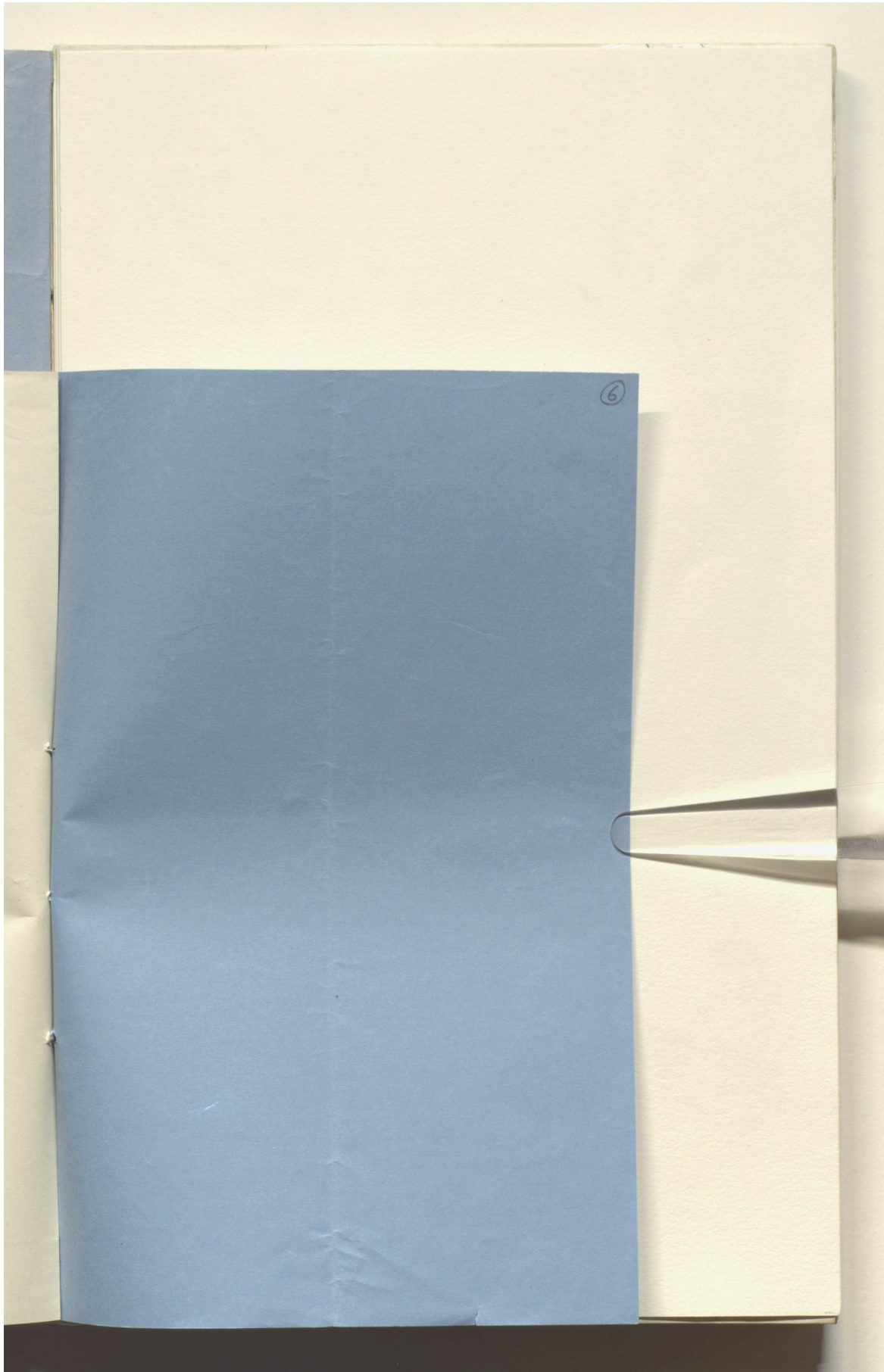
in this case the Persian Government shall be free from any further payment on account of the construction of the line.

The ratifications of the present Convention shall be exchanged at Tehran within five months, or sooner if practicable.

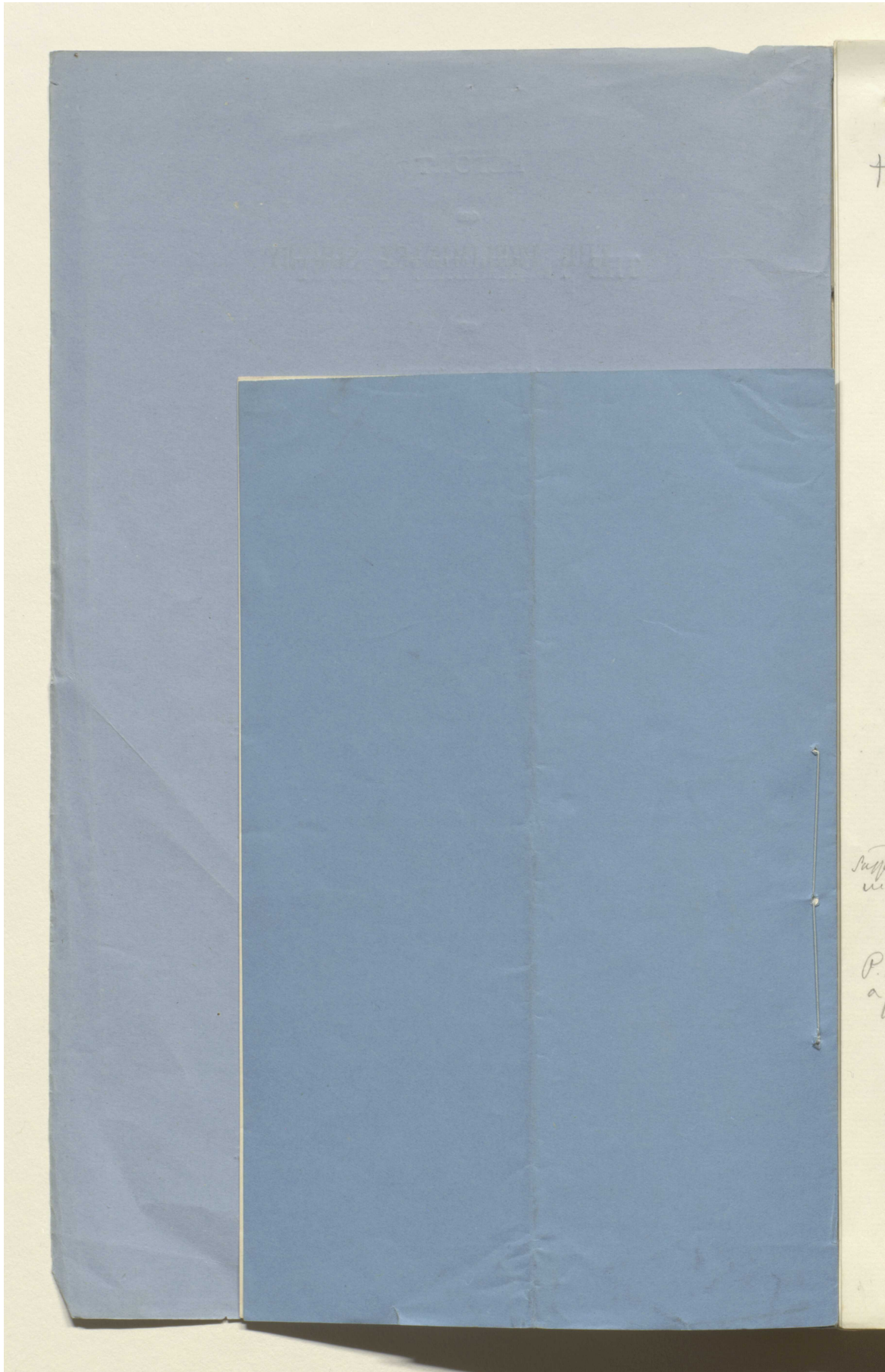
Done at Tajrish, in quadruplicate, this sixteenth day of the month of August, in the year of our Lord one thousand nine hundred and one.

(L.S.) ARTHUR H. HARDINGE.
(L.S.) Signature of Persian Plenipotentiary.

**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [6r] (16/162)**

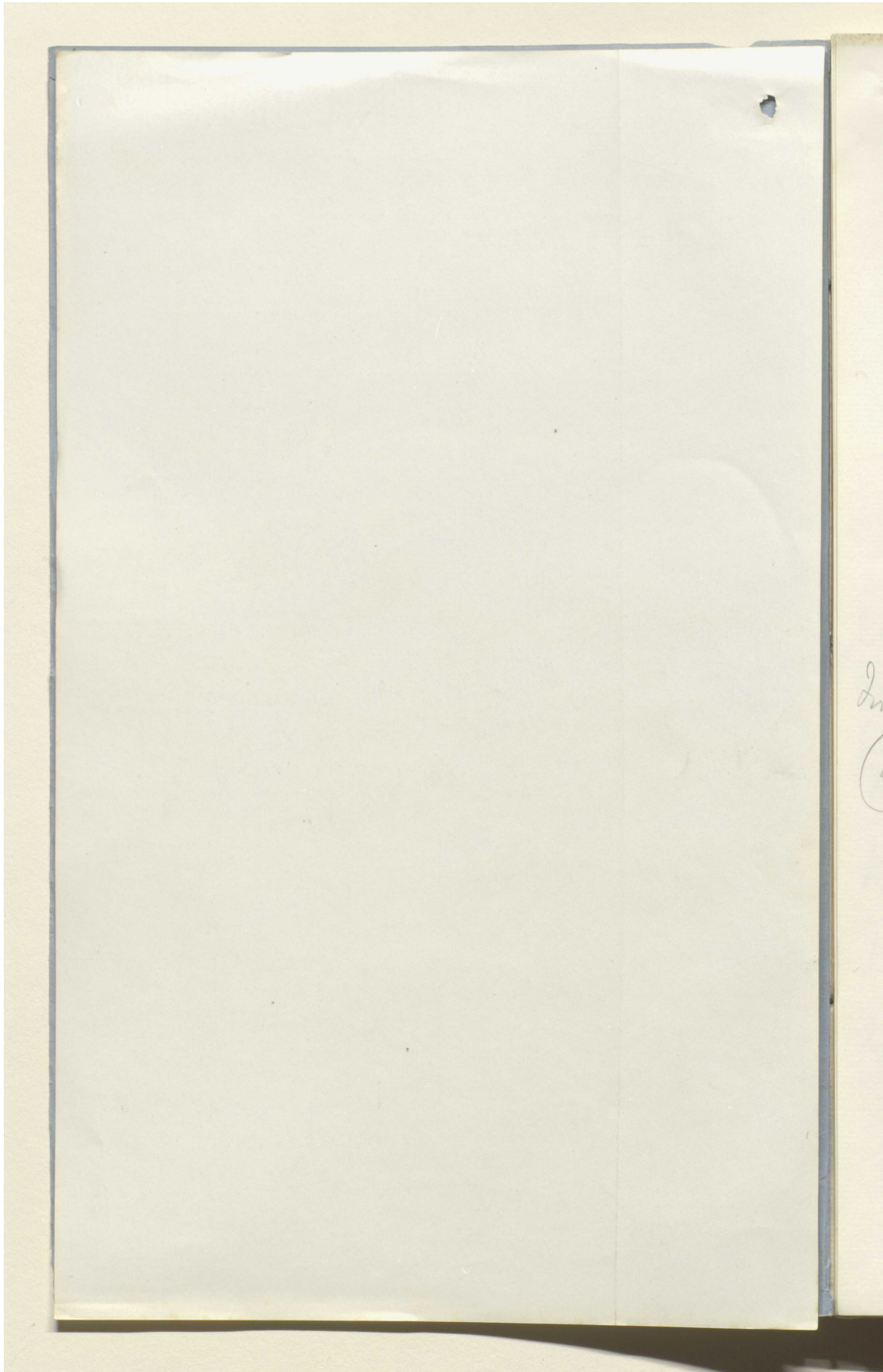


**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [6v] (17/162)**

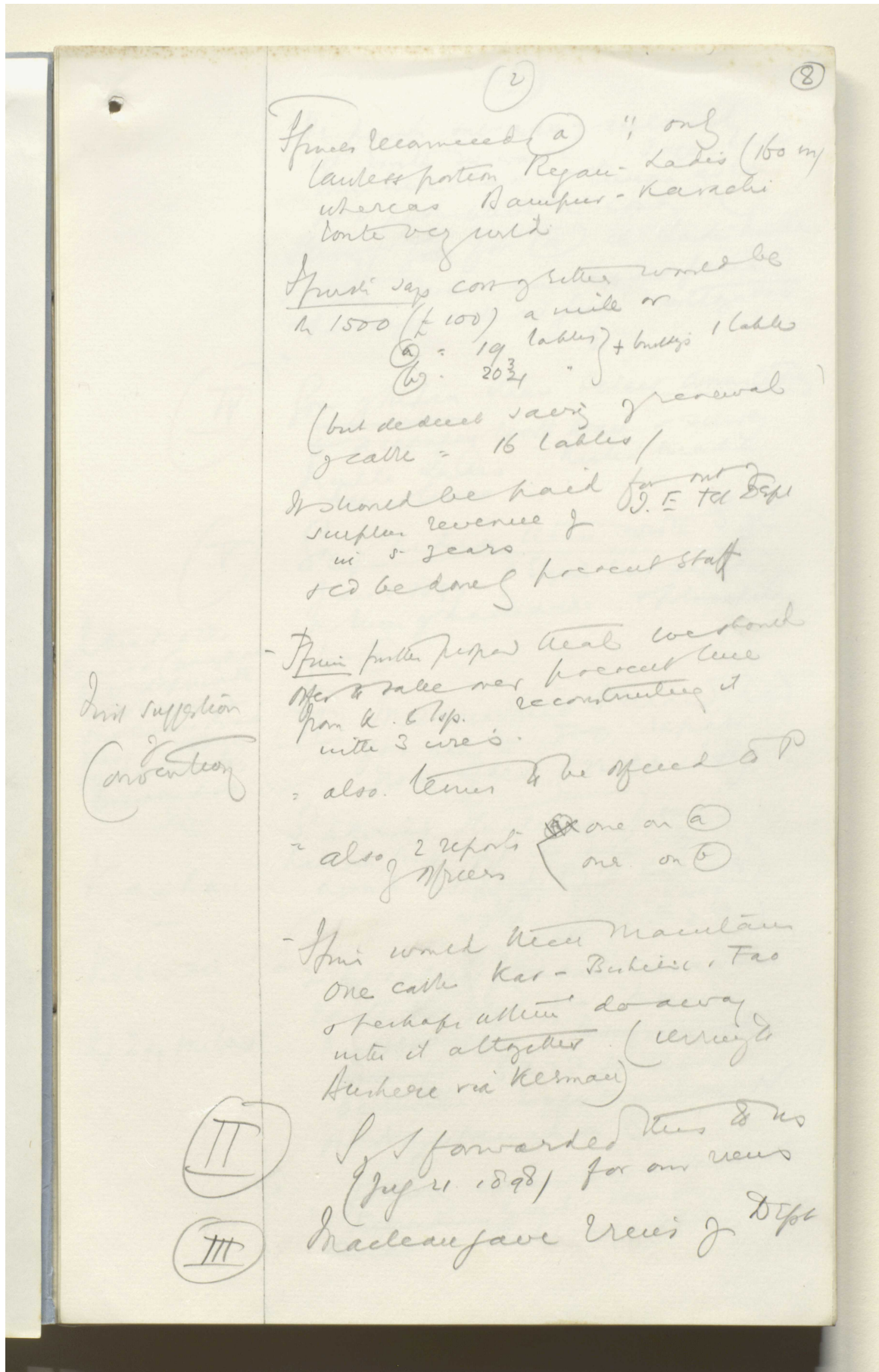


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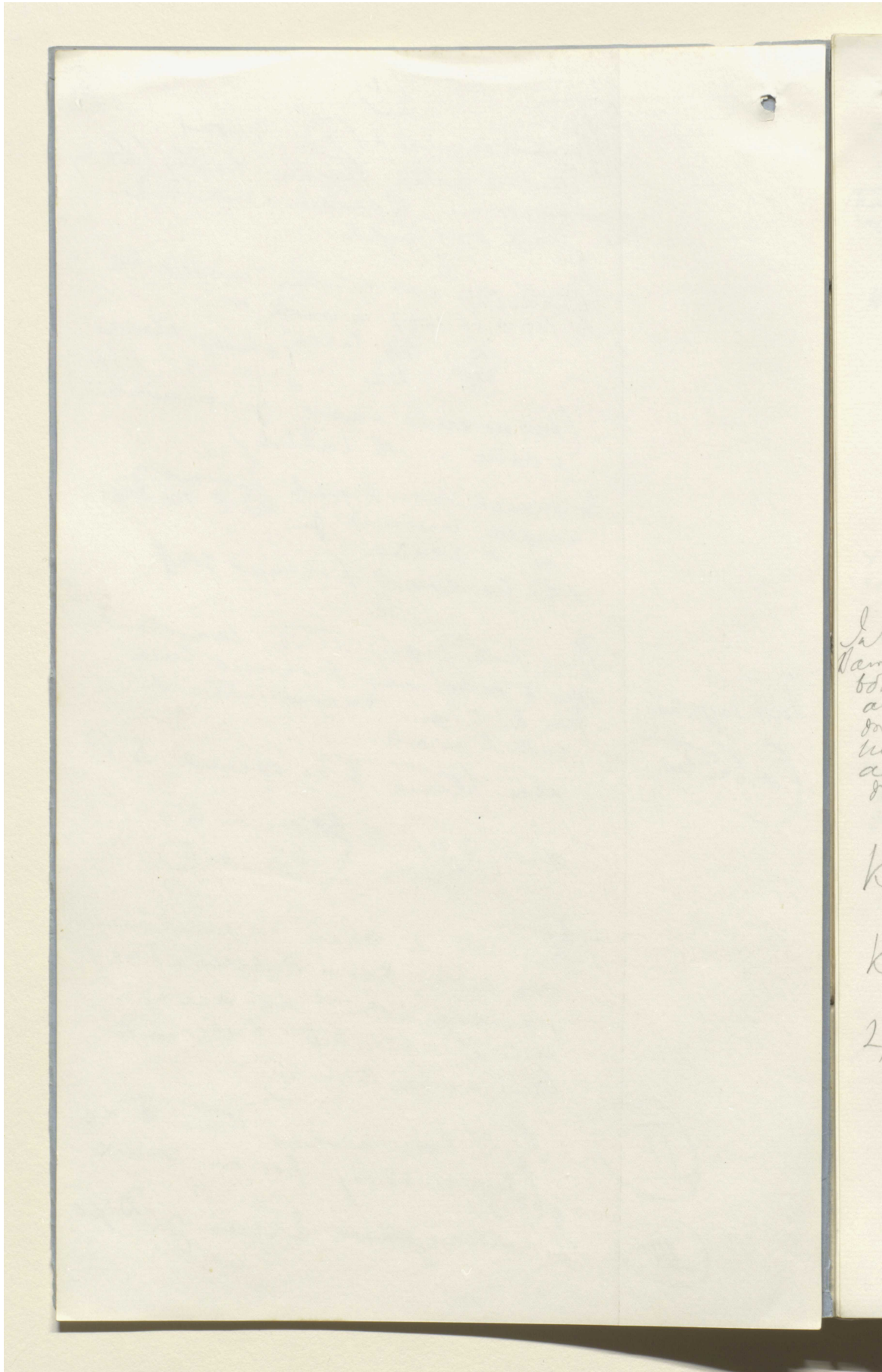
**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [7v] (19/162)**



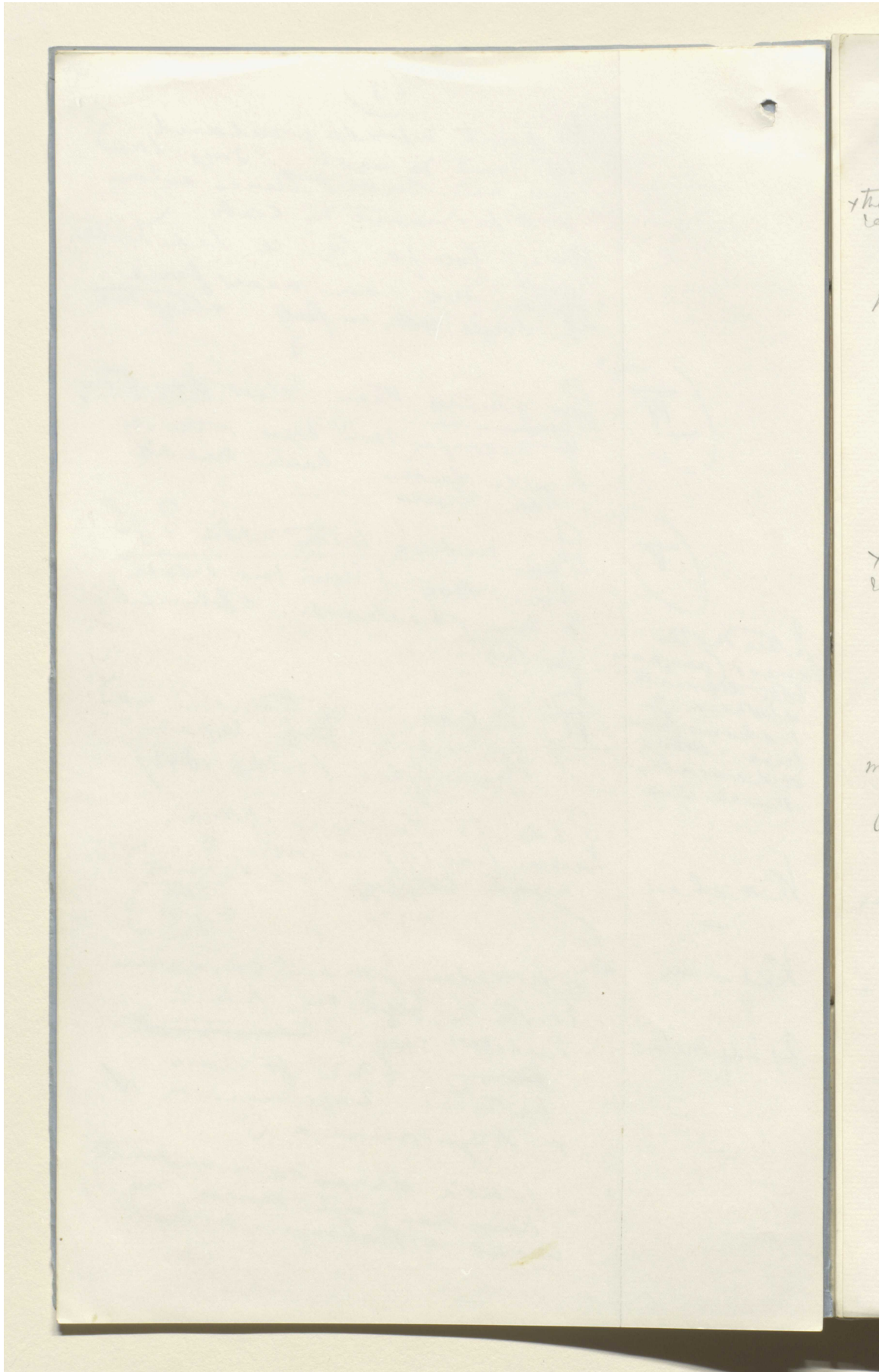
'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [8r] (20/162)



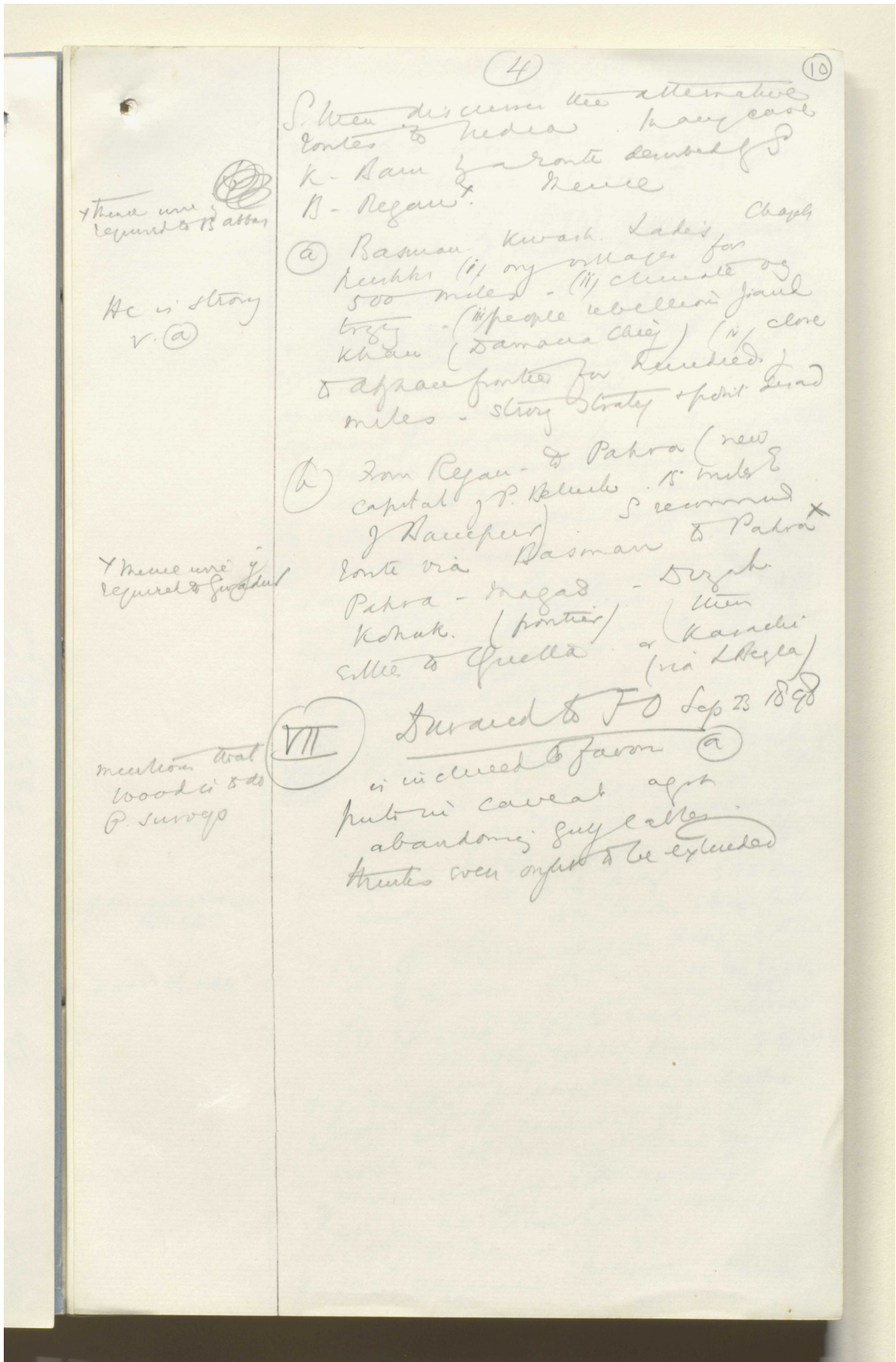
**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [8v] (21/162)**



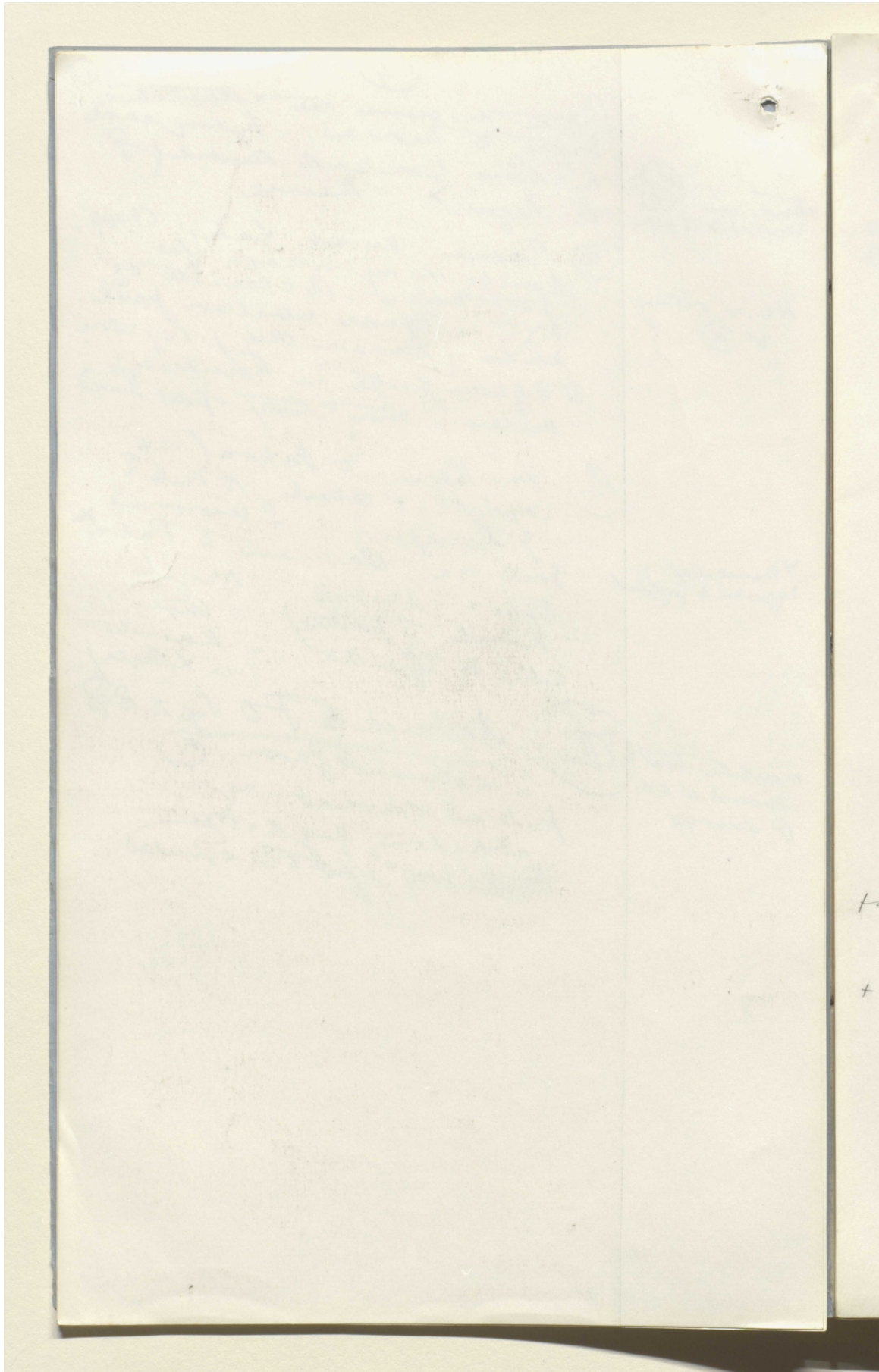
**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [9v] (23/162)**



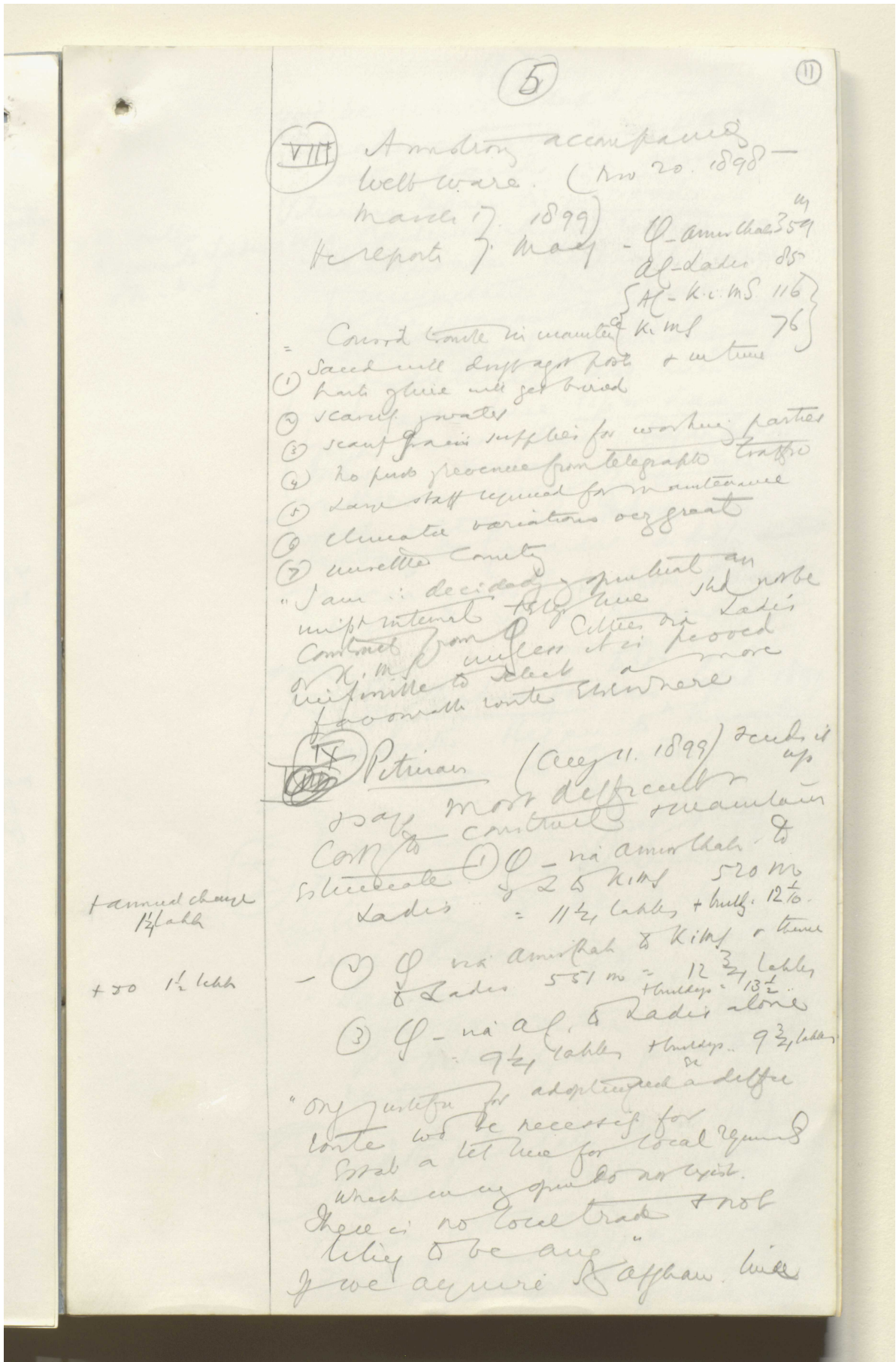
'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [10r] (24/162)



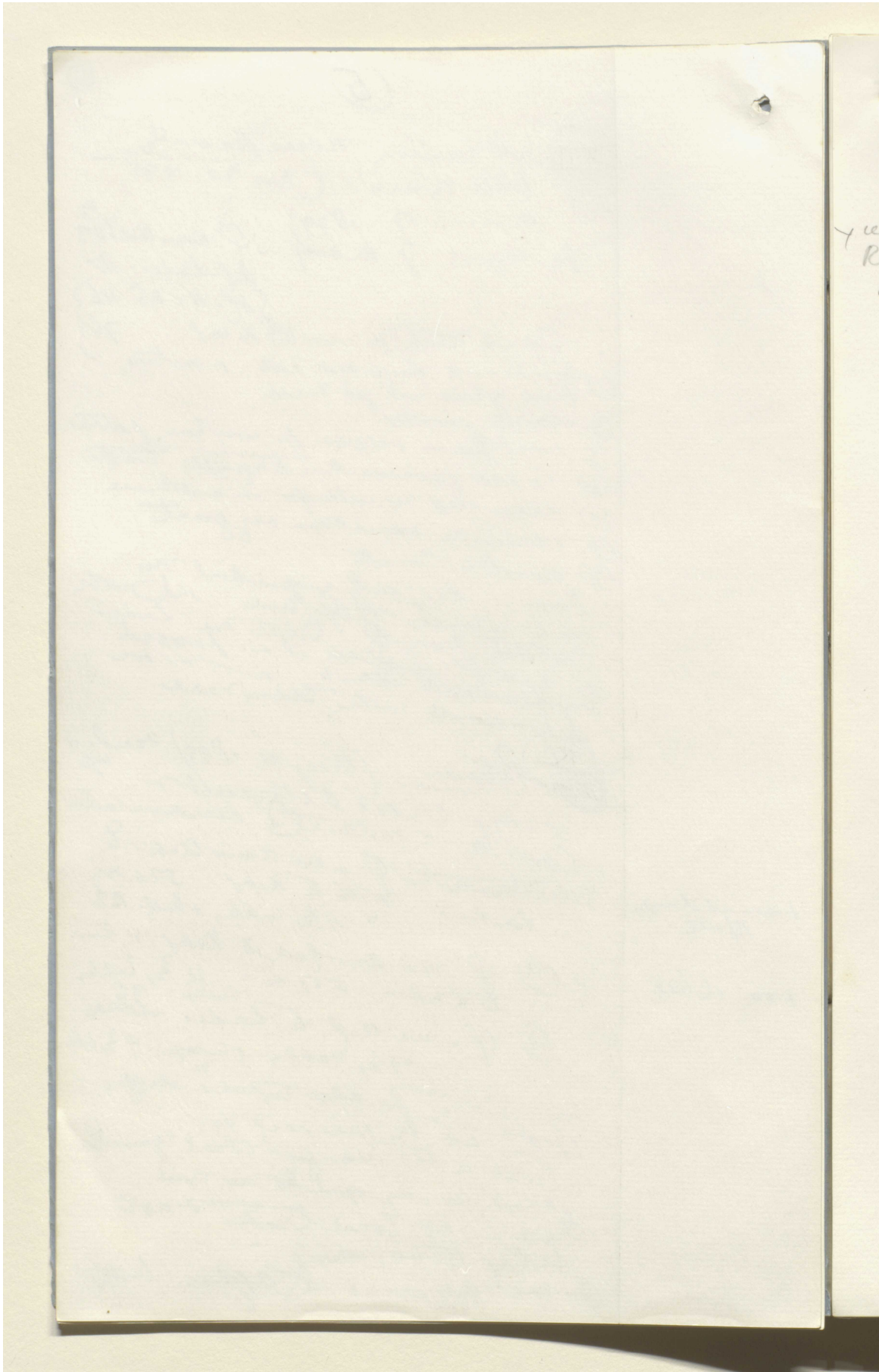
**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [10v] (25/162)**



'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [11r] (26/162)



**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahlra' [11v] (27/162)**



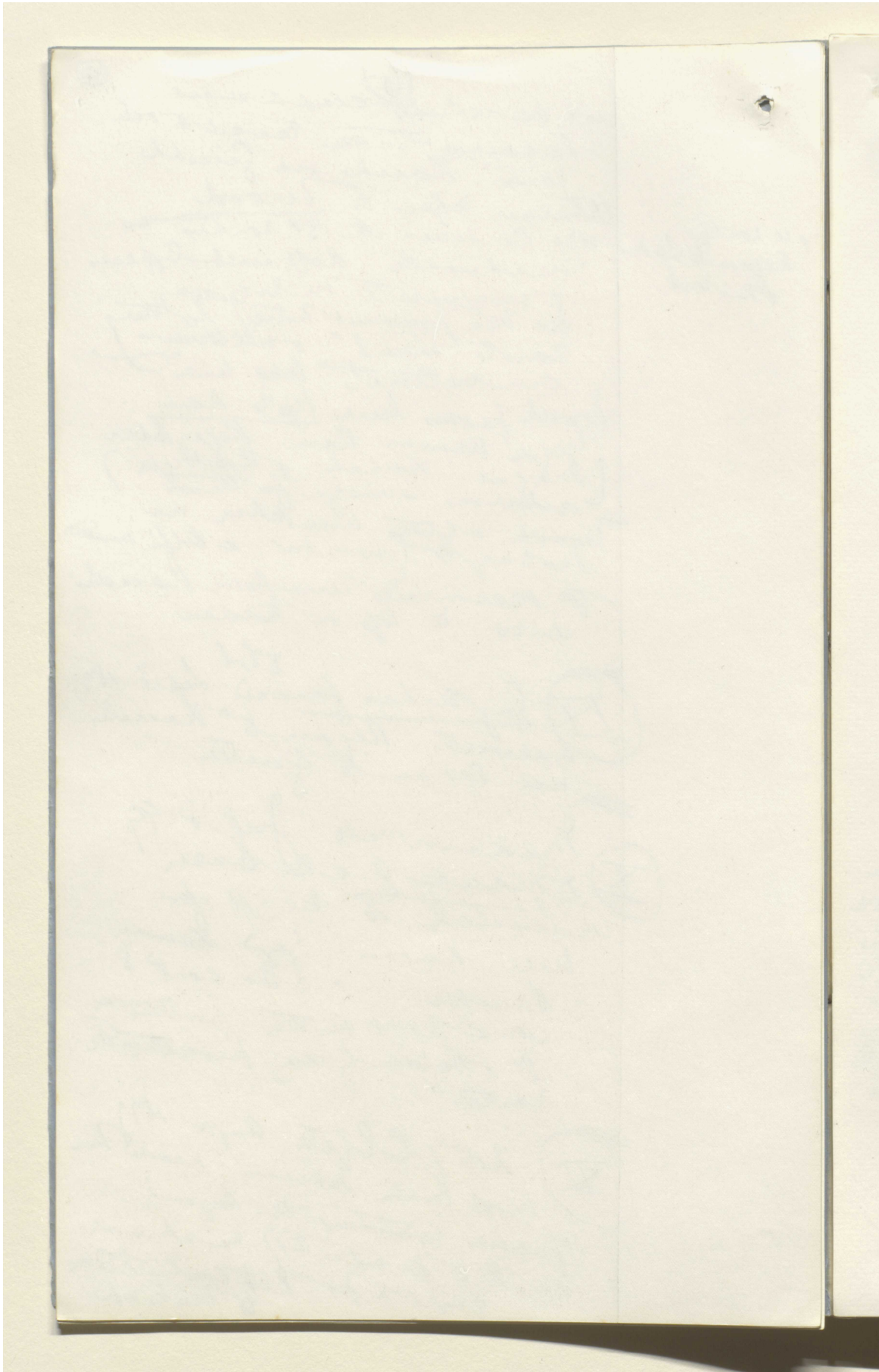
(6) (12)
 would be white class and
 because trade received old
 route Kaeed via Finnish
 Pitman refers to Wood
 who continues all 3x routes as
 "unadaptable difficult species
 + unsuitable in regard
 as the present time for the
 country main" out of which
 an internet + tele. line
 Wood forms line 1sp or Kaeed
 Gerd Herman Barn. Reganabra
 [Ingers Kuehah & Lib. Ryle]
 addresses survey for the
 Wood octet the Kaeed via
 Terbar & Gwader as difficult mountain
 P. Reamends line from Kaeed
 NW. & 1sp or Kaeed

855
 Sep 1899
 T4 Soy media fonoa
 + asociate Regan + Karsch
 nu Regan + Quetta

~~I~~ Meanwhile July 8. 99
I found all been
instructed & held for
Miss Karkhan - Genl. Kemman
- Haaspen - " See cont'd
some point on the routes of
P & H. Black Line tractable
route "

Conte
 2007 El Paso Aug 1899
 G. D. Cook, Schuman, McCord, Hume
 Progresses extending M. Bergan
 200 N. & K. ind. 277 in which we
 ought to get P to connect back
 to link up

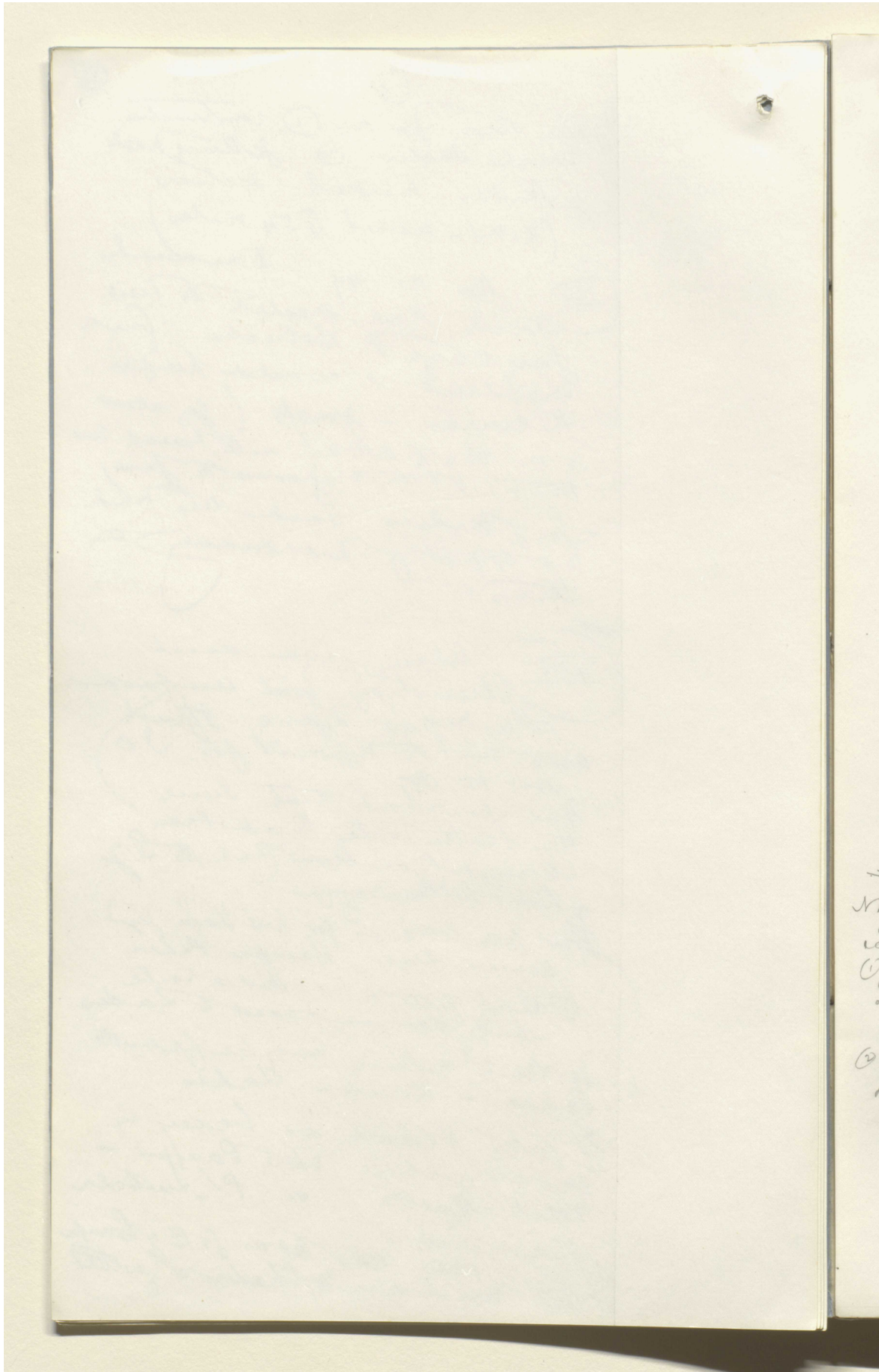
**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [12v] (29/162)**



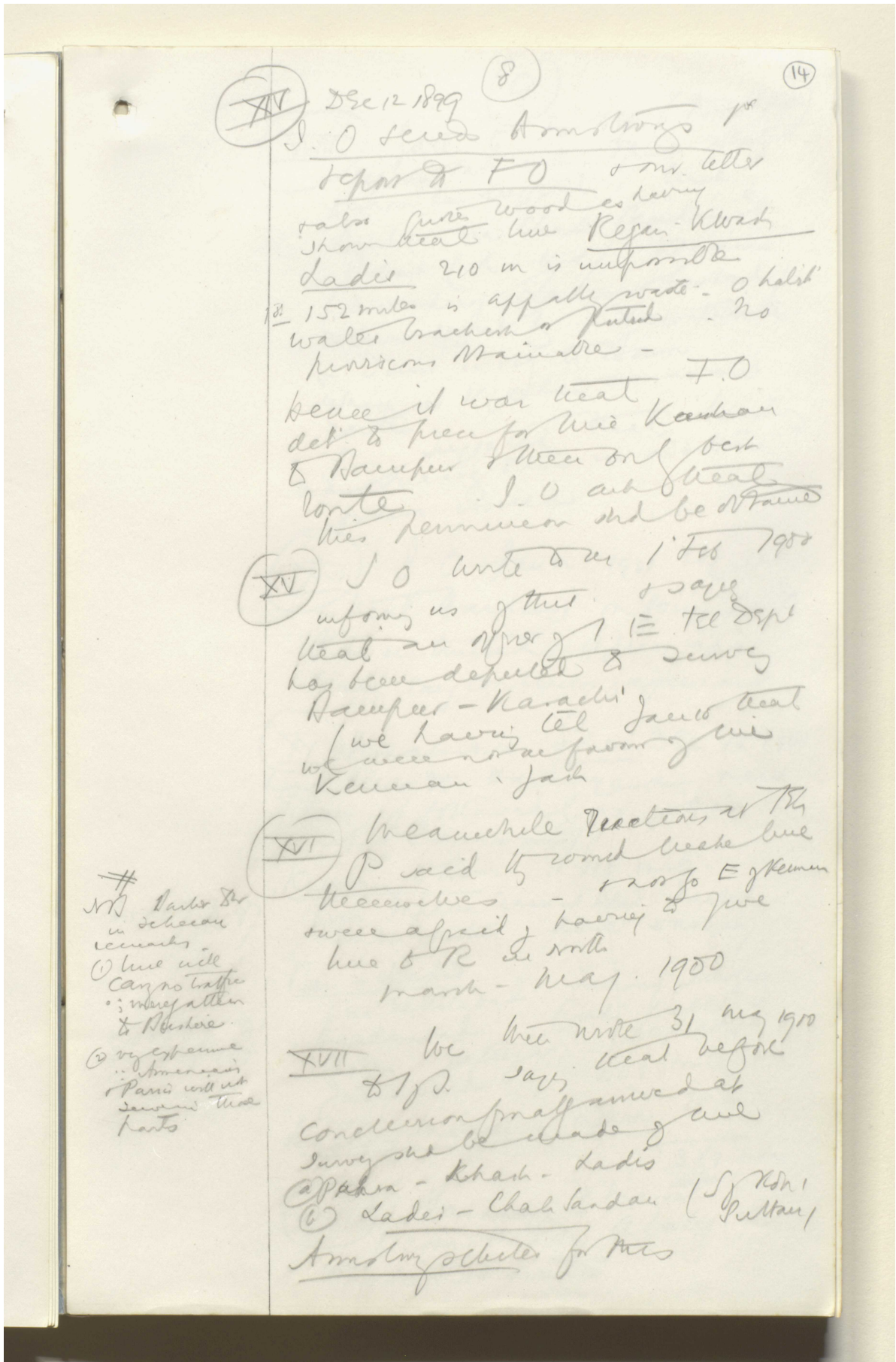
(7) Gate strong for an (1) continuous
mud section (2) getting hard
of Sultan - marked section
(K. m. - marked 554 miles)
Dunand
(XII) Am 12 99.
Said Sah o'edlet to me
from through P. Heluck. : frs
incident - would prefer
K. emen - Jask (for about
30 m E of Abbas. with branch line
thru / then Mojgan to Jask /
- for Jask. Said he had
no other of Monomney on
this.

(XIII) When we sent
Cresting first we found
the report from Spait
wrote a note upon it for 10
Nov 15. 1899
High point out that since
the Sultan route had been
changed from Am (K. to S. J
K. i Sultan range
H. m. J. was lost as for line Kaban - J.
K. emen. began Rampur Pahra
(2) show there is no direct route
thru K. emen desert to Ladis
He thinks a line may be feasible
Pahra - K. emen - Ladis
If J. m. H. d. is as beccy is
from J. m. H. d. the Pahra -
K. emen. Quetta. or P. L. L. H. d.
Karachi
It says J. m. H. d. was lost as for E. of Rampur
then J. m. H. d. down to Chabab & J. m. H. d.

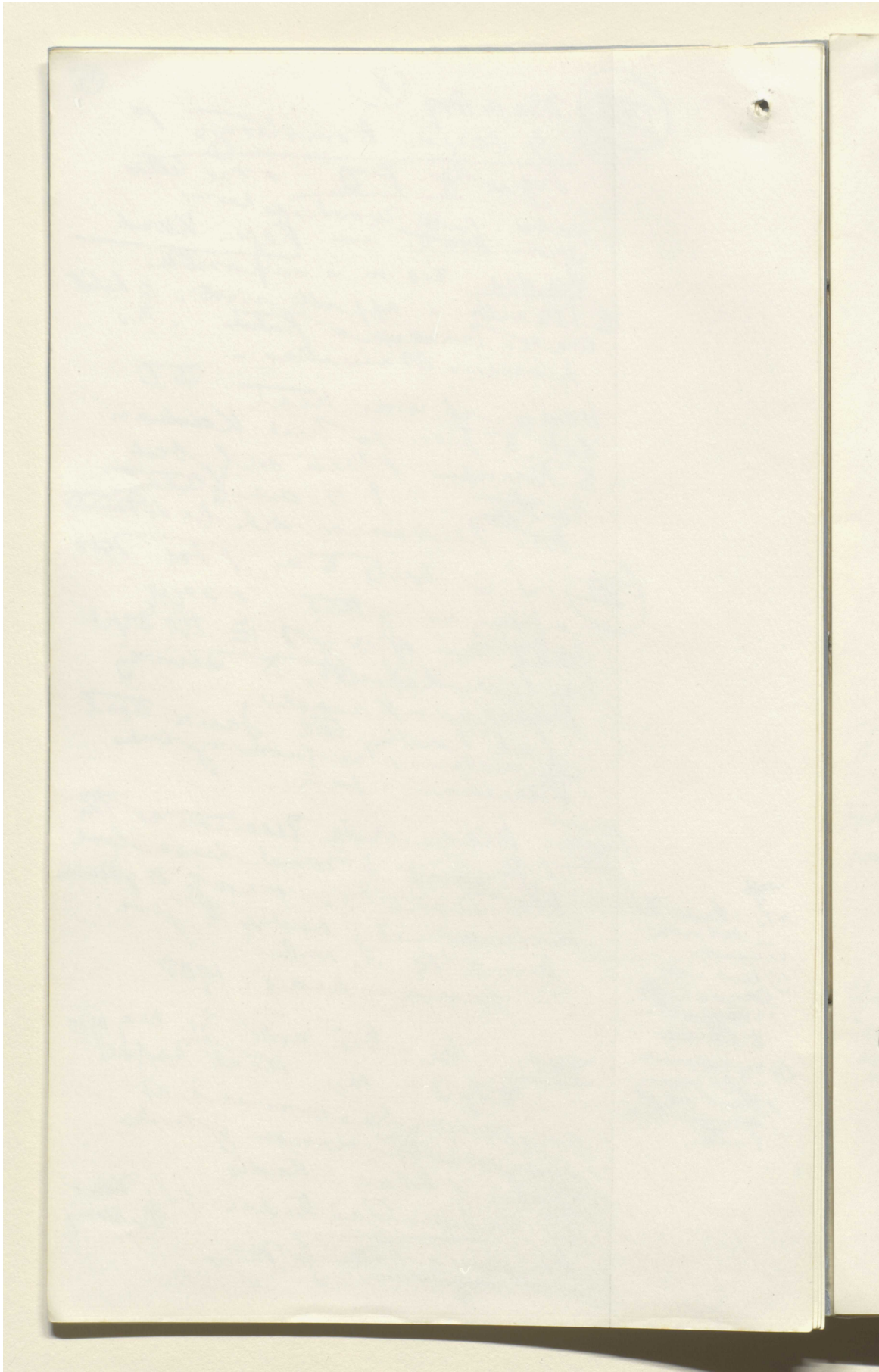
**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [13v] (31/162)**



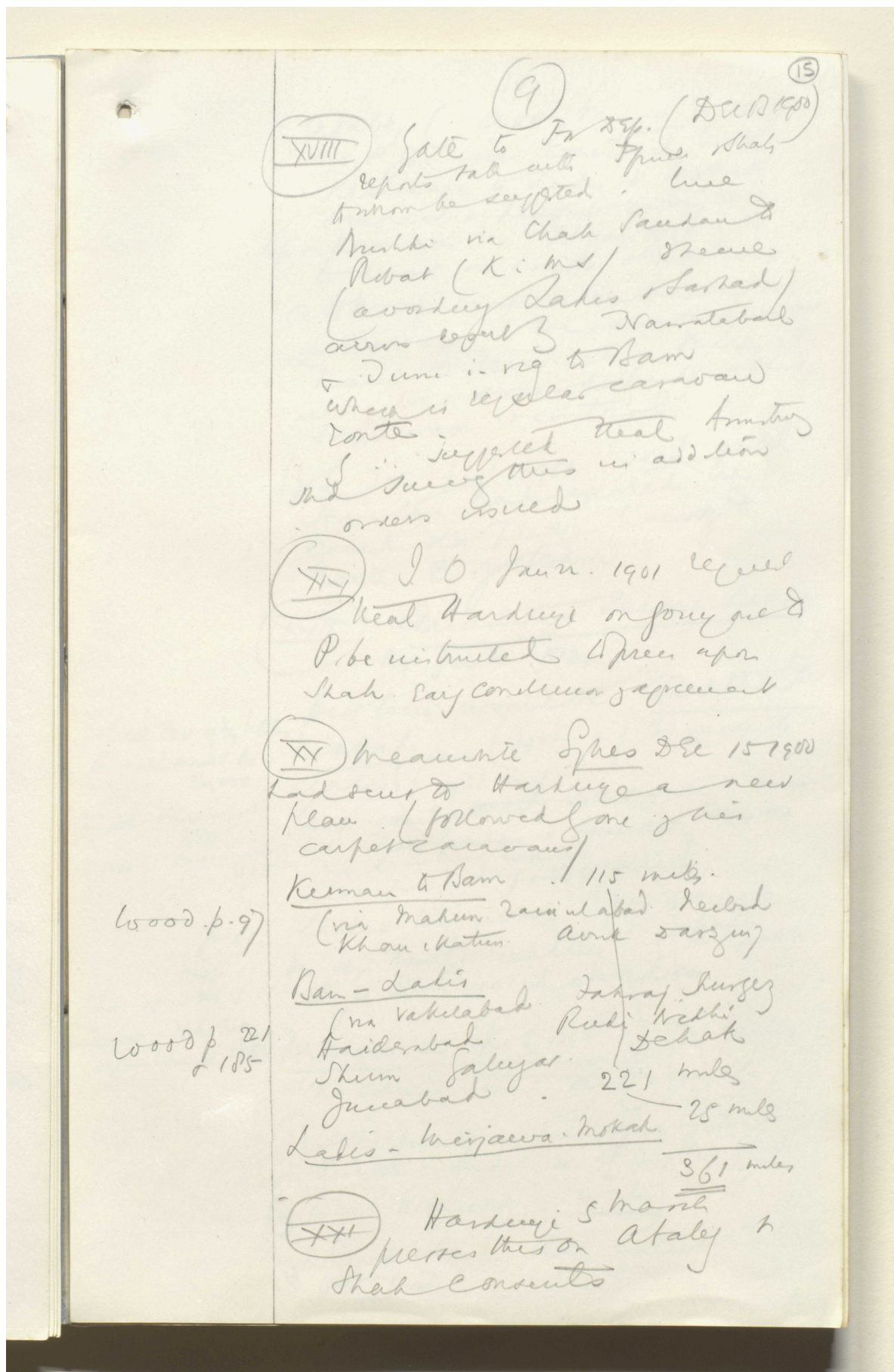
'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [14r] (32/162)



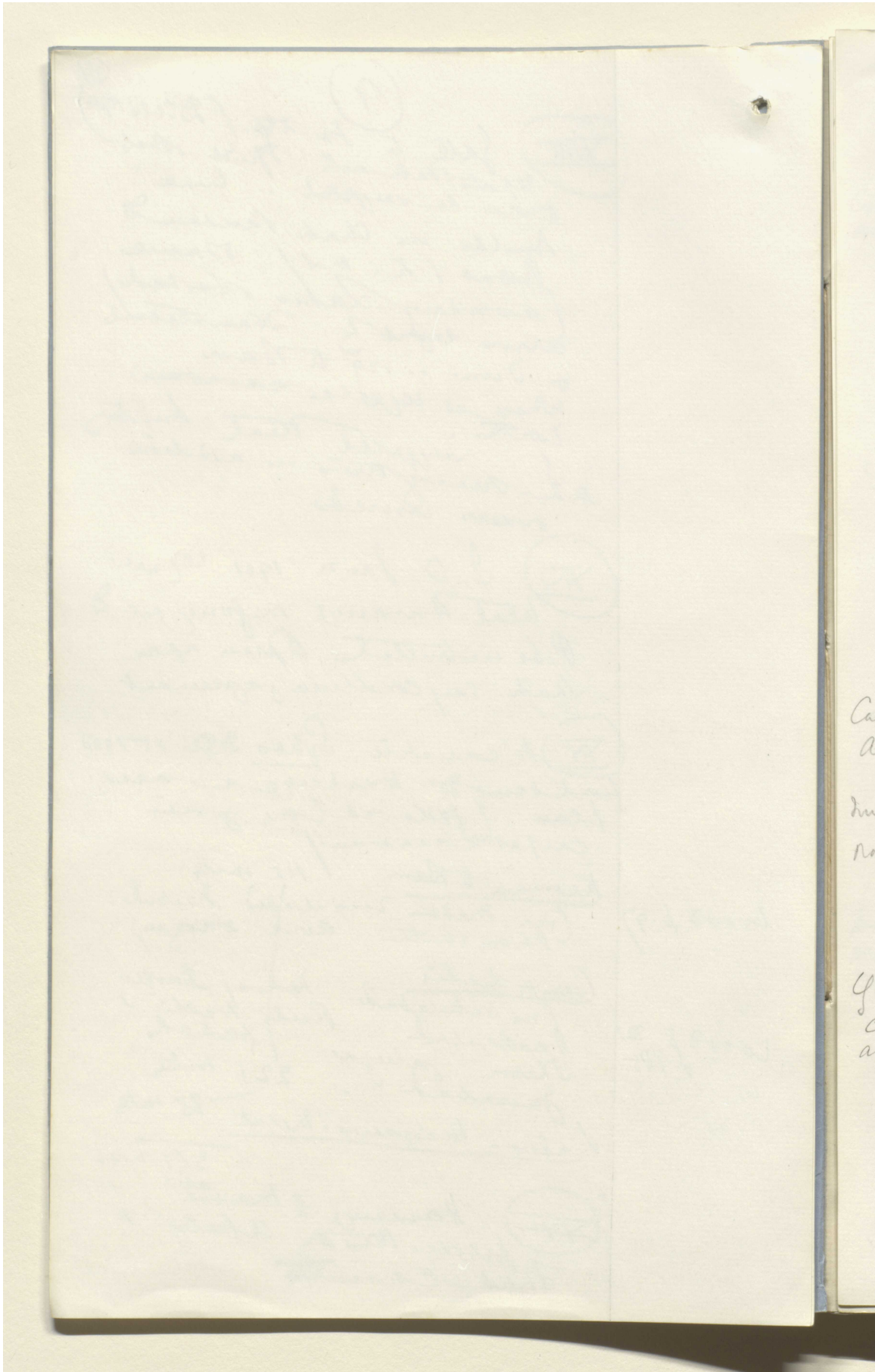
**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [14v] (33/162)**



'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [15r] (34/162)



**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [15v] (35/162)**



'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [16r] (36/162)

10 (16)

Atabeg (Atabeg March 20 1901)
Says P for will construct line
Kerman to Lader & Doshak
repair & repair existing line
Says - Kerman - Doshak & E 74
to assist in construction
Atabeg says cat will be about
£ 160000 we shall have
have to build it there
may be some difficulty about
superiority & control

Says 30 April 1901 said until
Kerman had reported he
could not proceed beyond
Route E of Bam

(XII) Amir's Second Report
14 June 1901

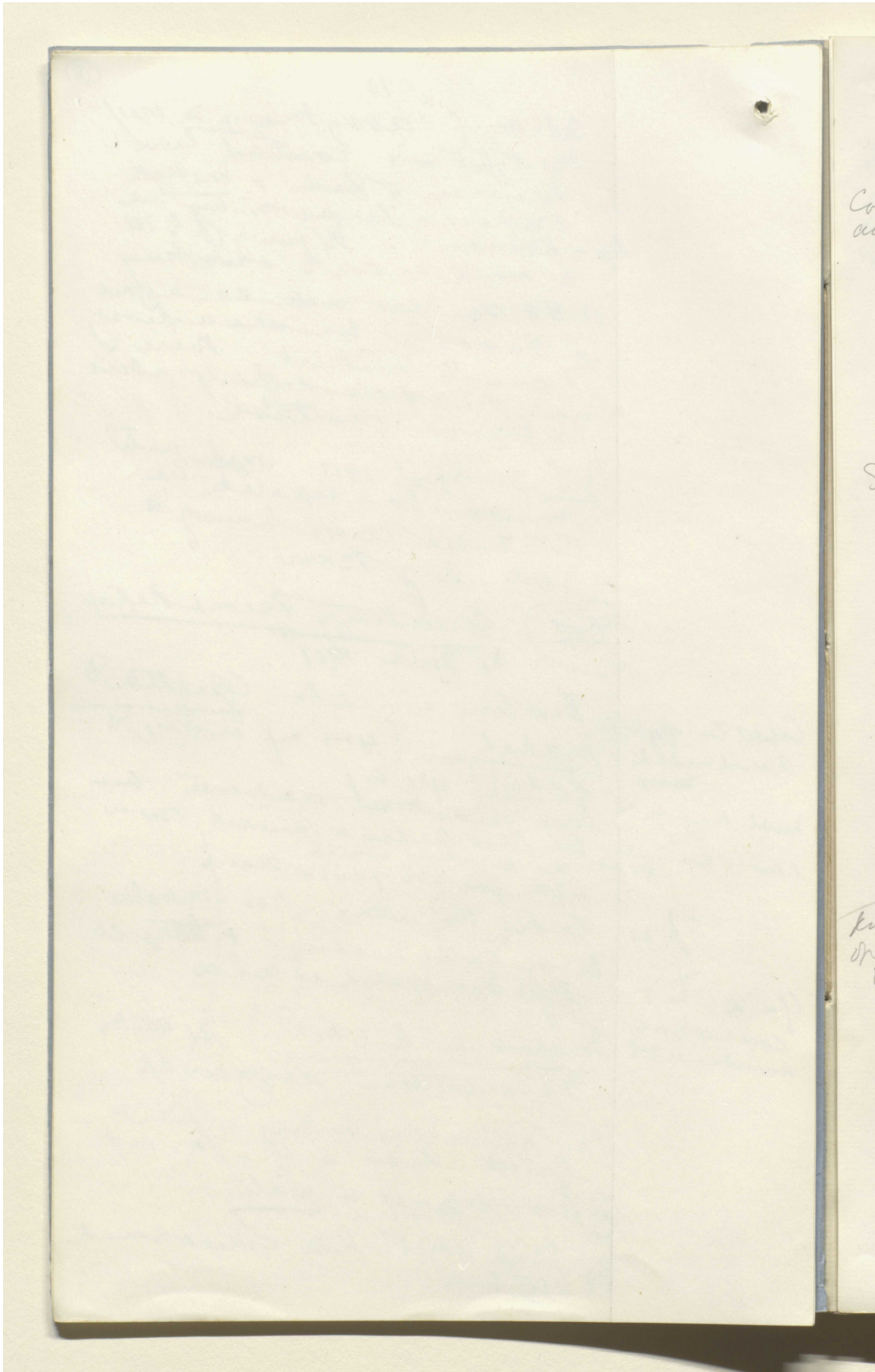
Capital Cost of 3/4 mile
Annual maintenance Rs
34000
Doshak Permanent
360
Route - 1st Persian stage
80 miles

He says would be Quetta to
Mabak (404 m) on way to
Lader (430 m) on route. His
less said about road route. 134 m
bet Chah Sudan & Lader 134 m
no drinking water
also grass & fodder scarce
Lader big village 200-500 people
He says Kerman receding & telegraph
Office there worked at a loss

For K. & M. S.
Cost - 11 1/4 lakhs
annual maintenance 35 1/2

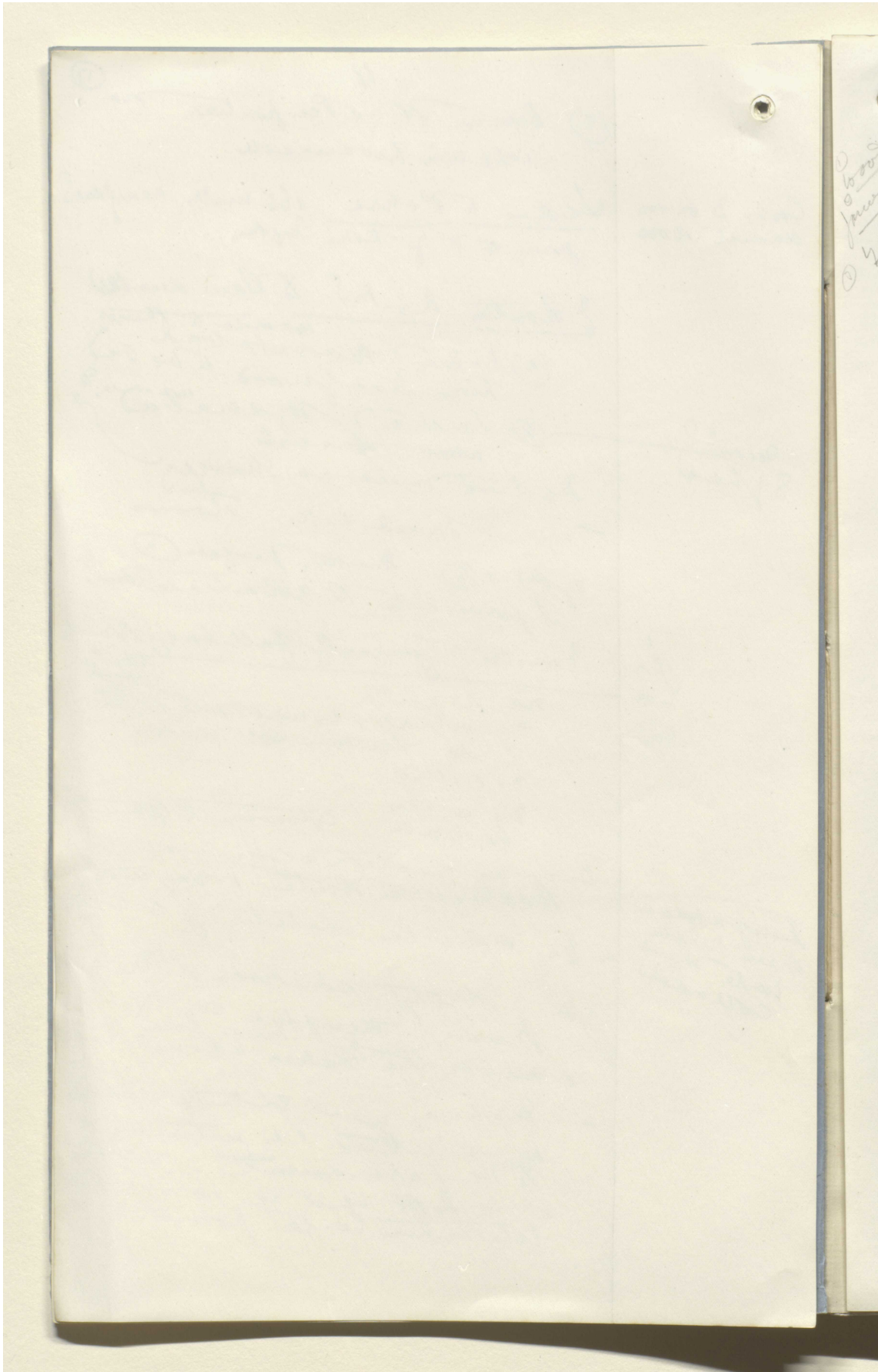
Mabak - K. & M. S. 74 miles
no construction difficulty
"no difficulty in suitable alignment
Quetta - Lader or Q - K. & M. S."
(R) Great difficulty in water
(L) Said would still collect round
telegraph posts

**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [16v] (37/162)**

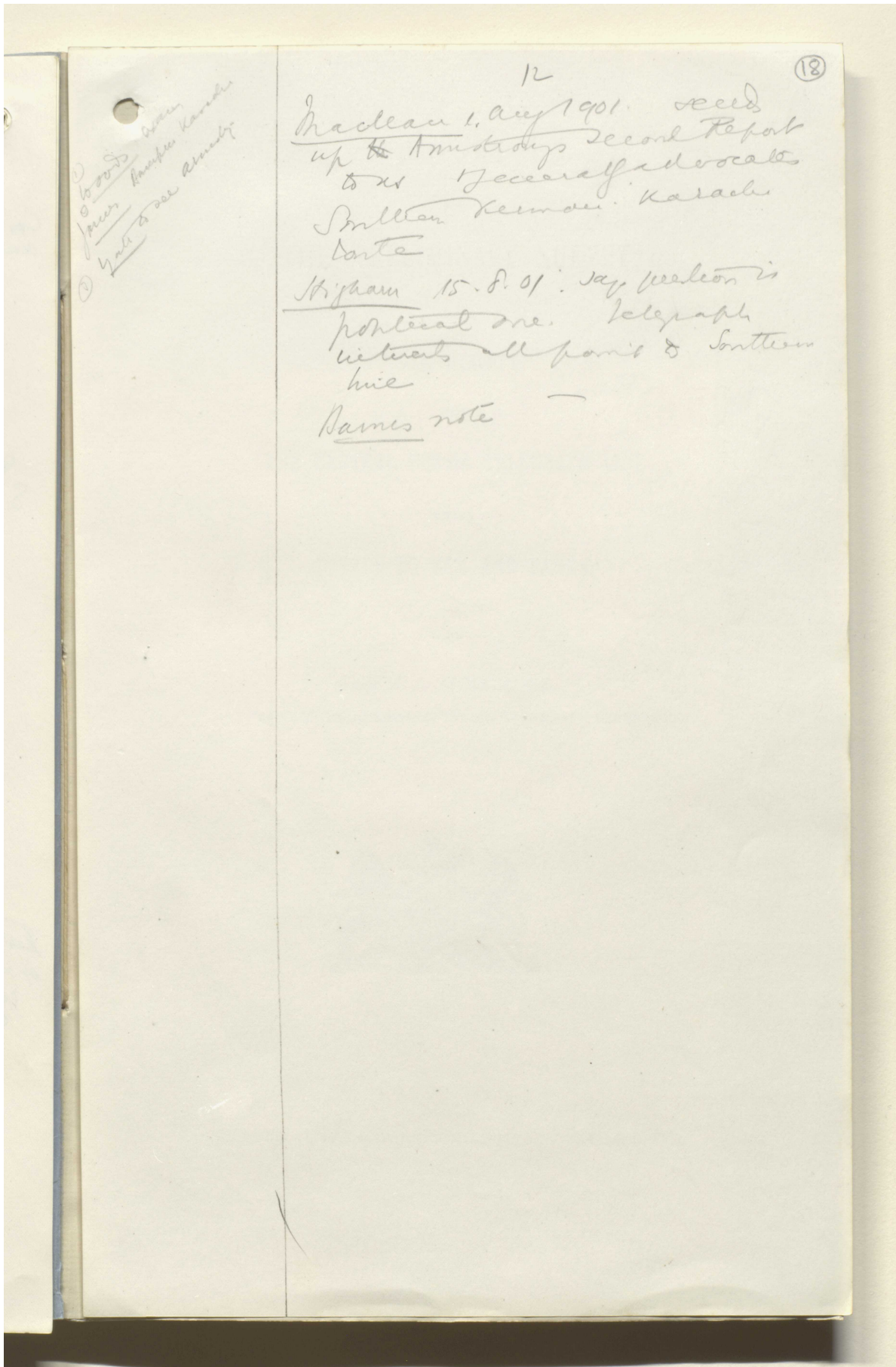


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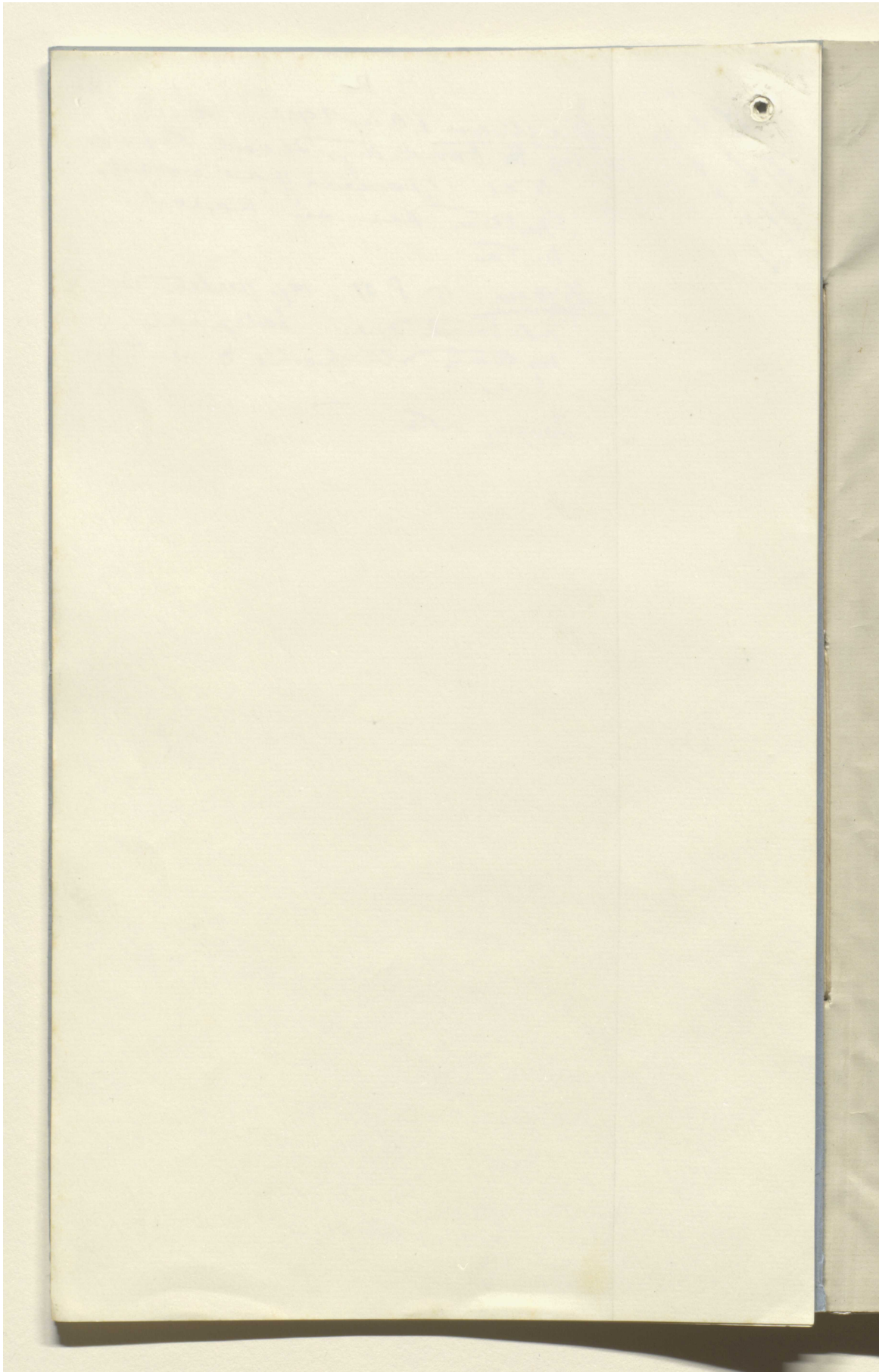
**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [17v] (39/162)**



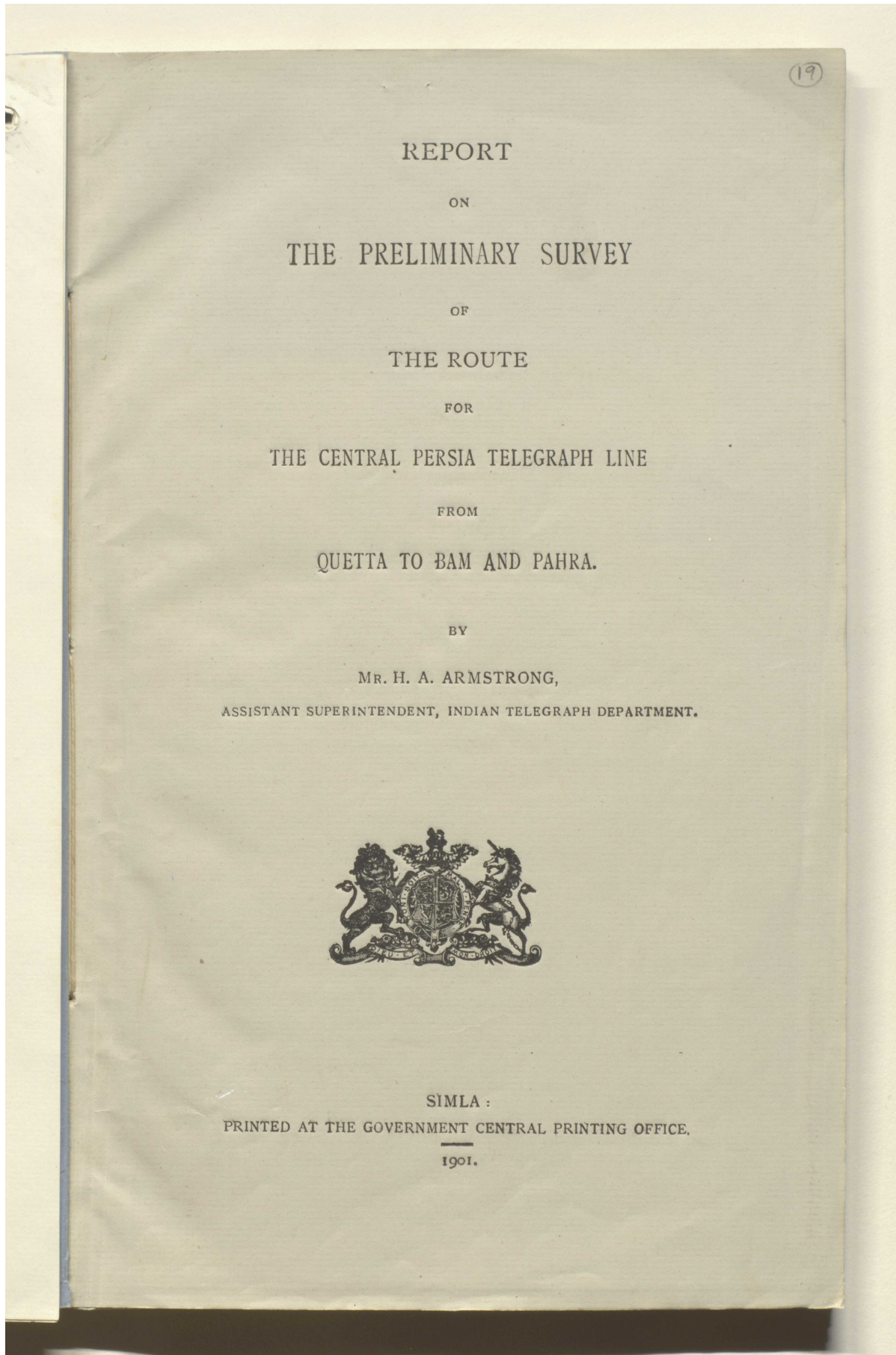
'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [18r] (40/162)



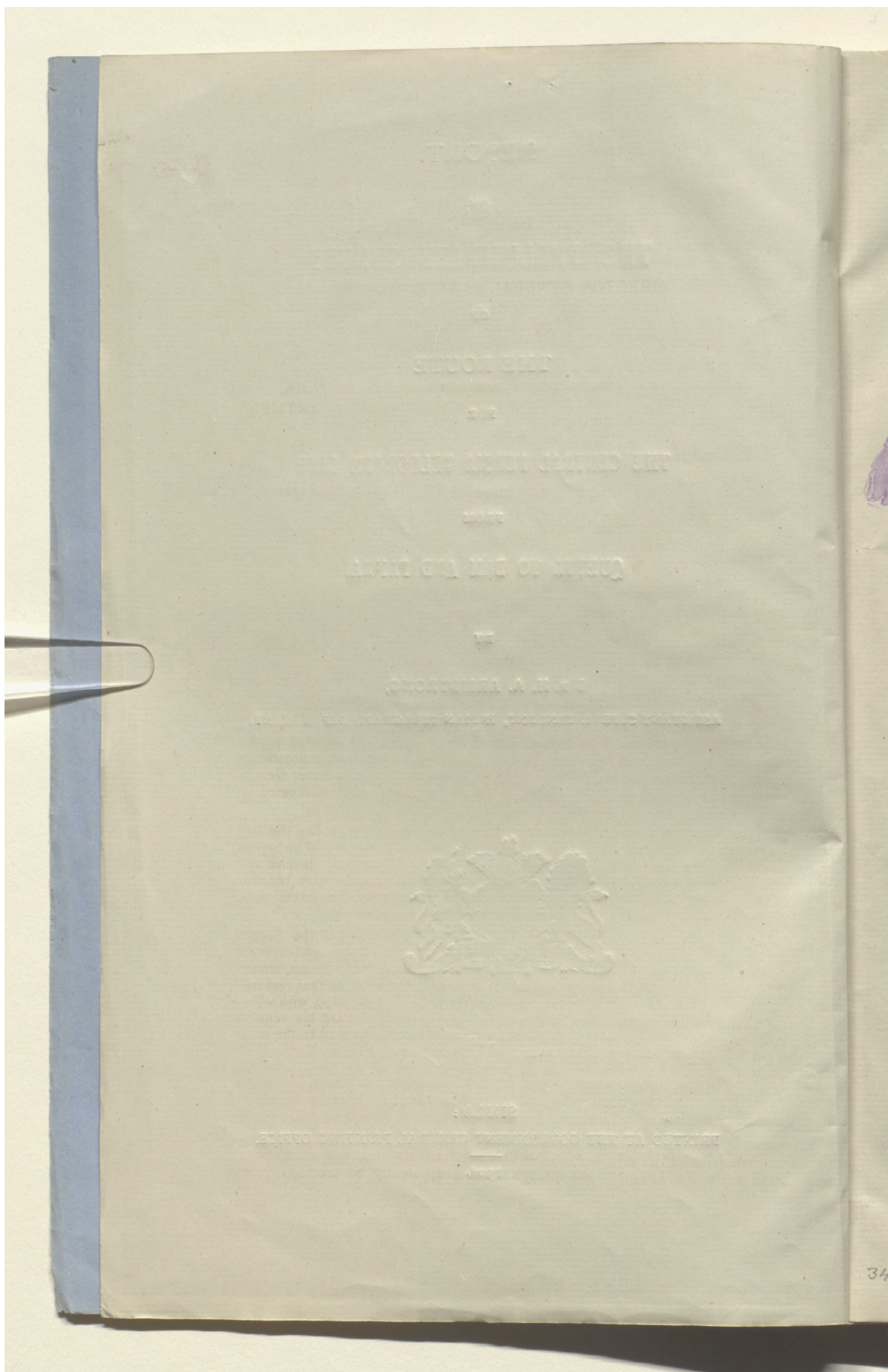
**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [18v] (41/162)**



'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [19r] (42/162)



'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [19v] (43/162)



'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [20r] (44/162)

[Confidential.]

No. 467.

FROM

THE DIRECTOR GENERAL OF TELEGRAPHS,

TO

THE SECRETARY TO THE GOVERNMENT OF INDIA,
PUBLIC WORKS DEPARTMENT.



Simla, the 1st August 1901.

SIR,

WITH reference to the correspondence ending with my letter No. 152-T, dated 21st January 1901, I have now the honour to submit, for the orders of Government, Mr. H. A. Armstrong's report on the routes he was instructed to examine, together with his estimates of the cost of construction and maintenance of Telegraph lines for the following Sections :—

(1) Quetta to Ladis ...	...	...	430 miles
(2) " Koh-i-Malik Seah ...	...	...	478 "
(3) Ladis to Pahra ...	...	...	163 "

In addition to the above Sections, Mr. Armstrong has reported on the country west of Koh-i-Malik Seah to Bam, within Persian territory, in accordance with the suggestion made by the Honourable the Agent to the Governor General in Baluchistan in his letter No. 1093, dated 13th December 1900, addressed to the Secretary to the Government of India in the Foreign Department.

2. The report also includes some interesting information regarding the new Trade route to Seistan which, although in ordinary circumstances would be beyond the scope of a Telegraph survey, should, I venture to suggest, receive due consideration in deciding the route of the proposed Telegraph line from India to Persia, in view of the importance of selecting the best route for the International line of communication of which that Section would form a part.

3. As regards Estimates (1) and (2). With the exception of the Section from Chahsundan to Saindak, where the route of the proposed Telegraph line would follow the diversion of the Trade route to the south of the Koh-i-Sultan, instead of the old road to the North, the country is practically the same as that reviewed by my predecessor in his letter No. 16-T, dated 11th August 1899, with whose opinion I entirely agree. It is therefore unnecessary to supplement his remarks further than to mention that, from Mr. Armstrong's report, the road to the south of the Koh-i-Sultan appears somewhat less difficult than that to the North. With reference to the remark made by the Director-in-Chief of the Indo-European Telegraph Department in paragraph 4 of his Memorandum No. I.E. 956, dated 15th November 1899, I would invite attention to Appendix II of the report in which it is explained why this route was not examined by Mr. Armstrong on his journey in 1899.

Estimate (3), Ladis to Pahra.—This Section lies within Persian territory, and therefore a Telegraph line through it would apparently be erected by the

34 S.C. into folios

'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [20v] (45/162)

2

Persian Government with the assistance of the Indo-European Telegraph Department. The construction of this Section would only have to be considered in the event of the route Quetta to Ladis being decided on, and then only if it was decided not to take a direct route to Bam. The difficulties on this Section appear to be less than in other parts of the country, and, if a line is required from Ladis to Pahra, there is nothing to prevent it being constructed.

4. As regards the route west of Koh-i-Malik Seah to Bam, it is evident from all accounts that this would be the most unsuitable of any of the proposed routes for Telegraphic connection between India and Persia.

5. Mr. Armstrong's report may be briefly summed up as follows :—

There is no insuperable difficulty in constructing and maintaining a Telegraph line from Quetta to Ladis, or to Koh-i-Malik Seah, or to Pahra, but, *from a Telegraph point of view*, either of the above routes appear to be far less desirable than that from Karachi to Kashan, *via* Pahra, and Kerman.

The principal reasons advanced against adopting a northern route from Quetta are, (a) the exceptional difficulty of constructing, and maintaining a line through the large extent of desert country that would be met with, and (b) the possibility of the new Trade route being abandoned, when the maintenance of the line for International purposes would become almost impossible.

6. I may say I agree with the above conclusions. I understand, moreover, that the desire of His Majesty the Shah of Persia is, that the portion of the line which is to be constructed through Persian territory should pass, wherever possible, through populous districts, and although, by selecting the southern route from Karachi through Pahra, a longer Section of Persian line would be necessitated than by the Northern route, yet it would pass through a comparatively populated, instead of an uninhabited, country. There may, however, be strong political reasons for selecting one of the Northern routes. It is for the Government of India to judge whether they are sufficient to counterbalance Telegraph considerations. If it is considered, in spite of the disadvantages stated, that it is necessary to erect the line from Quetta by a Northern route, I would recommend the route to Ladis, and thence by a direct route to Bam.

7. In conclusion, I would invite the notice of Government to the very interesting nature of the Report Mr. Armstrong has submitted, and to the careful manner in which it has been prepared. I would further invite the special notice to the narrative of his journey contained in Appendix III, and to the tact and judgment displayed by him while travelling in an unsettled country with a very small escort, and occasionally in exceptionally difficult circumstances. I would also bring to the notice of Government the valuable services of Sub-Inspector Ainuddin Khan, who has twice accompanied Mr. Armstrong on his travels west from Quetta, and of whom he has written so highly. On such occasions, the services of a man with the qualifications possessed by Sub-Inspector Ainuddin Khan are invaluable, and it is my intention in a special communication to bring his services, past and present, to the notice of Government.

I have the honour to be,

SIR,

Your most obedient servant,

W. A. Maclean
Director General of Telegraphs.

'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [21r] (46/162)

No. 52.

FROM

H. A. ARMSTRONG, Esq.,
Assistant Superintendent of Telegraphs,

TO

THE DIRECTOR GENERAL OF TELEGRAPHS,

Simla, the 14th June 1901.

SIR,

With reference to your letter No. 1731, dated the 5th November 1900, I have the honour to forward herewith my report on the survey for the extension of the Central Persian Telegraph line to India, *via* Ladis, or Koh-i-Malik Seah, together with the required estimates of the cost of carrying out part of the scheme. I trust these will meet with your approval.

I have the honour to be,

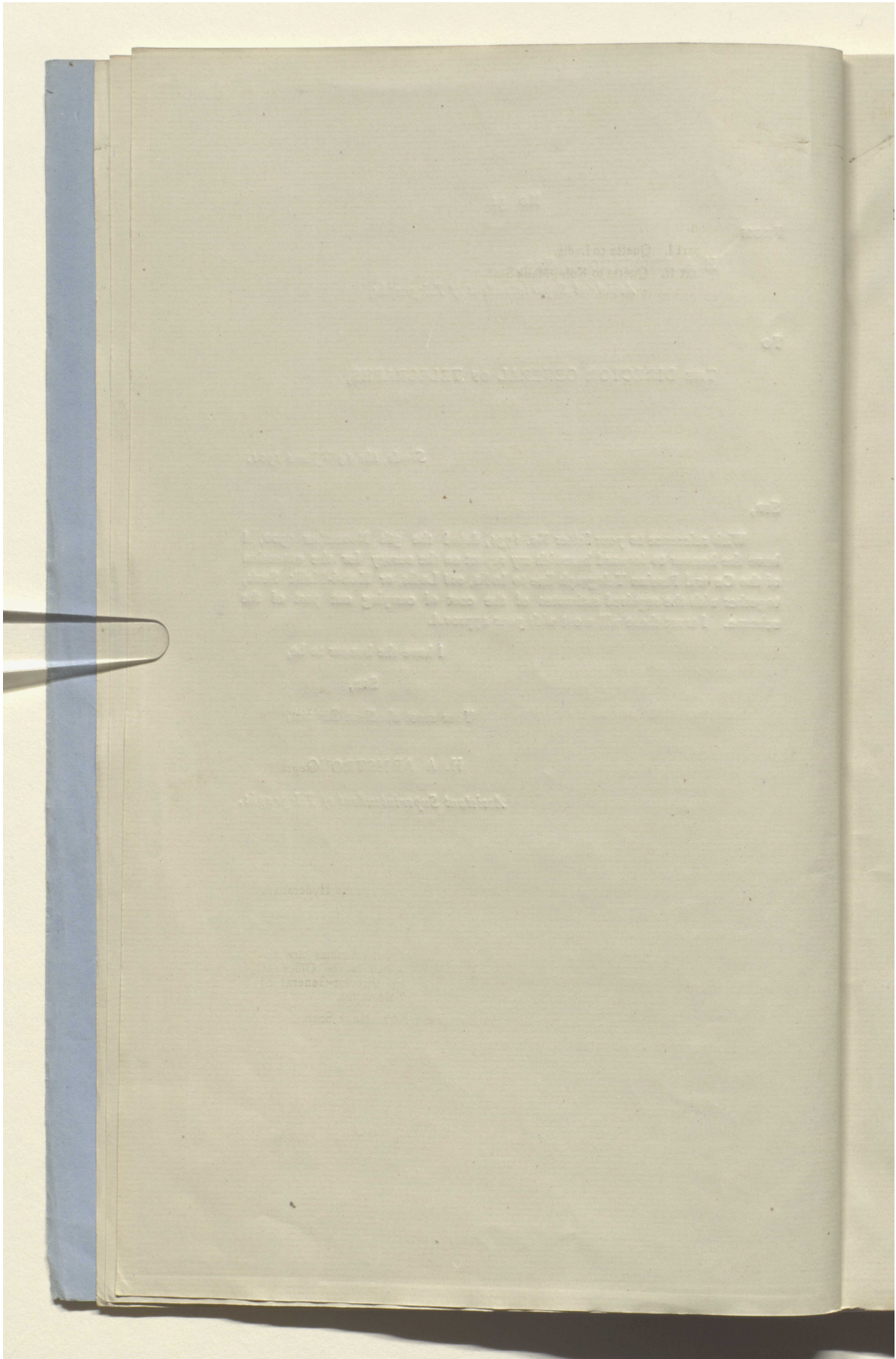
SIR,

Your most obedient Servant,

H. A. ARMSTRONG,

Assistant Superintendent of Telegraphs.

'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahlra' [21v] (47/162)



'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [22r] (48/162)

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3. Estimate, part II. Quetta to Koh-i-Malik Seah.
4. Alignment and marking out.
5. Water.
6. Sand.
7. Supplies.
8. Telegraph Offices for local business.
9. Maintenance. Position of observation offices.
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11. Shelter huts for linestaff.
12. Maintenance staff.
13. Estimate, part III. Ladis to Pahra.
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18. Route west of Koh-i-Malik Seah.
19. Climate.
20. The Quetta-Nushki-Siistan trade route.
21. The Quetta-Nushki-Siistan trade route. Its desert character.
22. The Quetta-Nushki-Siistan trade route. An inferior means of communication.
23. The Quetta-Nushki-Siistan trade route. Its success doubtful, and its existence precarious.
24. The Quetta-Nushki-Siistan trade route. Its present success.
25. The Quetta-Nushki-Siistan trade route. Its local requirements for telegraph communication.
26. The Quetta-Nushki-Siistan trade route. A Political matter.
27. The Quetta-Nushki-Siistan trade route. Newspaper references.
28. The Quetta-Nushki-Siistan trade route. General remarks.
29. Conclusion.

APPENDIX I.—Description of the route from Koh-i-Malik Seah to Bam, *via* Hyderabad.

APPENDIX II.—An explanatory note.

APPENDIX III.—Narrative of Journey from Quetta to Gwadur.

Abstract of Estimate part I, Quetta to Ladis.

Do. do. part II, Quetta to Koh-i-Malik Seah.

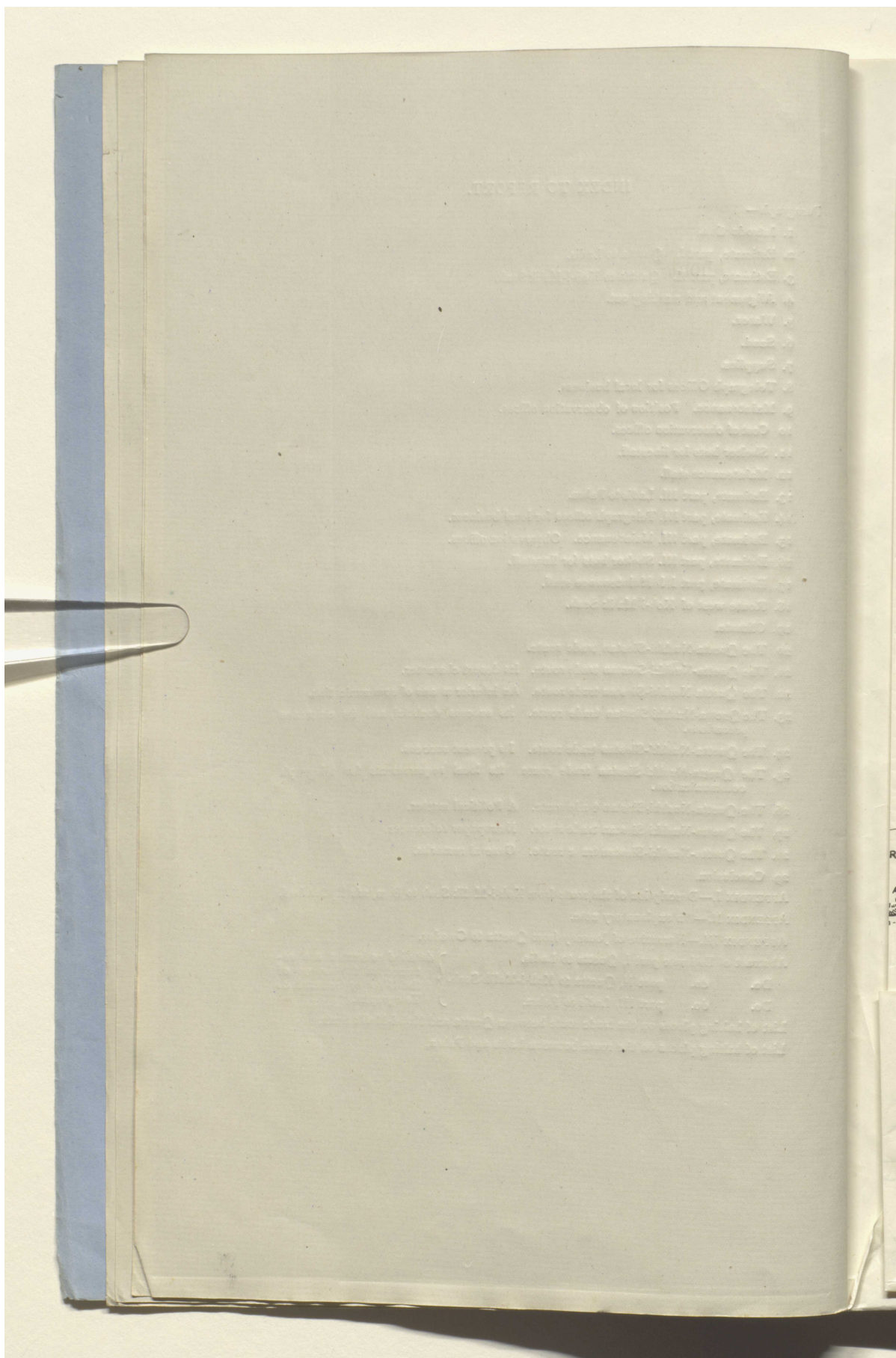
Do. do. part III, Ladis to Pahra.

} detailed estimates are retained in the Office of the Director-General of Telegraphs.

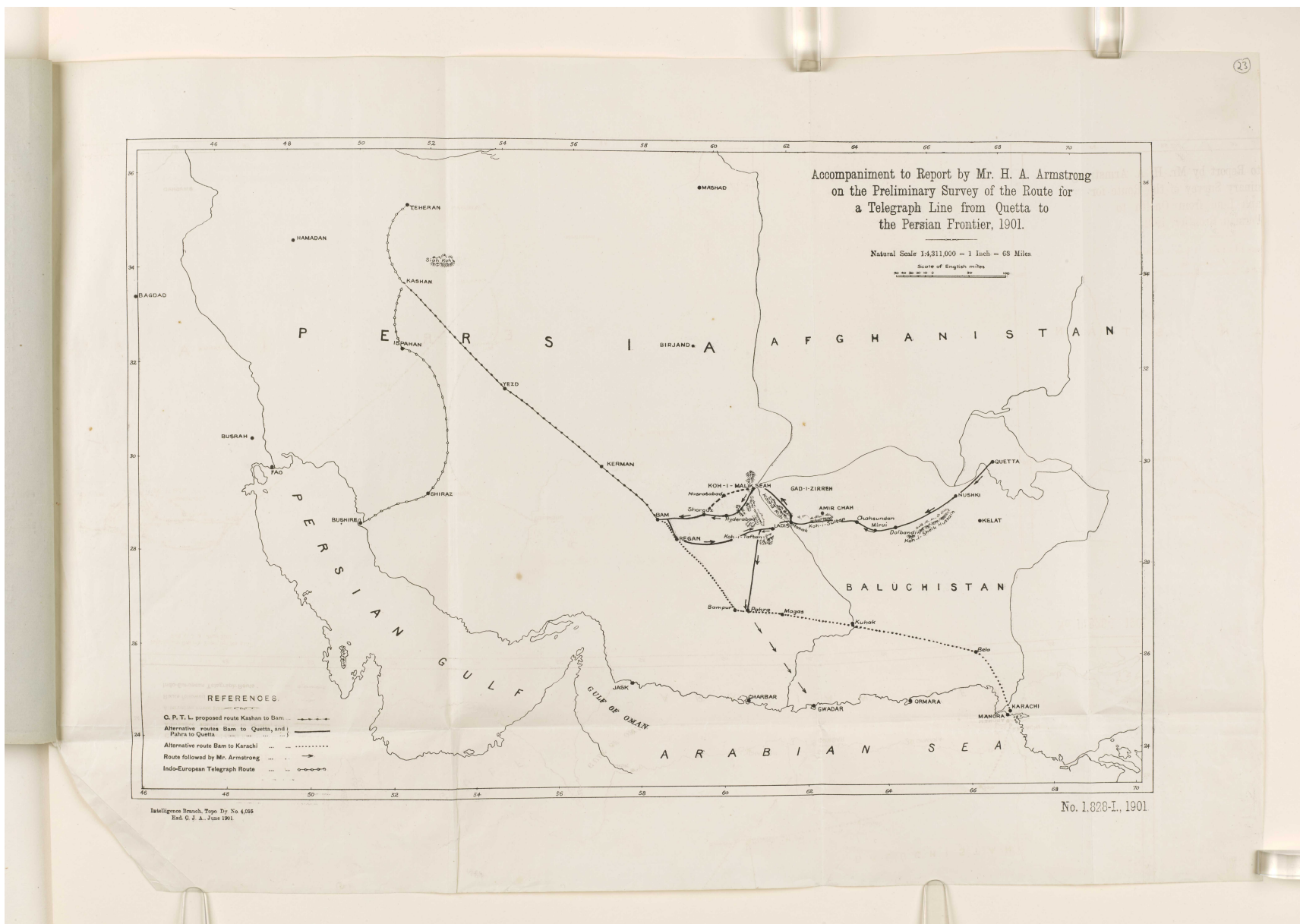
List of halting places on the trade route between Quetta and Koh-i-Malik Seah.

List of halting places on the route between Ladis and Pahra.

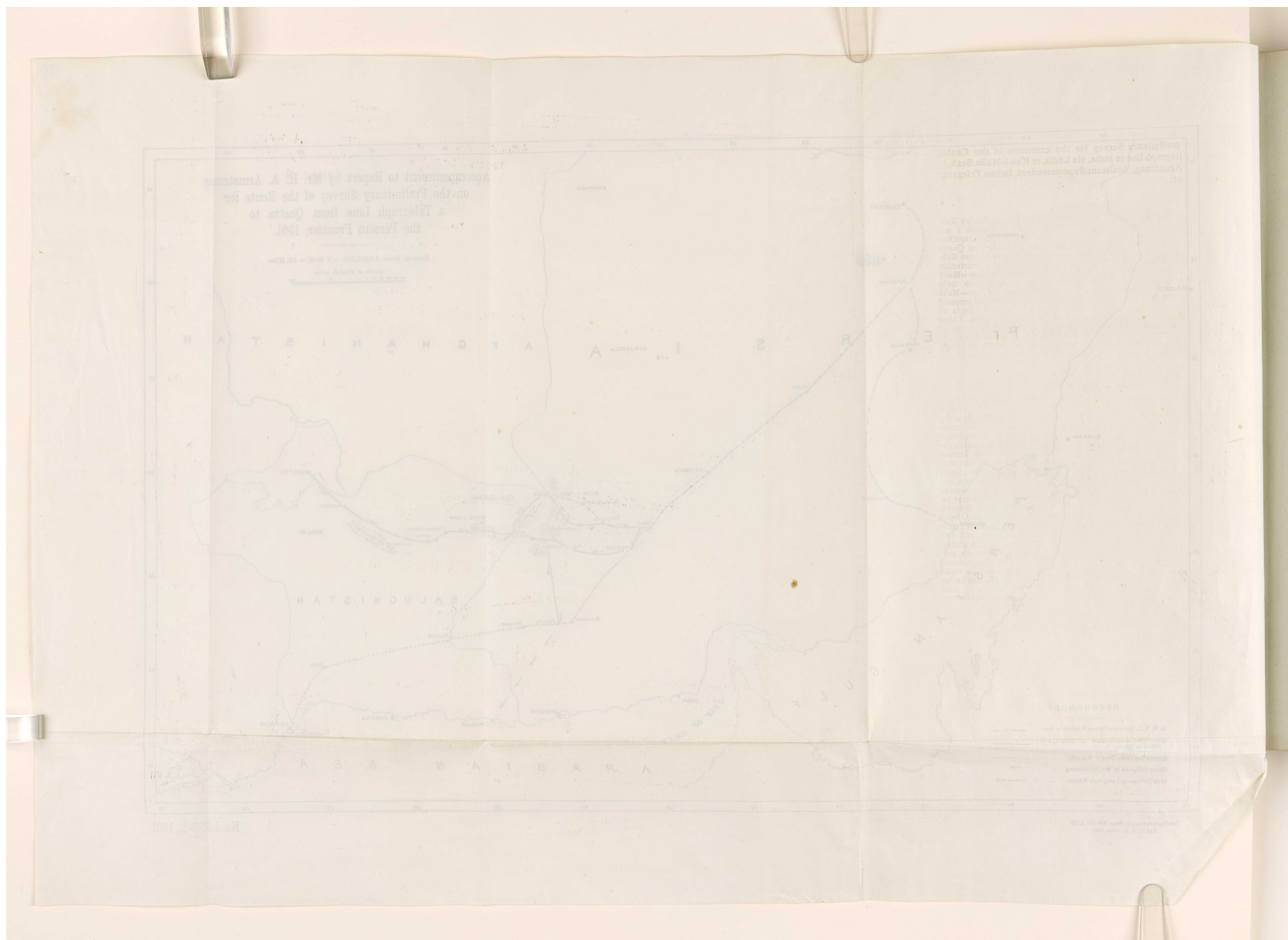
'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahrā' [22v] (49/162)



'Accompaniment to Report by Mr H A Armstrong on the Preliminary Survey of the Route for a Telegraph Line from Quetta to the Persian Frontier, 1901' [23r] (1/2)



'Accompaniment to Report by Mr H A Armstrong on the Preliminary Survey of the Route for a Telegraph Line from Quetta to the Persian Frontier, 1901' [23v] (2/2)



'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [24r] (52/162)

Confidential.

Report on the preliminary Survey for the extension of the Central Persian Telegraph line to India, via Ladis, or Koh-i-Malik Seah, by Mr. H. A. Armstrong, Assistant Superintendent, Indian Telegraph Department.

INTRODUCTION.

1. This report deals with part of the extension of the Central Persian Telegraph line to India, *via* Ladis, or Koh-i-Malik Seah. The route which I was originally instructed to report on was from Quetta to Pahra, *via* Ladis, south of the Koh-i-Sultan range of mountains. Subsequent to my departure from Quetta to survey this route, I received instructions to examine the country between Koh-i-Malik Seah and Bam, with the object of ascertaining whether a practicable route could not be found so as to bring the line further north, *via* Koh-i-Malik Seah, instead of taking it so far south as Pahra. A description of both these routes from Quetta to Pahra, *via* Ladis, and from Quetta to Bam, *via* Koh-i-Malik Seah, is now given herein. The estimates of the cost of construction are prepared in 3 parts, *viz.*, part I from Quetta to Ladis, 430 miles, part II from Quetta to Koh-i-Malik Seah, 478 miles, and part III from Ladis to Pahra, 163 miles. I have not prepared any estimate for extending the line west of Koh-i-Malik Seah, as I understand construction work in this part of Persia would be undertaken by the Indo-European Telegraph Department. A brief account of my journey from Quetta through Western Baluchistan and Eastern Persia is given in appendix III.

ESTIMATE, PART I.

Quetta to Ladis, 430 miles.

2. The best alignment for a telegraph line from Quetta to Ladis, 430 miles, would, I think, follow the Quetta-Nushki-Siestan trade route as far as Makak, about 404 miles west of Quetta. This trade route consists of a camel track, for the most part, through desert country. A description of it from Quetta to Chahsundan has already been given in my previous report on the preliminary survey of the route for a telegraph line from Quetta to the Persian Frontier, dated the 7th May 1899. I need not repeat any of this now, but since that report was written, some improvements in the trade route have been made. Small rest-houses have been built at each halting stage between Quetta and Nushki, and Dāk bungalows are at present under construction at important stages further west. The descent from the Kishingi plateau to Nushki has been made easy by a well made track cut out round the slopes of the hills. The track between Nushki and Mal, 34 miles, has for a considerable distance been realigned more towards the south-east, and now skirts the lower slopes of a low range of hills; this makes the distance somewhat longer, but is an improvement, as the ground met with is firmer, and more even than on the old track. The route between Padag and Yadgar has for a short distance been diverted a little towards the south, and thus avoids some sand hills. I referred to this diversion on page 3 of my former report. I now think that a telegraph line could with advantage leave the trade route altogether for about 40 miles between Padag and Dalbandin, and strike an alignment of its own further to the south. In this vicinity a large belt of sand hills runs down from the north-east towards south-west, and continues along south of the Dalbandin plain. A telegraph line along here would have to cross this somewhere. The minimum amount of sand would be met with, probably for about 4 or 5 miles, by making the crossing at right angles to the direction of the sand belt. The selection of a suitable crossing can of course best be settled by the officer in charge of the working party, if the construction of the line be undertaken, as he will have more time at his disposal than I had during my journey to examine this sand belt carefully. I do not anticipate there will be

'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [24v] (53/162)

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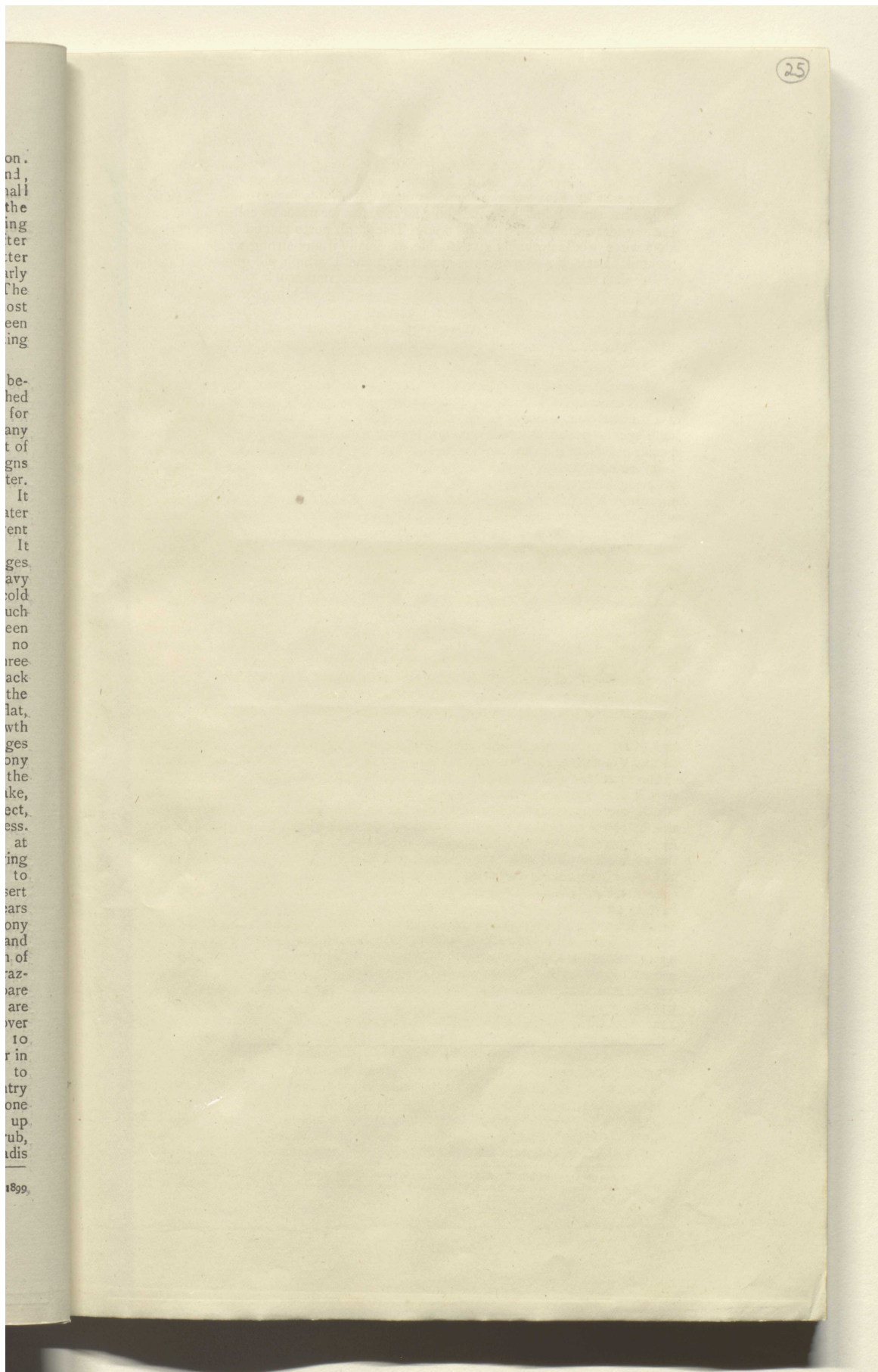
much difficulty in obtaining some supply of water along the diversion I mention. The trade route along by Yadgar passes through sand for about 10 miles, and, after any sort of heavy rain, becomes almost impassable for camels. The small flat plains surrounded by sand hills form basins for water to collect in, and the ground underneath becomes liquid mud. Telegraph posts placed in this, carrying heavy wires, would probably give trouble, especially if any strong winds blew after a rainfall. I attach 4 photographs Nos. 1, 2, 3 and 4, which will give one a better idea of what the country is like than any written description of it.* During the early part of my recent tour I was unfortunate in meeting with broken weather. The amount of rainfall last winter along the eastern part of the trade route was most unusual. Local inhabitants informed me they could not remember having seen anything like it before, so that my photographs must be considered as representing a very rare state of affairs.

I mentioned in my former report that several "nala" beds, or dry rivers, between Nushki and Chahsundan, a list of which was given in statement D attached to Estimate part I, ought to be spanned, and in my estimates I provided for some special posts and steel wire for doing so. I do not now consider any special provision is necessary for a telegraph line to cross these nalas. Most of them are comparatively wide, with vaguely defined banks, and none showed signs of having been completely in flood, even after the abnormal rainfall last winter. Any water which did flow in them was confined to small narrow channels. It will, I think, be quite safe to place posts on any high ground between these water channels in nala beds. The trade route west of Chahsundan formerly went north of the Koh-i-Sultan range of mountains, *via* Manzil, Amirchah, etc. It has, within the last 2 years, been diverted south of this range. The advantages of the southern route are that it passes over firm stony ground, free from the heavy sand drifts met with on the northern route, and it is sheltered from severe cold north winds, but its supply of camelgrazing and firewood is very scarce, much more so than on the northern route, and the water met with is very bad; between Chahsundan and Saindak, 134½ miles, south of the Koh-i-Sultan, there is no decent drinking water procurable at all, while north of this mountain there are three places, Butak, Manzil and Amirchah, where the water is drinkable**. The track from Chahsundan now leads in a west-south-west direction to Tratoch, the next halting stage, over a broad, stony, or dasht plain. This plain is mostly flat, but undulates and is rough at intervals. It has, in a few places, a small growth of a shrub called lana, but the most part is absolutely bare. The mirages one sees in this region are very curious, and in a way help to vary the monotony of the otherwise dismal scenery. Their occurrence is frequent. Sometimes the view in the distance appears like a grand harbour, sometimes like a great lake, but, as one approaches nearer these fine sights, they vanish with tantalizing effect, and leave the natural view, by contrast, all the more intense in its dreariness. At the 5th mile west of Chahsundan a thin belt of sand hills is met with, also at the 14th mile. The sand here consists of numerous isolated little hills, varying in height from about 10 to 40 feet, and running in a general north-west to south-east direction. They are no doubt a continuation of the great sand desert further north, and have been blown hither by the prevailing wind, which appears to be from the north-west. From Tratoch the course is still over a flat stony plain, in direction a little south of west. At Kondi, the next stage, the sand again makes its appearance in small quantities. There is here a slight growth of a small bush called tagaz which is good both for firewood and camelgrazing. From Kondi the course turns north-west, and continues on over a bare flat stony plain. About 3 miles from Mushki Chah some small sand hills are again met with. From Mushki Chah the track continues almost due west over open stony country, perfectly flat in some places for stretches of from 5 to 10 miles. At intervals the ground becomes undulating and irregular, very similar in form to the surface of water in a smooth, troubled sea. It would be hard to imagine a region more complete in desolation than this part of the country between Mushki Chah and Makak;† one can travel for miles, over a bare baked up surface of lava stones and sand, without meeting with as much growth of scrub, or anything else, as would fill a match box. From Makak the course to Ladis

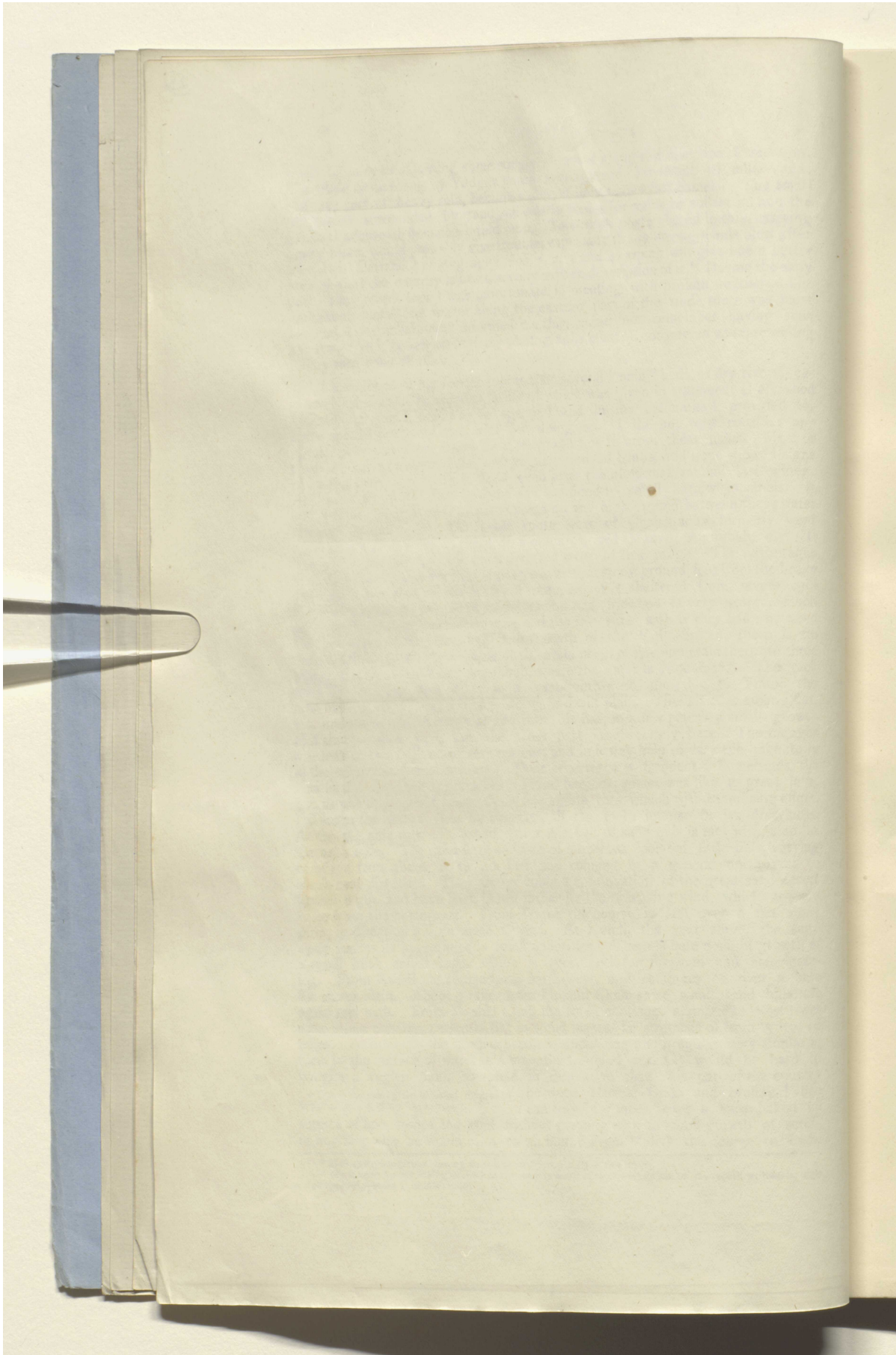
* This is the same place Makakaf referred to in paragraph 4 A of my former report.

** Vide also photographs Nos. 23, 24 and 25 in Appendix III of this report.
† My reasons for not having referred to the country south of the Koh-i-Sultan in my report written in 1899, are stated in Appendix II of this report.

'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
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**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [25v] (55/162)**



'Views on Quetta-Nushki-Siestan [Sistan] Trade Route: No. 1. Sandhills east of
Yadgar' [26r] (1/1)

(26)

VIEWS ON QUETTA-NUSHKI-SIESTAN TRADE ROUTE.



No. 1.

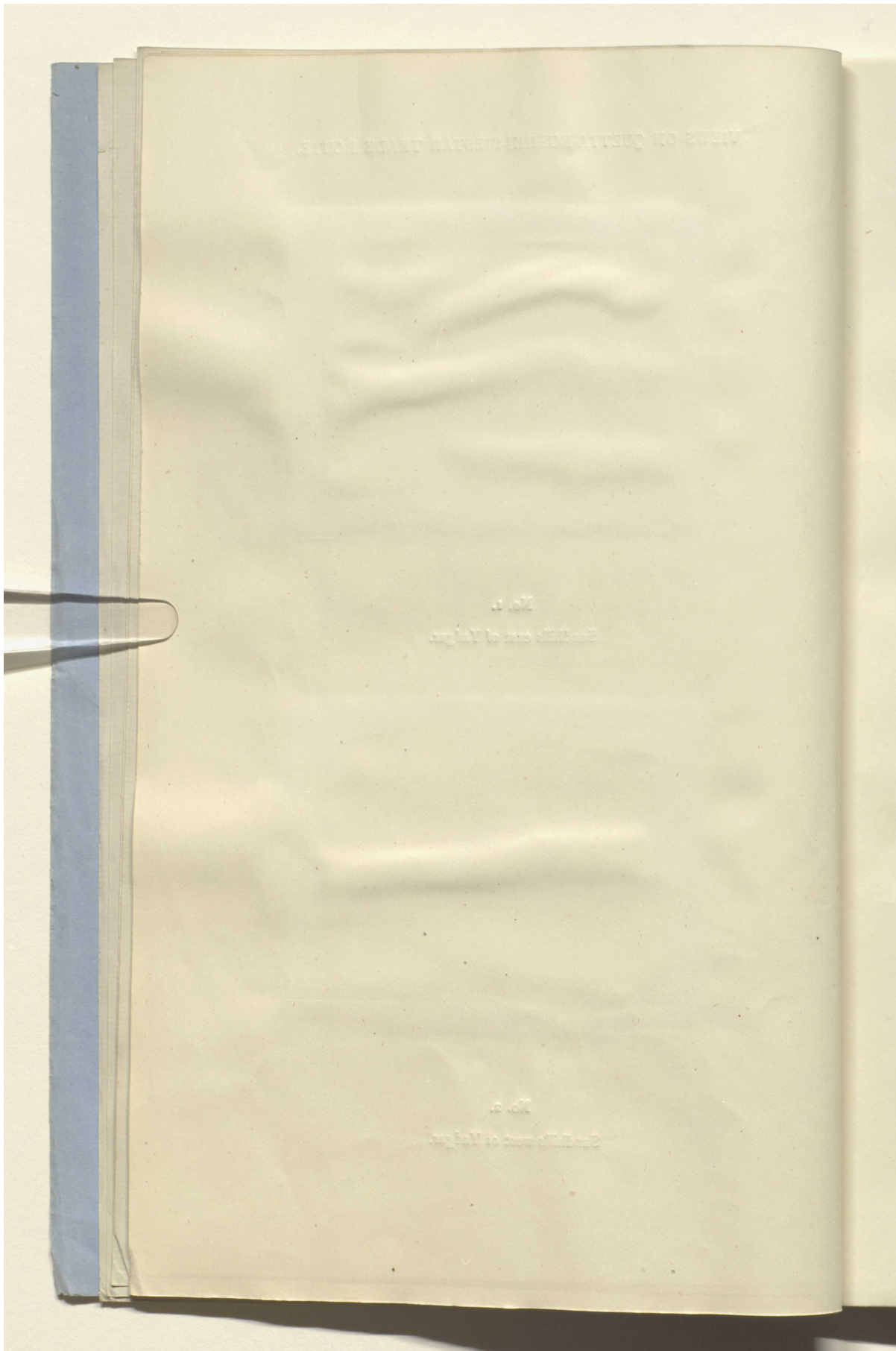
Sandhills east of Yadgar.



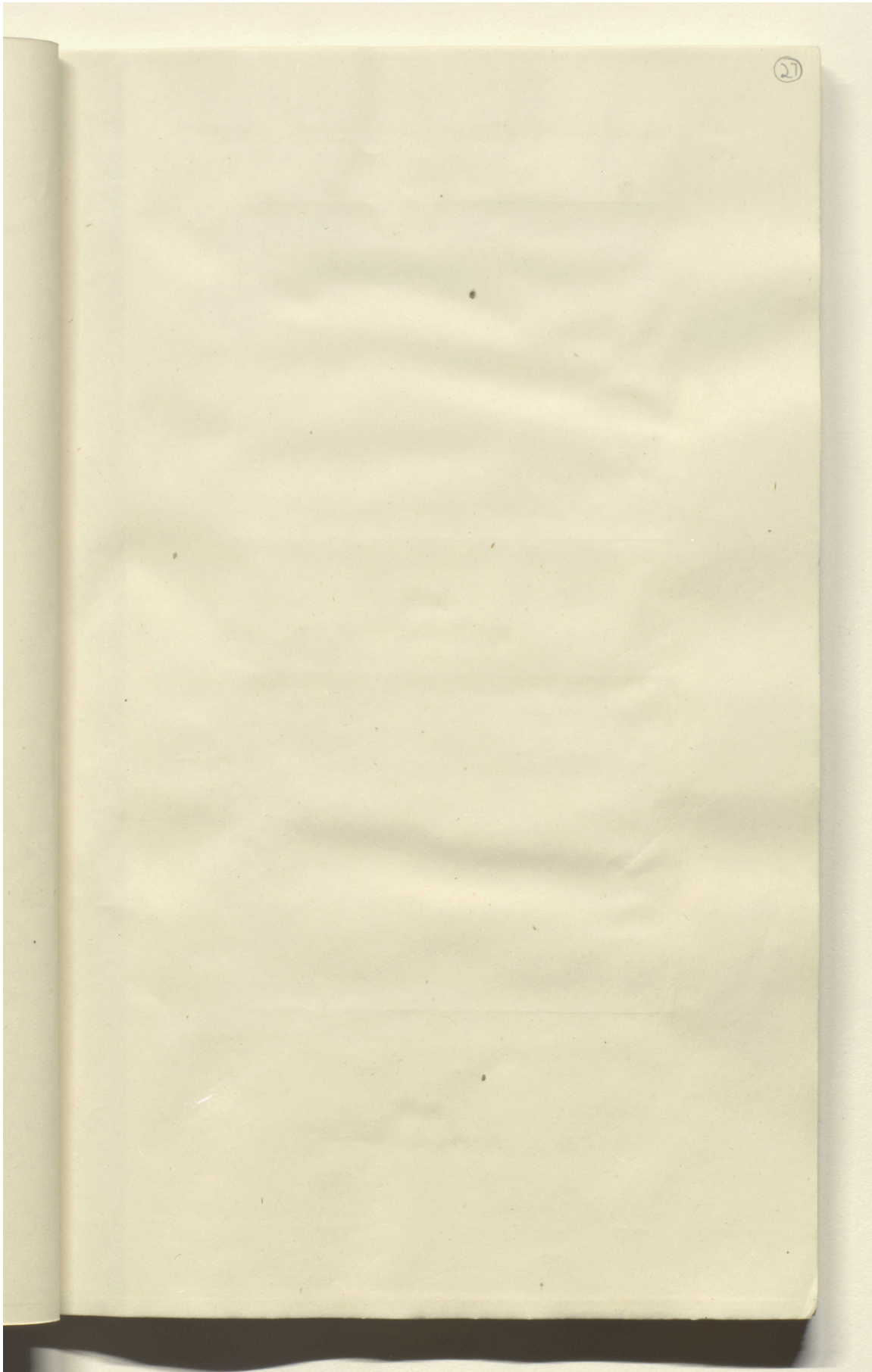
No. 2.

Sandhills west of Yadgar.

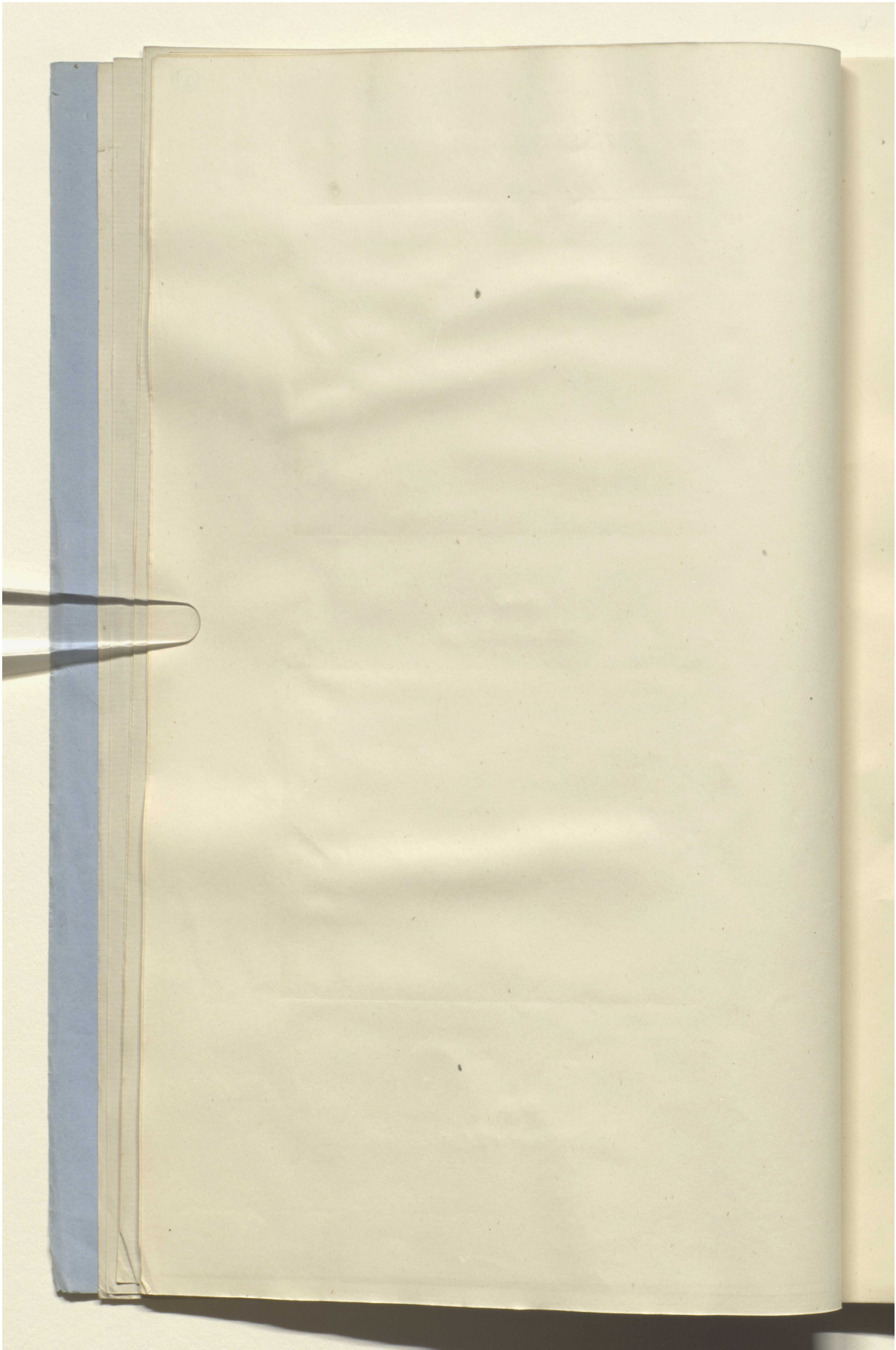
'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahlra' [26v] (57/162)



**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [27r] (58/162)**



**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [27v] (59/162)**



(28)

VIEWS ON QUETTA-NUSHKI-SIESTAN TRADE ROUTE.



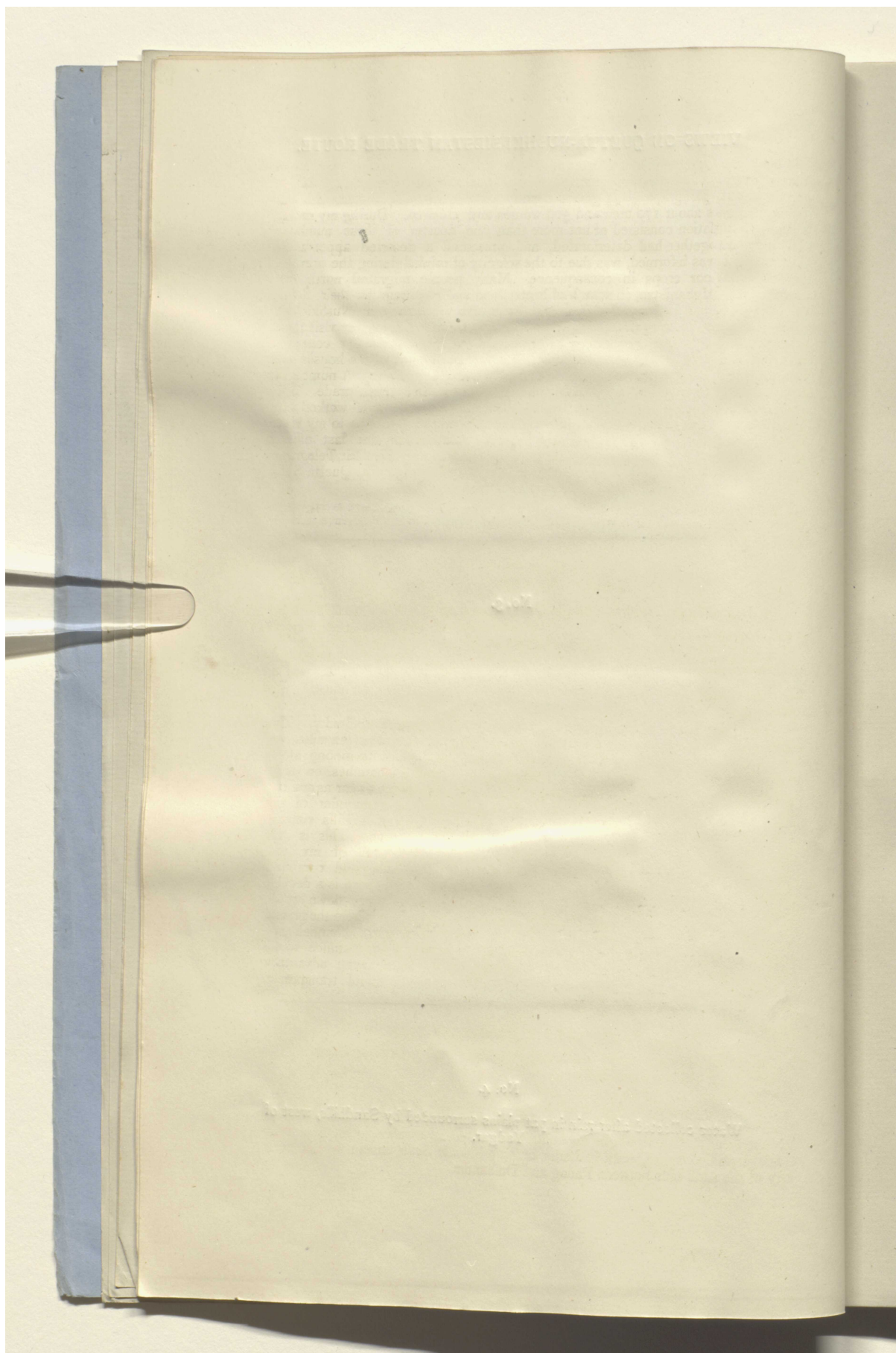
No. 3.



No. 4.

Water collected after rain in pat plains surrounded by Sandhills, west of
Yadgar.

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Line from Quetta to Bam and Pahra' [28v] (61/162)



'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [29r] (62/162)

3

will leave the Quetta-Nushki-Siestan trade route, and will continue over open bare country, in a south-west direction, for the remainder of the distance. In my former report, paragraph 4B, I gave a description of Ladis, and I then said its population was about 170 men and 300 women and children. During my recent visit the population consisted of not more than one quarter of these numbers. The place altogether had deteriorated, and presented a deserted appearance. The cause, I was informed, was due to the scarcity of rainfall during the previous season, and poor crops in consequence. Many people migrated north into Siestan, and Afghanistan, in search of better food and pasturage for their flocks of sheep and goats. I was disappointed also in the appearance of Nushki—the only other place of comparative importance on this route. During my visit there in 1898 a new bazaar of 126 houses had been laid out, and was under construction, but, now that it has been completed, only about one-third of the houses are occupied, and some of the remainder are already falling into ruins. A number of banias appear to have left, and there was no sign of any brisk trade. The combined telegraph office that was opened there in May 1900 was worked at a steady loss up to the end of November 1900, the month previous to my visit. In support of this statement, I quote the following extract from the last official report dated, I think, January 1901, on the inspection of the Nushki Telegraph Office by Mr. J. H. Curtis, Assistant Superintendent of Telegraphs, Quetta Sub-Division.

"Traffic statistics since May show an average receipt of Rs. 29-1-3, or an average loss of Rs. 13-14-9, per mensem. I do not think that there is any hope of the revenue increasing at present."

ESTIMATE, PART II.

Quetta to Koh-i-Malik Seah, 478 miles.

3. Before dealing further with the Quetta-Ladis route, I will briefly describe

The totals of this estimate are :
Capital cost of line and offices, Rs. 11,30,500;
Annual Maintenance charges, Rs. 35,500 ;
Vide abstracts given at end of this report.

the remainder of the trade route from Makak to Koh-i-Malik Seah. The conditions under which a telegraph line would be constructed from Quetta to either

Ladis or Koh-i-Malik Seah are practically the same, so, for convenience, I will include both routes in the same consideration.

From Makak to Koh-i-Malik Seah there is no construction difficulty. The trade route track continues in a north-north-west direction for about 22 miles, the first 12 of which are over open, bare, stony ground, and the last 10 among stony valleys surrounded by hills. At the 23rd mile, the track debouches on to a broad expansive desert plain, extending away towards the north as far as one can see; it here changes in direction to north-west, and for the remainder of the distance, 52½ miles, skirts along the base of a continuous range of hills running down in a south-east direction from Koh-i-Malik Seah. This is the alignment suggested for the telegraph line in paragraph 5 A of my previous report. Formerly the trade route entered these hills, and continued along winding valleys through them, but the course now adopted is a decided improvement. A telegraph line could conveniently be kept lower down on the plain than the trade route track; the latter is too close to the hills where the ground is cut up by numerous water channels; further down these water channels gradually disappear, and the ground becomes more even. The distance would probably become a little longer by adopting this suggestion, but the advantage in having level ground, instead of a switchback course, for camel transport to travel on would more than counterbalance this objection.

ALIGNMENT AND MARKING OUT.

4. In my former report I made a few remarks on alignment and marking out in connection with each estimate dealt with, but then I had the advantage of having traversed the country I was writing about twice, in two directions. During my recent tour I travelled rapidly over new country once only, so that any notes I made on the subject of marking out are hardly worth recording here. I may, however, say that there will be no difficulty in selecting a suitable alignment for a telegraph line from Quetta to Ladis, or Koh-i-Malik Seah, except in the vicinity of the sand hills between Padag and Dalbandin.

'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [29v] (63/162)

4

WATER.

5. A great difficulty for construction, as well as for maintenance, of a telegraph line from Quetta to the Persian Frontier *via* Nushki will be the supply of water. West of Dalbandin along the trade route the water is scarce, and bad, in many places, and between Chahsundan and Makak, a distance of 120½ miles, there is none fit for drinking purposes to be had at all. During my visit to Dalbandin in 1898, I considered the water obtainable there from a small open stream fairly good, but, on my last visit in December 1900, I was surprised to find the water in this same stream brackish in taste. There are two springs in a low range of hills towards the north where this stream takes its source. I brought back with me samples of the water from each of these springs, and also samples of the water obtainable from wells at Kondi, Mushki Chah, Ware Chah, and Makak. The first stage west of Chahsundan is Tratoth; here the water tasted so bad that I did not consider it worth while bringing any with me for analysis. The other places I have just mentioned are the halting stages along the trade route in consecutive order west from Tratoth. The water at each tasted very bad, and was obviously unfit for human consumption; however to corroborate my opinion regarding it, I brought back samples for examination. Captain Fleury, R.A.M.C., very kindly analysed these samples for me, and I now quote his statement.

"Report on the analysis of six samples of water submitted for examination by H. A. Armstrong, Esq."

The six samples submitted bore many common characteristics. The colour of all was greyish, the sediment was plentiful, the taste distinctly metallic, and the smell nauseating, due to the presence of sulphuretted hydrogen in the water. In the samples taken from wells at Dalbandin (i) and (ii), and Mushki Chah, chlorine was present in considerable quantities, while it was present to excess in the samples taken from Kondi, Makak and Ware Chah.

In all six samples the amount of oxygen required to oxidise organic matter was in excess, but very much so in the sample waters from Dalbandin (i) and Mushki Chah. In all six samples the presence of nitrates was detected, due partly to mineral constituents found in the sediment, and derived from the surrounding soil, and partly due to vegetable and animal matter as found on microscopic examination. The samples obtained from Dalbandin (i) and Mushki Chah appeared to be the worst, and, although Dalbandin (ii) was a bad water, I consider from the sample furnished that it is a slightly better water than Dalbandin (i).

I am of opinion therefore that none of the wells from which these samples were drawn contain water fit for human consumption; even if cleaned out, and allowed to refill, the amount of sulphuretted hydrogen present would render the water very nauseous, and unfit for drinking purposes."

KARACHI;

(Sd.) C. M. FLEURY, Captain,

The 11th April 1901.

Royal Army Medical Corps.

I also quote an analysis of a sample of Mushki Chah water which Captain R. E. Roome, 6th Bombay Cavalry, who was exploring the country on behalf of the Intelligence Department, very kindly supplied me with in 1899.

"Analysis of a sample of Mushki Chah water. Colour—lighter than above (i.e., Duzghi water, for analysis of which, *vide* paragraph 4 A of my former report, 1899).

Turbidity—less marked.

Odour—offensive.

Taste—salt, and objectionable.

Sediment—slight, mostly organic.

Chlorine, considerably in excess of 10 grs. per gallon.

Organic matter, in enormous excess, more than 1 gr. per gallon.

This sample could not in any way be considered as fit for drinking purposes. Prolonged boiling and filtering might dispose of the objection due to the presence of organic matter, but no treatment short of distillation would in any way

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'Views on Quetta-Nushki-Siestan [Sistan] Trade Route: No. 5. View of Sandhills near trade route, west of Yadgar' [30v] (1/1)

VIEWS ON QUETTA-NUSHKI-SIESTAN TRADE ROUTE.



No. 5.

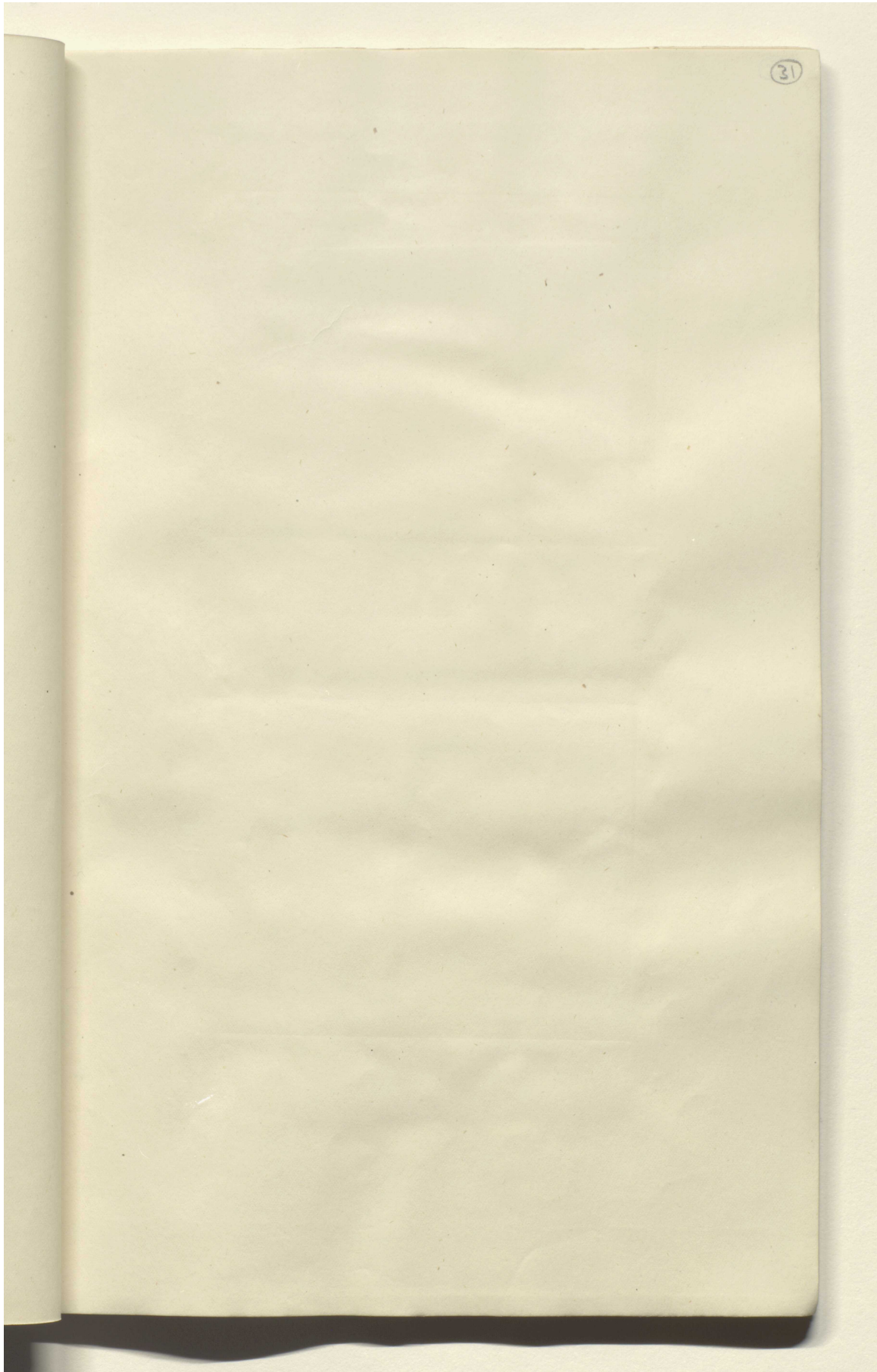
View of Sandhills near trade route, west of Yadgar.



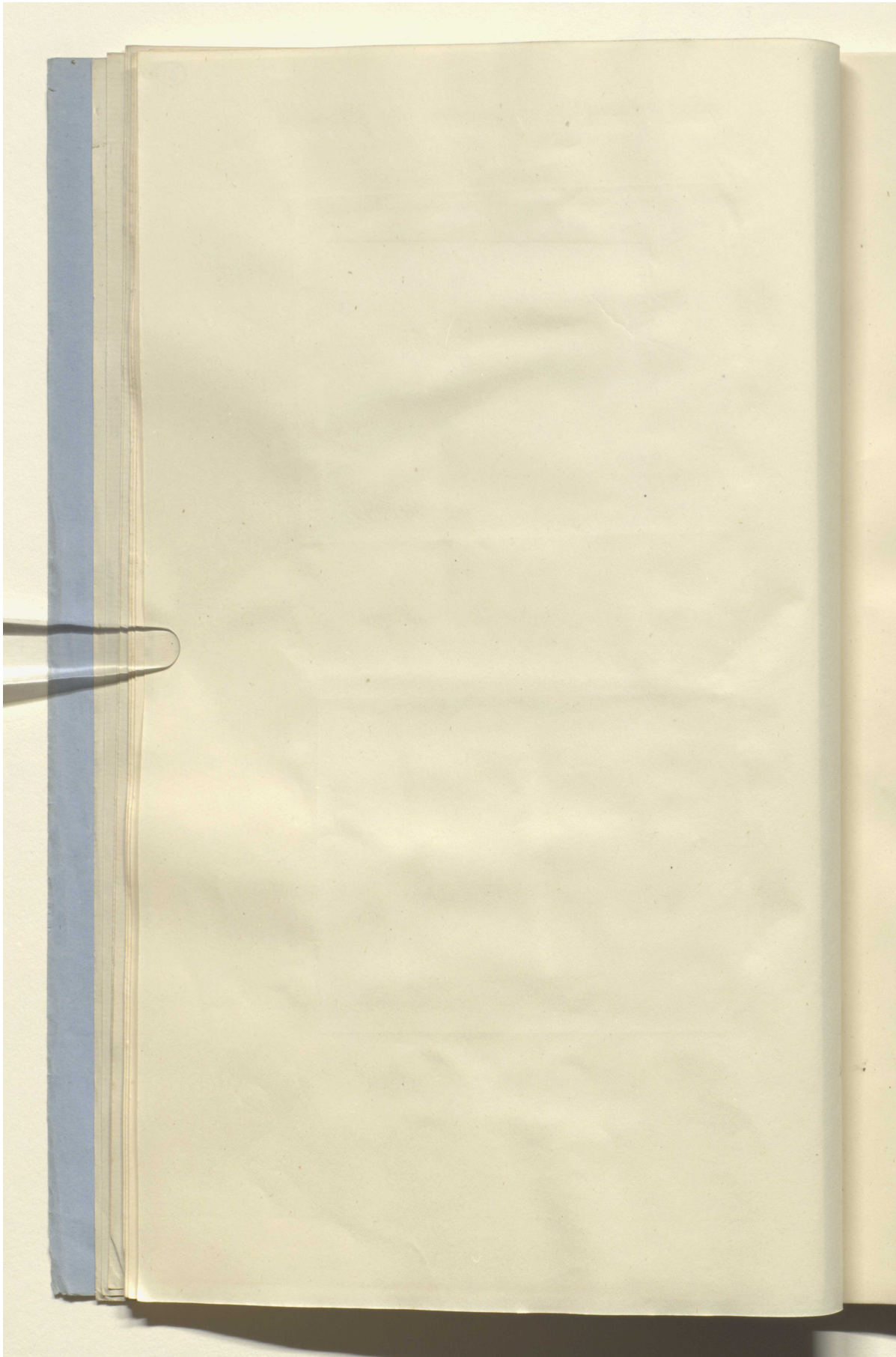
No. 6.

View of Sandhills near trade route, west of Yadgar.

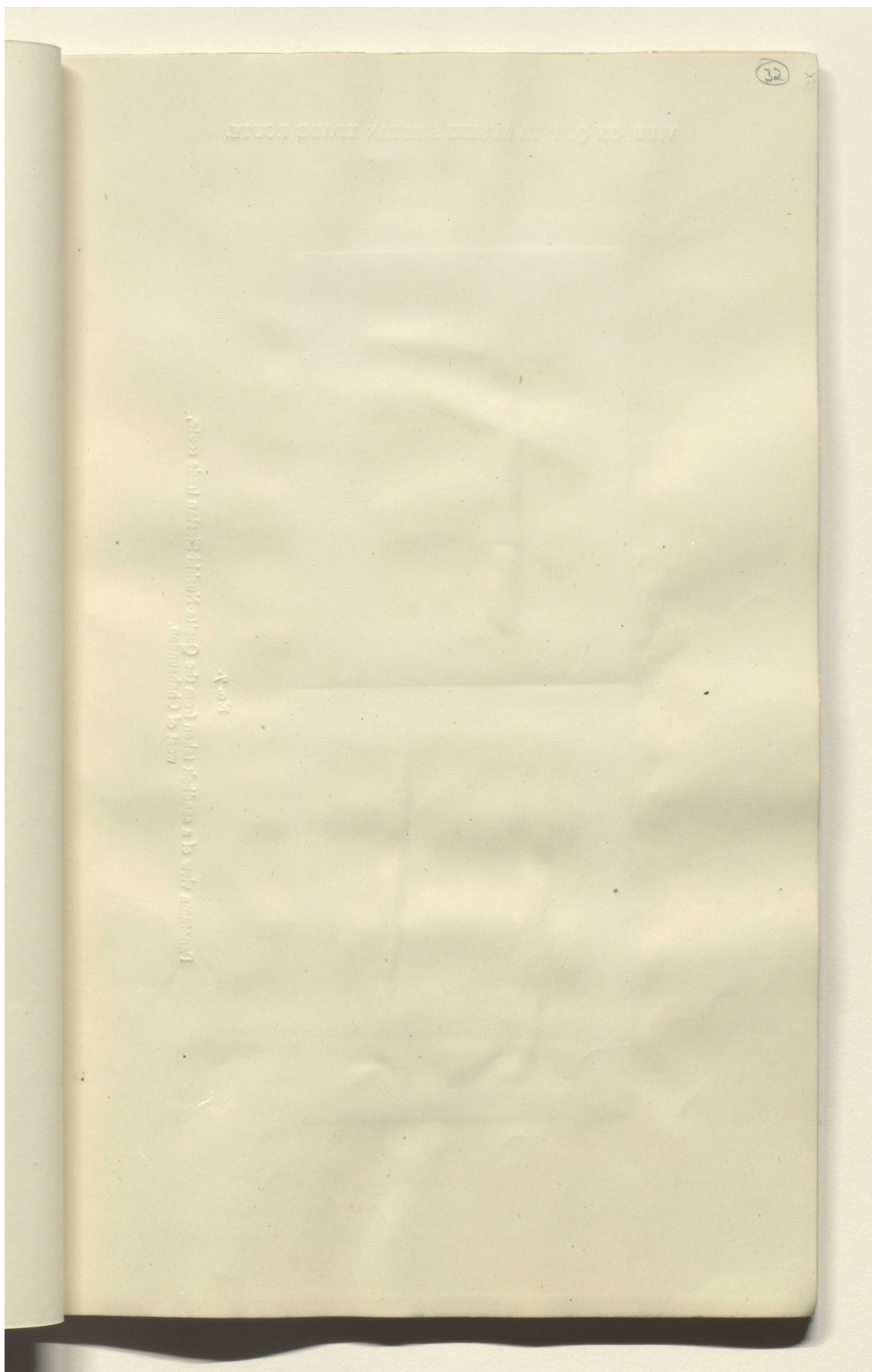
**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahlra' [31r] (66/162)**



**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahlra' [31v] (67/162)**



'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [32r] (68/162)



'View on Quetta-Nushki-Siestan [Sistan] Trade Route: No. 7. Panorama view of a sandbelt taken from the Quetta-Nushki-Siestan trade route, west of Chahsundan'
[32v] (1/1)

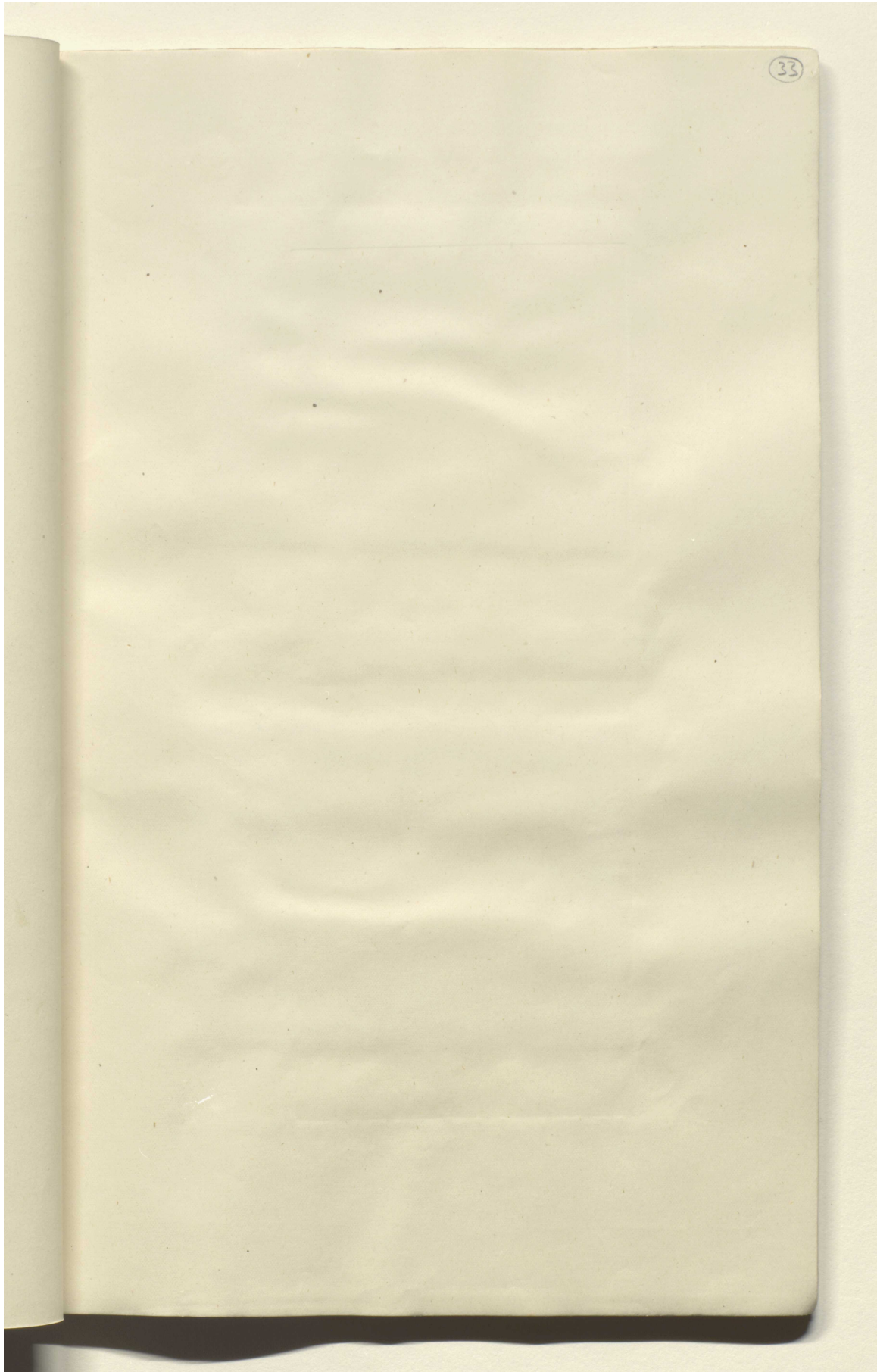
VIEW ON QUETTA-NUSHKI-SIESTAN TRADE ROUTE.



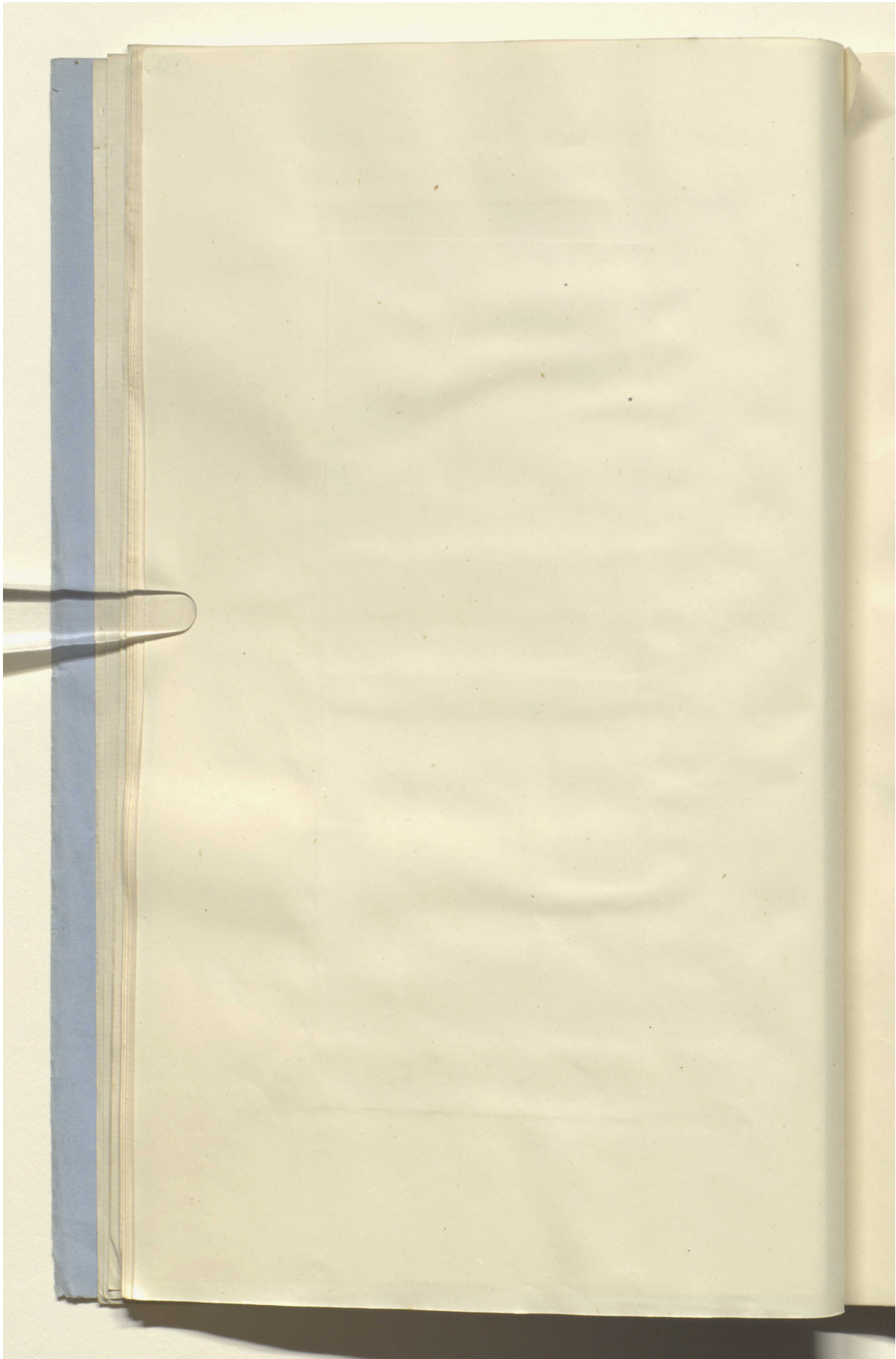
No. 7.

Panorama view of a sandbelt taken from the Quetta-Nushki-Siestan trade route,
west of Chahsundan.

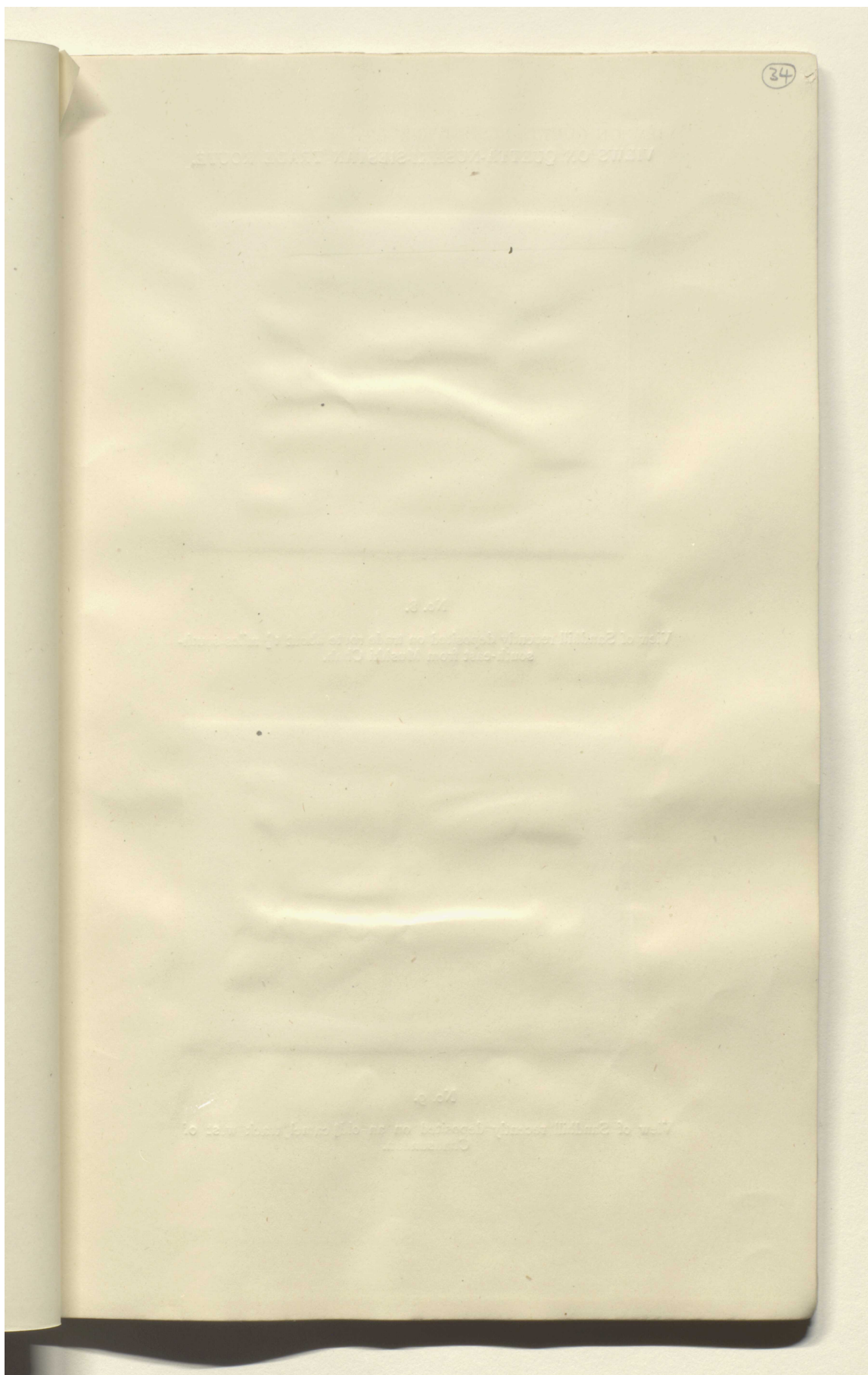
**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [33r] (70/162)**



**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahrā' [33v] (71/162)**



'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahlra' [34r] (72/162)



'Views on Quetta-Nushki-Siestan [Sistan] Trade Route: No. 8. View of Sandhill recently deposited on trade route about 1 1/2 miles south-south-east from Mushki Chah' [34v] (1/1)

VIEWS ON QUETTA-NUSHKI-SIESTAN TRADE ROUTE.



← Trade route track

No. 8.

View of Sandhill recently deposited on trade route about 1 1/2 miles south-south-east from Mushki Chah.

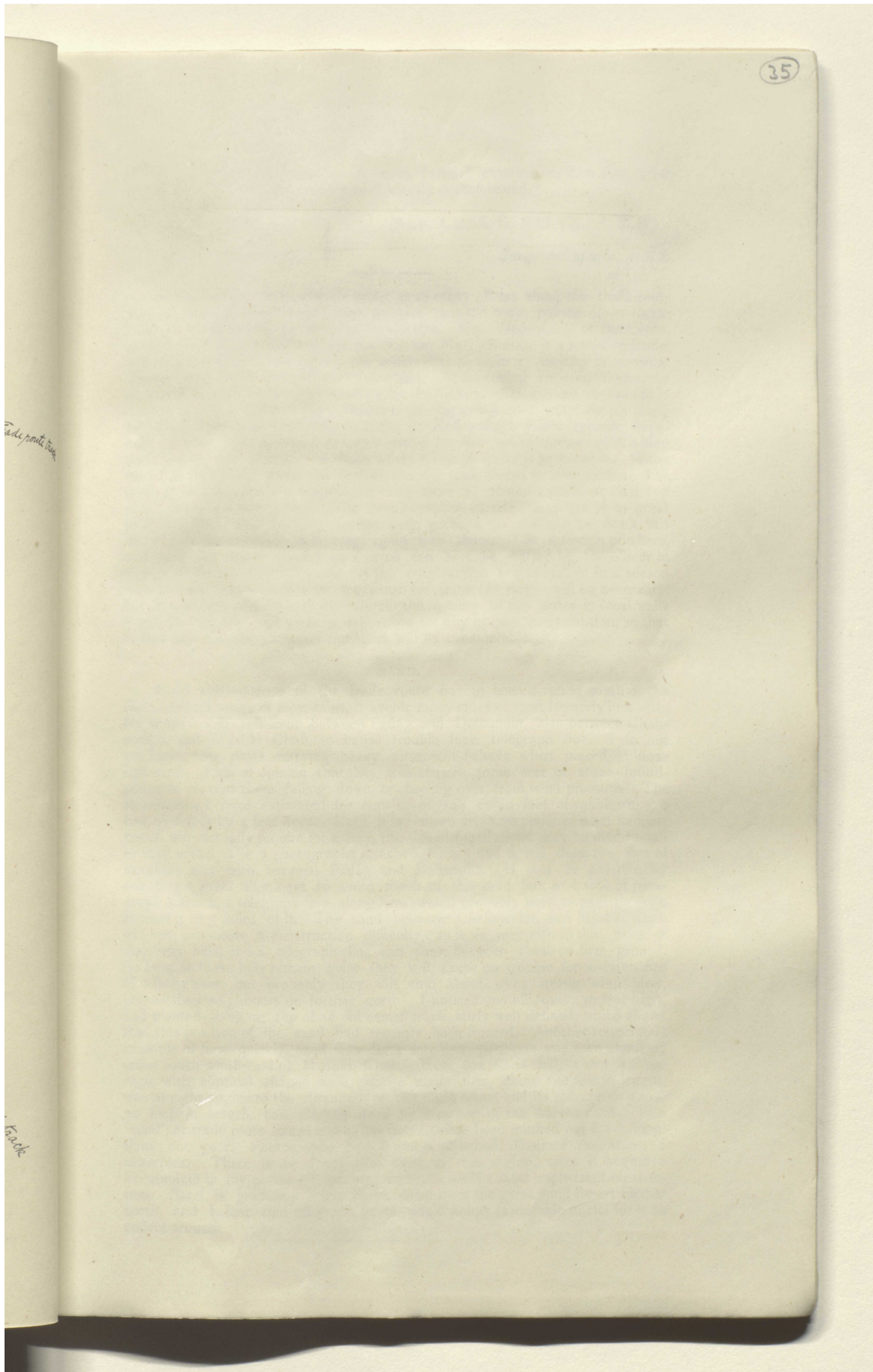


← Camel track

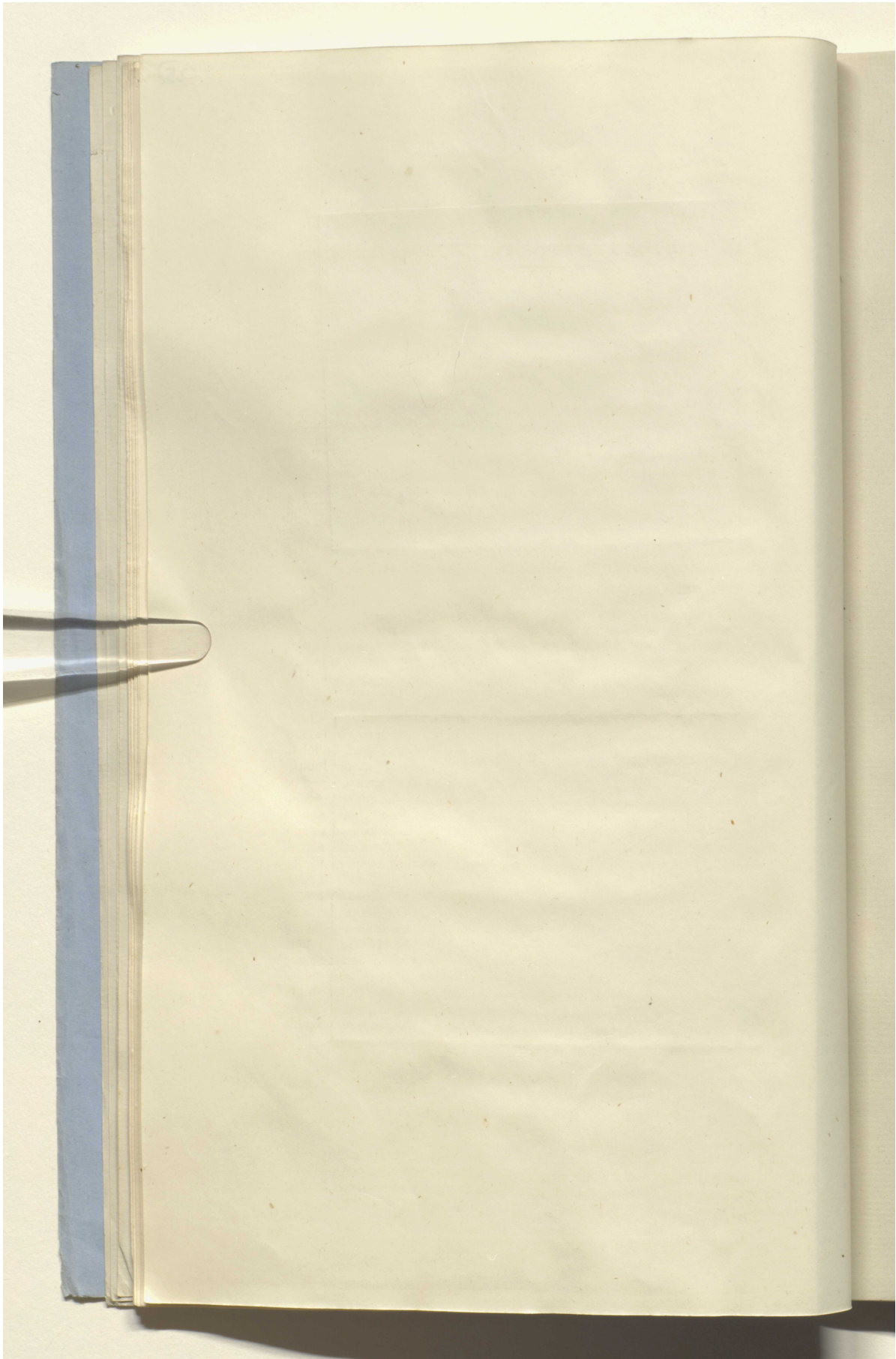
No. 9.

View of Sandhill recently deposited on an old camel track west of Chahsundan.

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**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [35v] (75/162)**



'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [36r] (76/162)

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effect the saline constituents. A more detailed examination than that given above is uncalled for in a sample so obviously contaminated."

QUETTA;

(Sd.) CHAS. H. MELVILLE, M.B.,

The 13th August 1897.

Surgeon-Captain, A.M.S.

In explanation as to why the water at so many places along the trade route west of Dalbandin is so bad, I may mention that the route passes close to the south of the Koh-i-Sultan range of mountains. Mr. Vredenburg of the Geological Survey Department informs me that the Koh-i-Sultan is a recent volcano; and it is on this account that all the water obtainable in its vicinity is so contaminated, and highly charged with impurities. The country between Dalbandin and the Persian Frontier is an absolute barren desert. The amount of rainfall in it must be very small, and the prospect of getting any decent water-supply along any direct route from Dalbandin to Ladis, or Koh-i-Malik Seah, appears hopeless. I have made provision in my estimates for the cost of carriage of drinking water for working parties over tracts where no good water is procurable. Water would be carried on camels in leather pakals, and stored in zinc tanks. The tanks should weigh when empty not more than $2\frac{1}{2}$ maunds each, so that two could be carried on a camel. The cost of water carriage may not be as great as I estimate. The working coolies may perhaps be content to drink salt water, and the minerals in it may agree with them. The question of where, and how far, water should be carried can best be settled by the officer in charge of the construction work. If the construction is undertaken in a season with favourable rainfall, not much expense for water carriage will be necessary, but, in a season with little or no rainfall, the quality of the water in local wells would be very bad, and perhaps impossible for any human consumption, so that in this case the cost for water transport will be considerable.

SAND.

6. In consequence of the trade route having been diverted south of the Koh-i-Sultan range of mountains, it avoids many miles of sand formerly met with, but there is still sufficient between Padag and Dalbandin, also between Chahsundan and Mushki Chah, to cause trouble for a telegraph line. I do not yet know how posts carrying heavy wires will behave when placed in loose soft sand. I am of opinion that they will require some sort of stone foundations to prevent them falling down, or heeling over, from wind pressure. The foundations I have estimated for consist of 144 cubic feet of rubblestone, 6 feet by 6 feet by 4 feet deep. Until it is known from experience what support posts will actually require for safety, the size of foundations may be made small to start with. The 2 photographs attached, Nos. 5 and 6, will show the sort of sandhills met with between Padag and Dalbandin. It may be possible by selecting a good alignment to avoid much of this sand, but, as I said in paragraph 2 above, a telegraph line along here would probably have to pass through at least 4 or 5 miles of it. The sand between Chahsundan and Mushki Chah will not constitute a construction difficulty, as it is met with in thin belts of disjointed hills, and a telegraph line can pass between these on firm ground. So long as these hills remain quiet they will cause no trouble for maintenance of a line either, but probably they will shift about when strong winds blow, just as their neighbours do further north. I noticed one hill, quite 30 feet high, had planted itself on top of an old camel track, fairly well defined, which shows that this position of the sand had recently been formed. Another remarkable example of how quickly sand can form into new positions was seen about $2\frac{1}{2}$ miles south-south-east of Mushki Chah. Here one sand hill, about 12 feet high, with elliptical shaped base, whose major axis, about 100 feet in length, was at right angles to the direction of the trade route, and its minor axis about 30 feet in length, had planted itself right on top of the katcha road. This 'road', or trade route camel track, has not, I think, been marked out much more than one year. Photographs Nos. 8 and 9, attached, illustrate the above 2 examples. There is no doubt that sand in this region, once it begins to accumulate in any place, will quickly constitute itself a most unpleasant obstruction. Sand is gradually being blown down from the great sand desert further north, and I fear that telegraph posts would act as favourable nuclei for it to collect around.

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SUPPLIES.

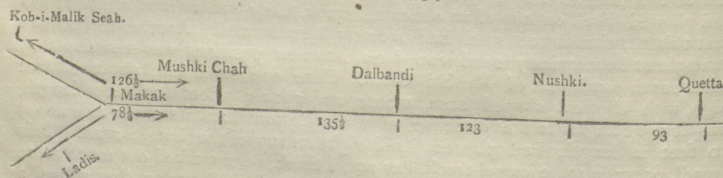
7. Between Nushki and the Persian Frontier there are no supplies procurable. The whole country is a barren desert, and contains no cultivation or produce of any sort. During favourable seasons of the year some nomads, with small flocks of sheep and goats, may be seen along the trade route, but many of these, who used to live wandering about the desert, have recently had to betake themselves into Afghanistan, in consequence of the dearness of food, and the difficulty in getting any, due to the Amir of Afghanistan having prohibited the export of grain from Garmsale, and other fertile tracts along the Helmand. The Amir probably views the Quetta-Nushki-Siestan route with considerable disfavour, as its success will mean a decrease in the trade revenues of his country. His action in preventing the import of grain into Western Baluchistan from his territory will injure the former country, as no doubt it is so intended, and will increase the cost of getting food in it. I have made provision in my estimates for the supply of grain to the construction working parties. There are at present banias stationed at certain posts along the trade route whose duties are to arrange food supplies for the local staff, and passing caravans. These men, if their employment continues till the telegraph construction is being undertaken, could no doubt arrange also to supply telegraph working parties with their food requirements. It would perhaps be cheaper and more convenient for the party working westwards from Quetta to purchase and take on most of their food from Nushki. Food for the party working on the eastern section of the line can best be obtained from Siestan, and for this special arrangements will be necessary.

TELEGRAPH OFFICES FOR LOCAL BUSINESS.

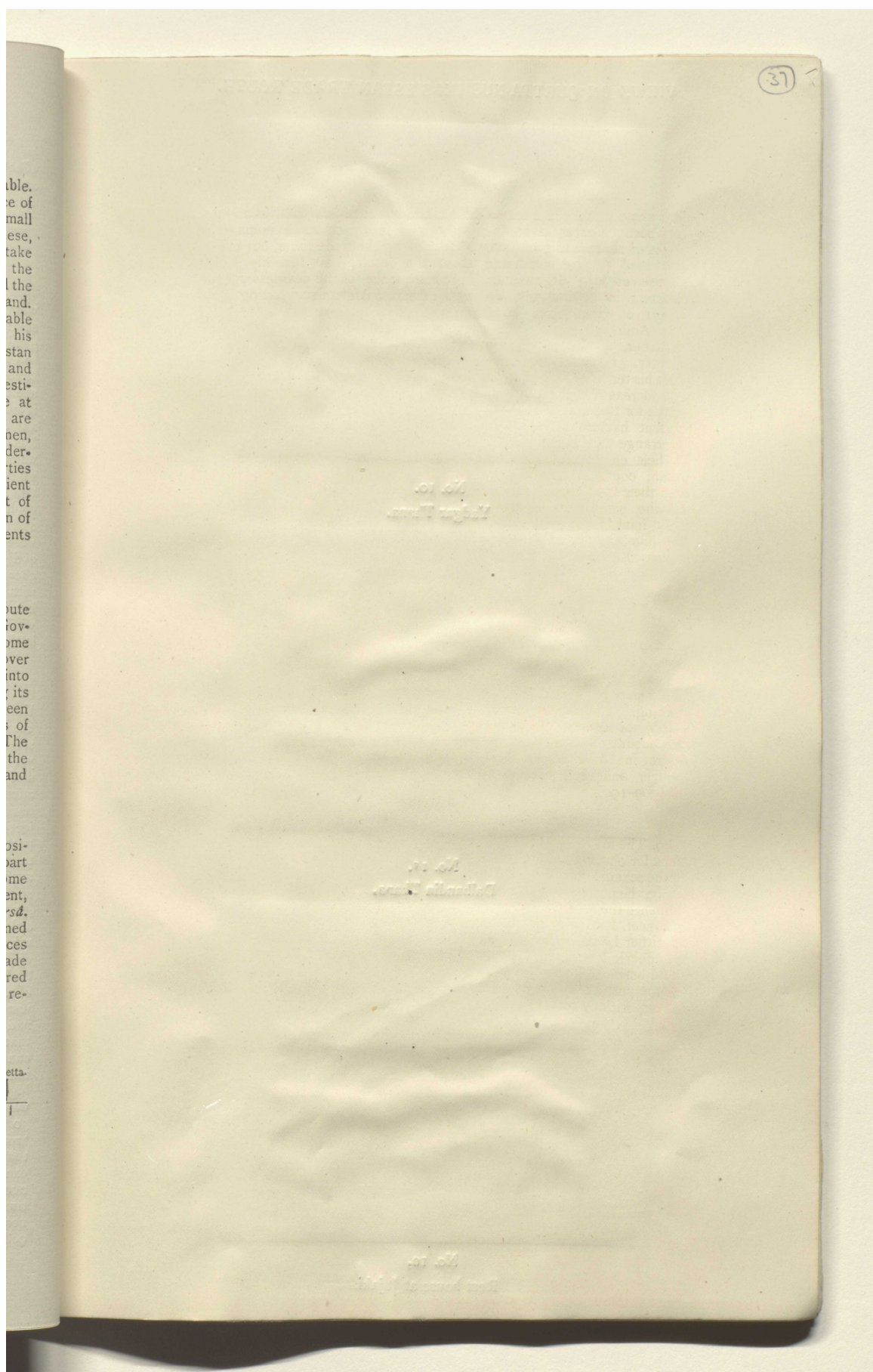
8. No telegraph offices will be required for local business along the route under consideration. There is no probability of any revenue accruing to Government from this source. In paragraph 10 (b) of my former report, I gave some particulars, derived from local information, regarding the trade passing over the Nushki trade route for the year 1898. I regret some mistakes crept into that report, as I had no opportunity of correcting the proof sheets during its printing. The number of camels passing through Dalbandin should have been 2,400, not 24,000. In paragraph 24 of this report, I quote official returns of the amount of trade passing over the Nushki route since it was started. The figures in these, I must say, appear to me excessively big, judging from the number and size of caravans I passed on my travels both in 1898-1899 and in 1900-1901.

MAINTENANCE. POSITION OF OBSERVATION OFFICES.

9. The first matter to be settled as regards maintenance is to fix on suitable positions for observation offices. It is difficult to deal with this satisfactorily when part of the scheme only is under consideration, for, whatever course the line may come along, the position of observation offices in Eastern Persia will, to a certain extent, influence the selection of sites for offices in Western Baluchistan, and *vice versa*. However, I will make my proposals on the assumption that offices will be opened at either Ladis, or Koh-i-Malik Seah, according to whichever of these two places it is decided to run the line through. The most important thanas along the trade route between Quetta and the Persian frontier which could best be considered for the position of offices are Nushki, Dalbandin, and Mushki Chah. Their relative positions are graphically shown as follows:—



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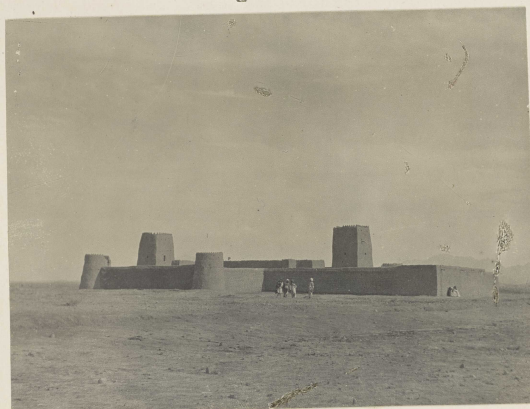


'Views on Quetta-Nushki-Siestan [Sistan] Trade Route: No. 10. Yadgar Thana'
[37v] (1/1)

VIEWS ON QUETTA-NUSHKI-SIESTAN TRADE ROUTE.



No. 10.
Yadgar Thana.

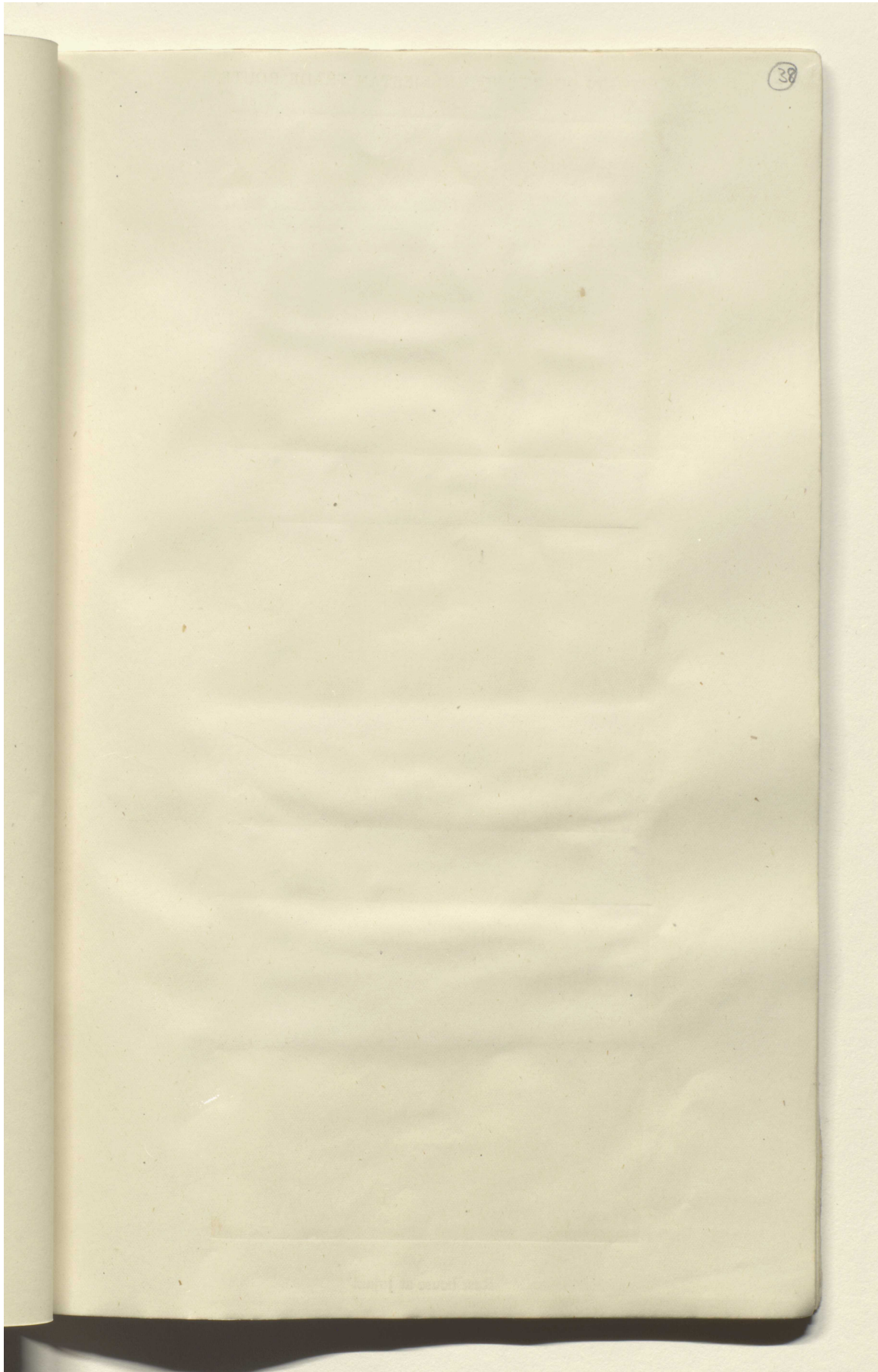


No. 11.
Dalbandin Thana.

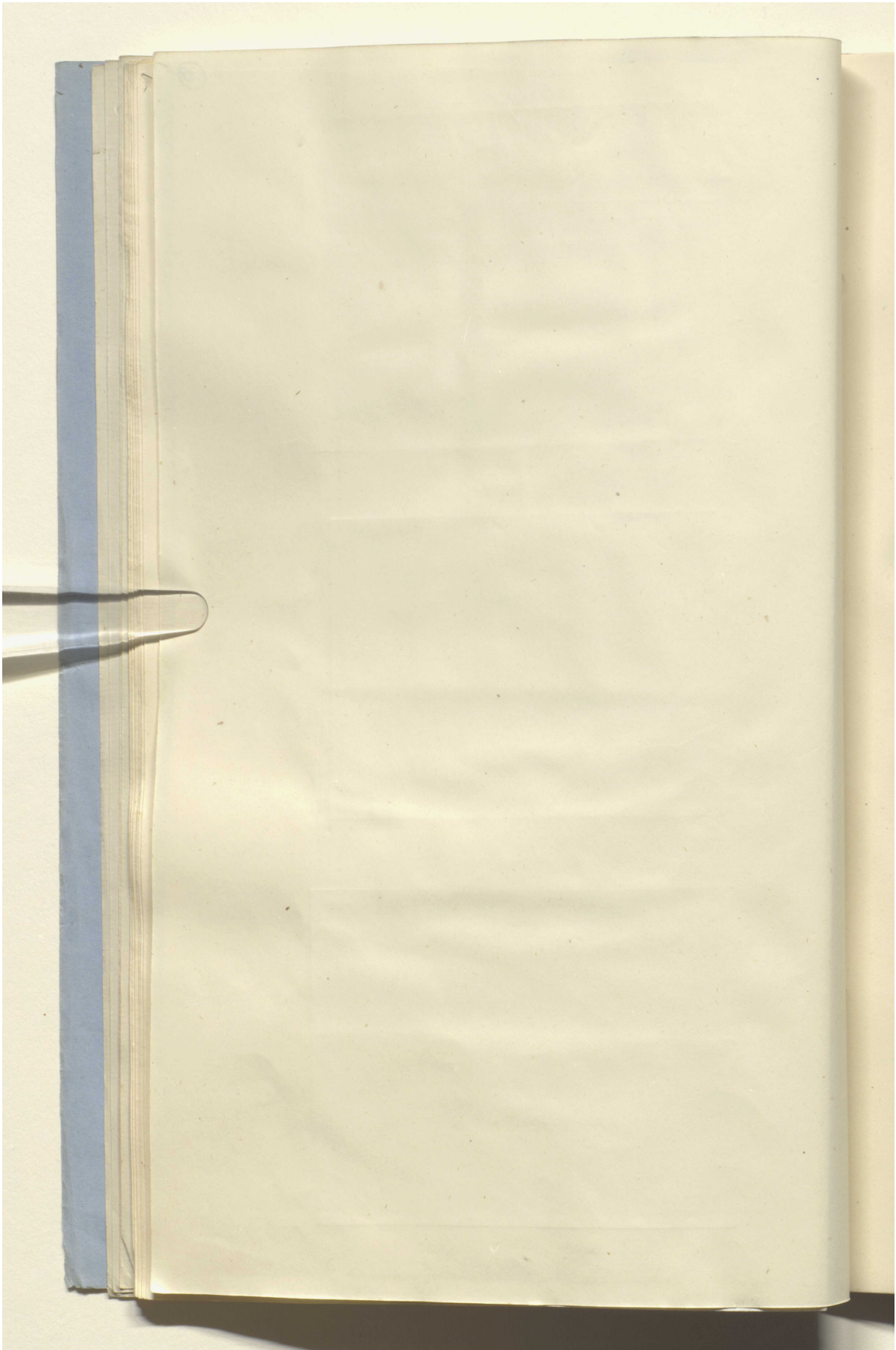


No. 12.
Rest house at Jujaki.

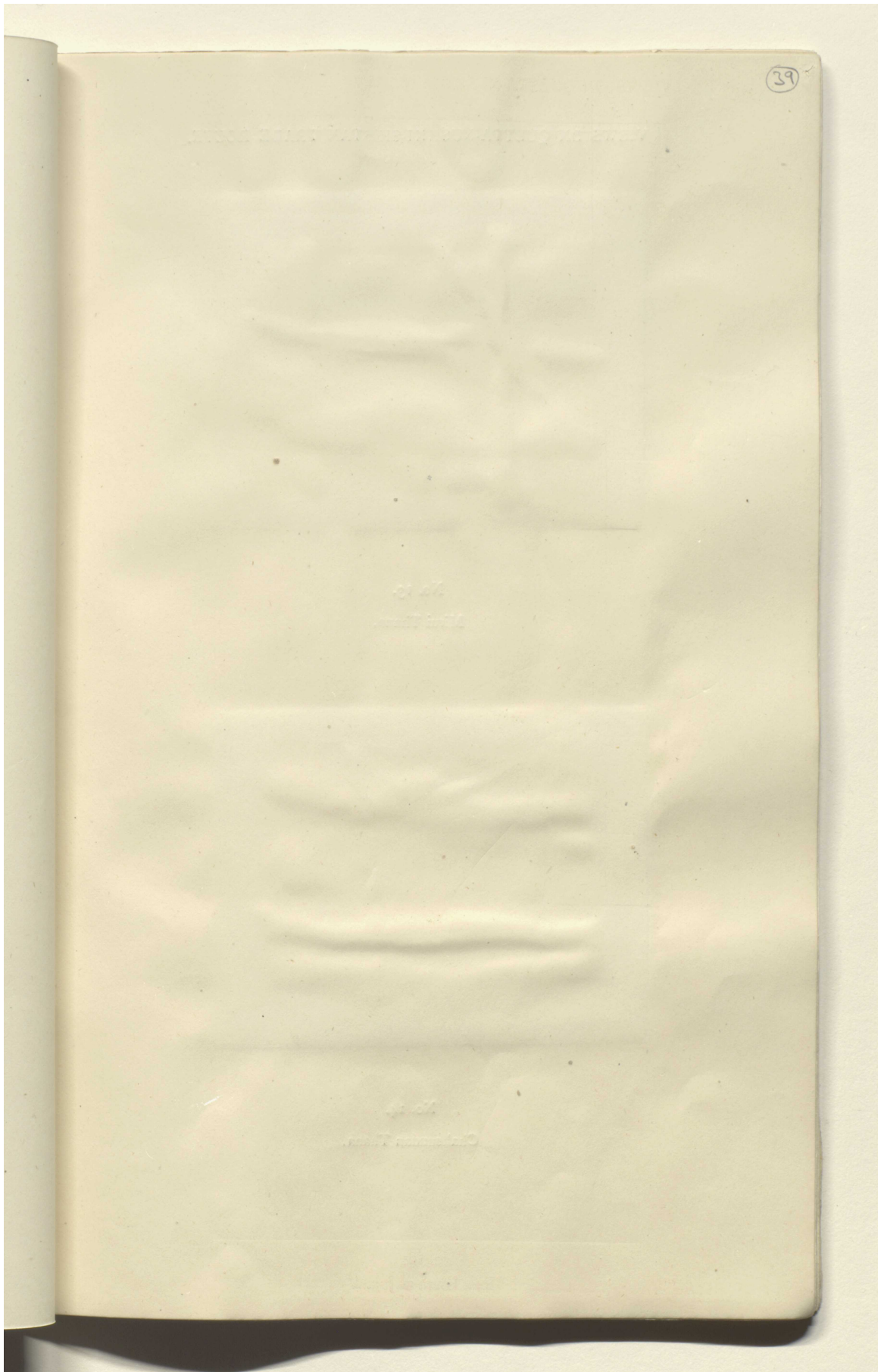
**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahlra' [38r] (80/162)**



**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahlra' [38v] (81/162)**



'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [39r] (82/162)



'Views on Quetta-Nushki-Siestan [Sistan] Trade Route: No. 13. Mirui Thana' [39v]
(1/1)

VIEWS ON QUETTA-NUSHKI-SIESTAN TRADE ROUTE.

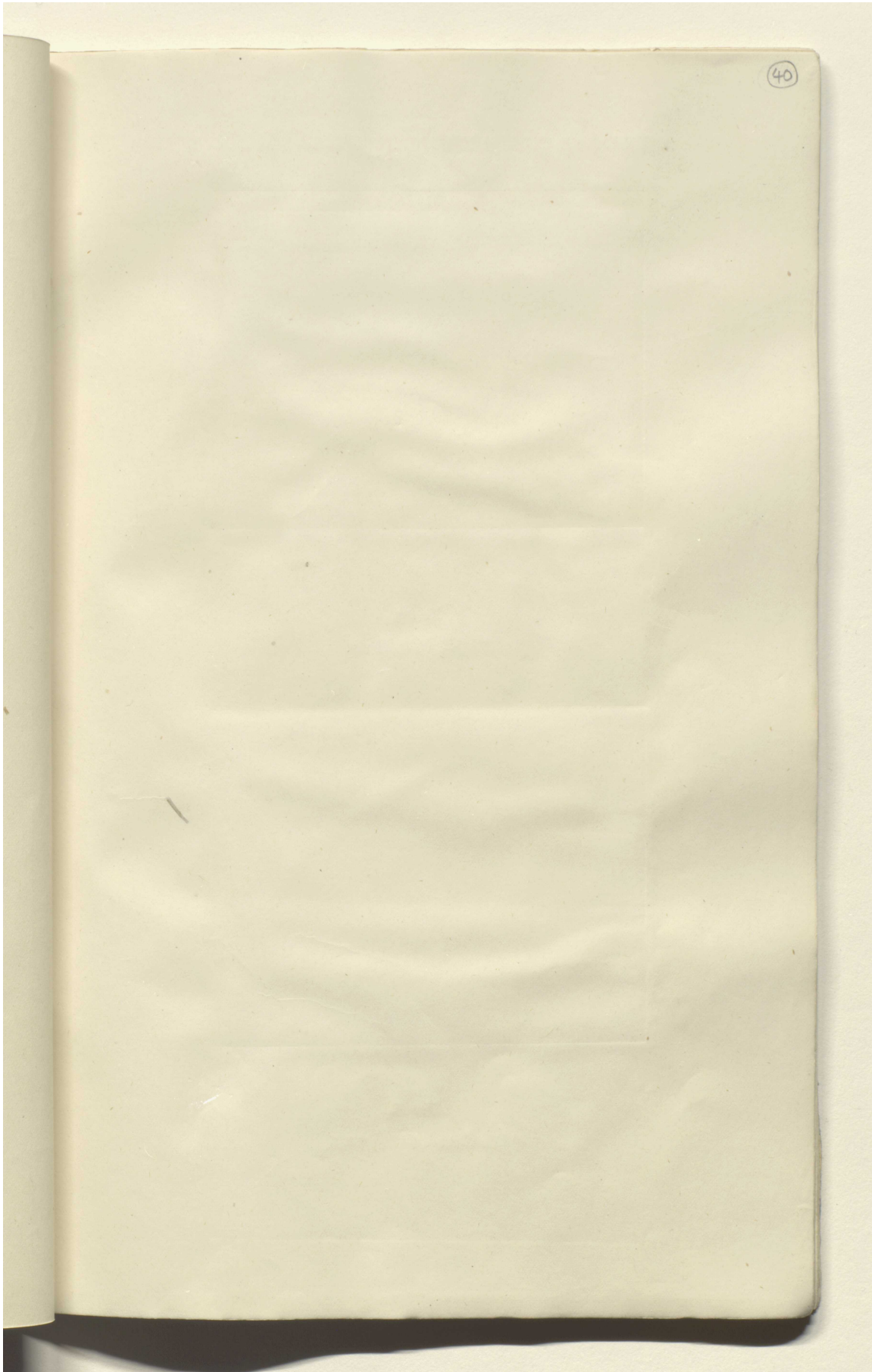


No. 13.
Mirui Thana.

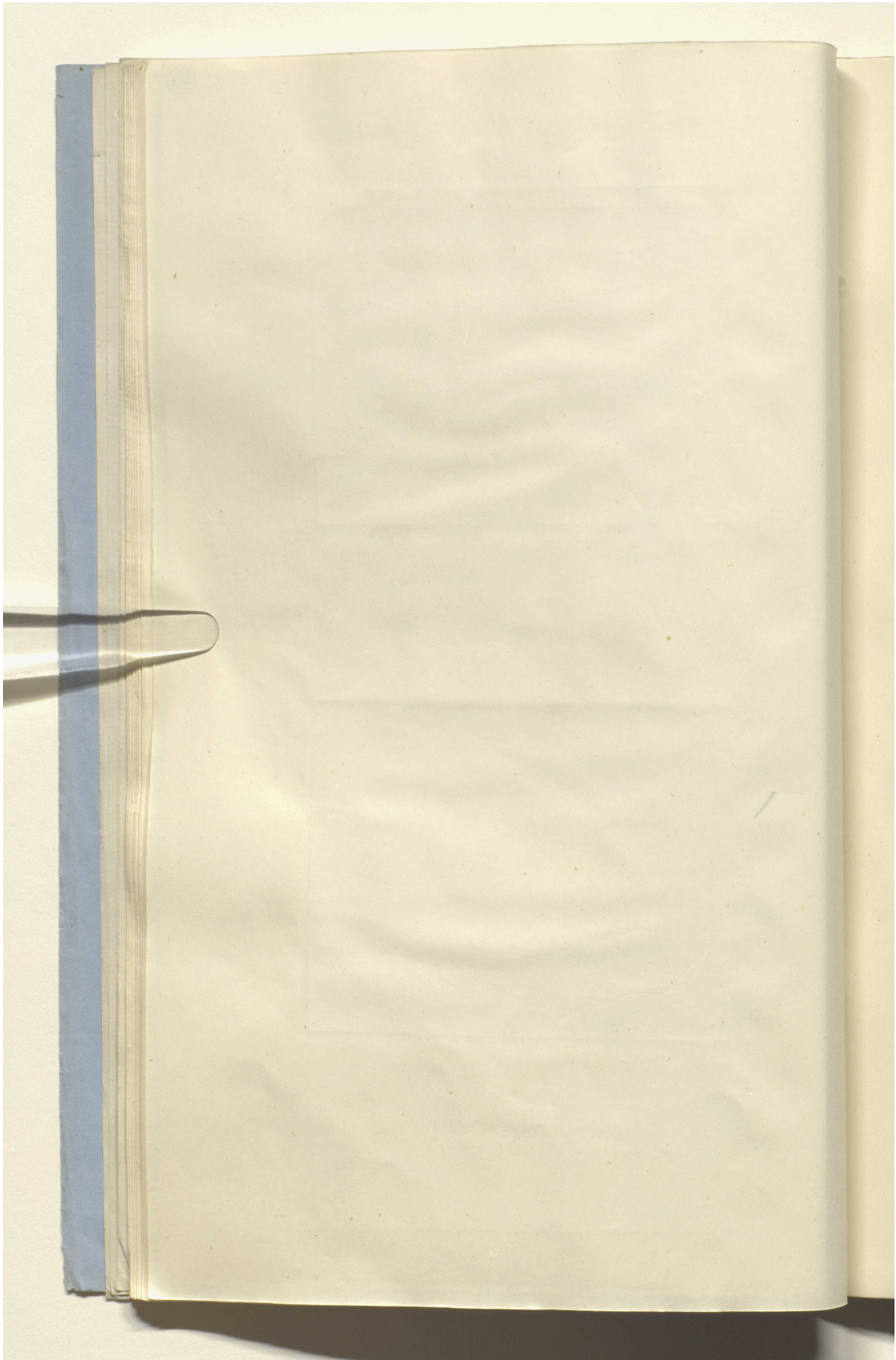


No. 14.
Chahsundan Thana.

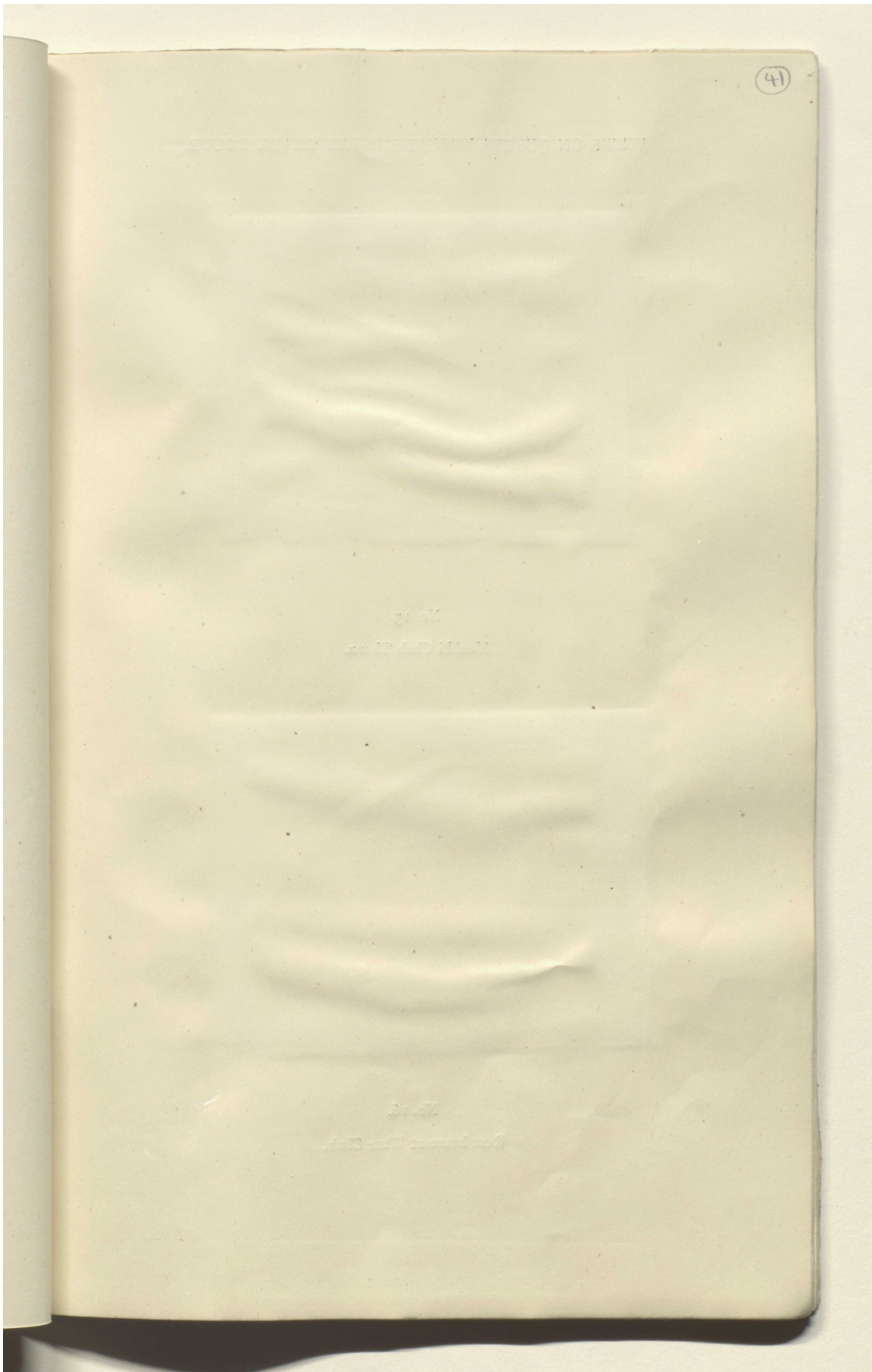
**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [40r] (84/162)**



**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [40v] (85/162)**



'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [41r] (86/162)



'Views on Quetta-Nushki-Siestan [Sistan] Trade Route: No. 15. Mushki Chah Thana'
[41v] (1/1)

VIEWS ON QUETTA-NUSHKI-SIESTAN TRADE ROUTE.

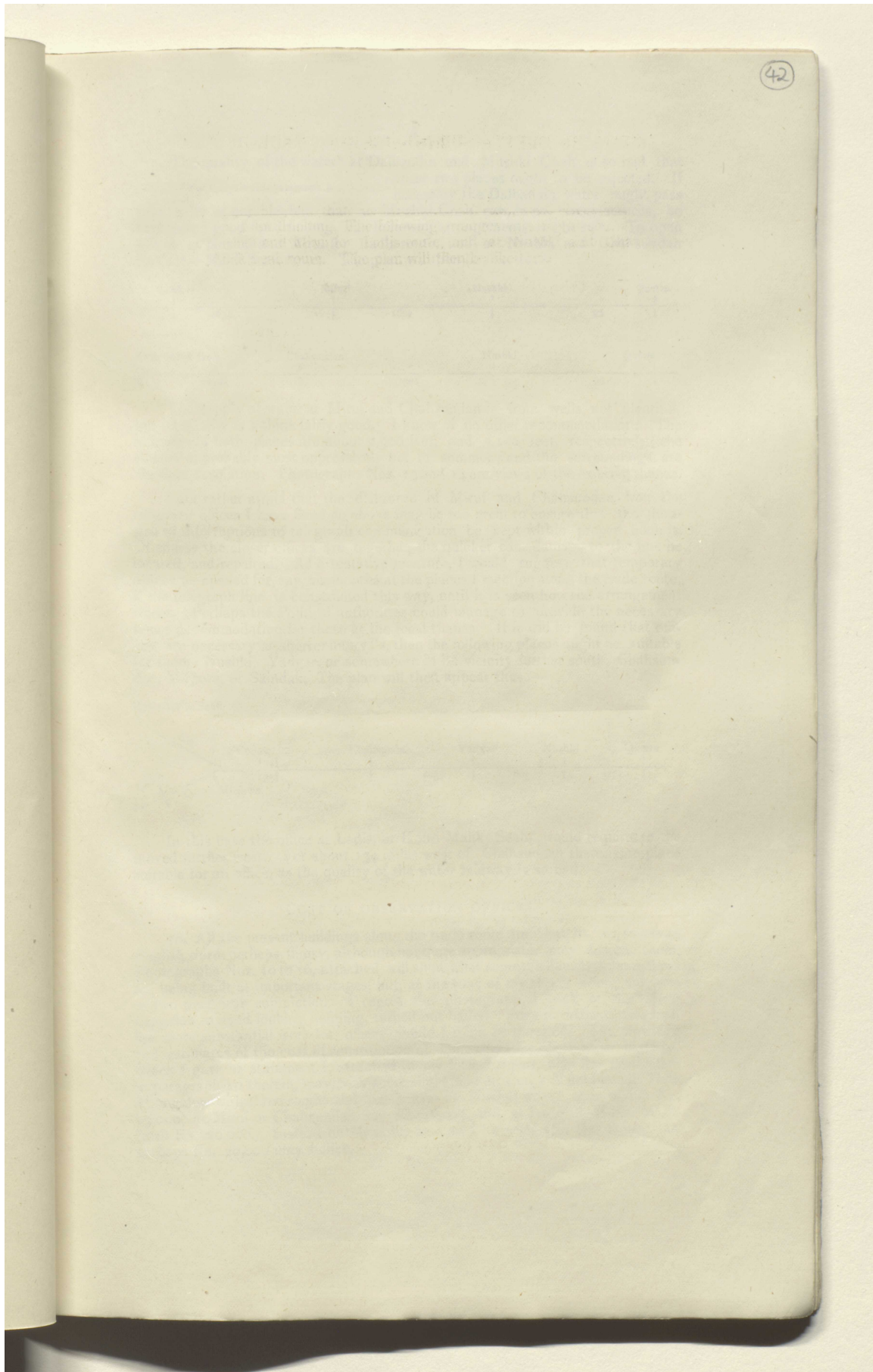


No. 15.
Mushki Chah Thana.

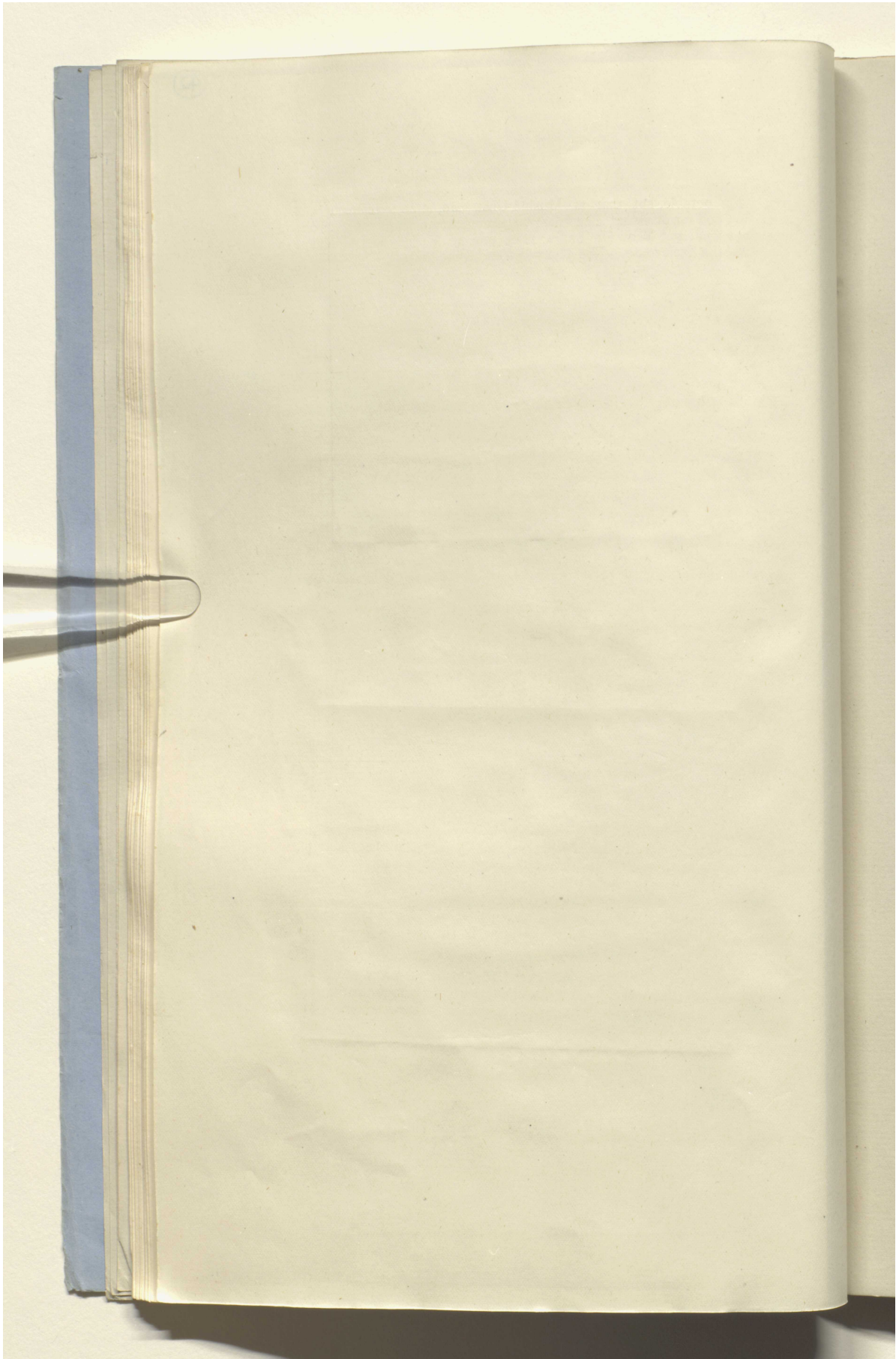


No. 16.
Rest house at Ware Chah.

'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [42r] (88/162)



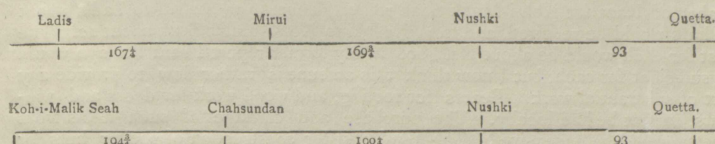
**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [42v] (89/162)**



'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [43r] (90/162)

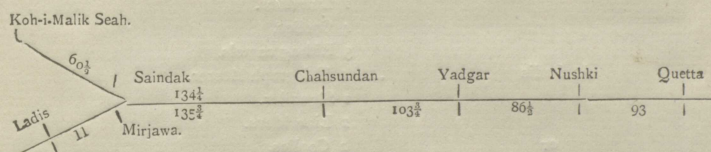
7

The quality of the water* at Dalbandin and Mushki Chah is so bad that these two places ought to be rejected. If necessary the Dalbandin water might pass practically as potable, but that at Mushki Chah can, in no circumstances, be considered good for drinking. The following arrangements might suit. To open offices at Nushki and Mirui for Ladis route, and at Nushki and Chahsundan for Koh-i-Malik Seah route. The plan will then be like this:



The supply of water at Mirui and Chahsundan is from wells, not plentiful, but its quality is I think fairly good. I know of no other recommendation. The altitudes of both places are about 2,900 feet, and 3,100 feet, respectively; the climate is probably most oppressively hot in summer; and the surroundings are absolute desolation. Photographs Nos. 13 and 14 are views of the existing thanas.

I am rather afraid that the distances of Mirui and Chahsundan from the adjoining offices I have fixed on above may be too great to ensure that the duration of interruptions to telegraph communication be kept within proper bounds. Of course the closer offices are together, the quicker can damage to the line be located, and repaired. As a tentative measure, I would suggest that temporary offices be opened for, say, six months at the places I mention along the trade route, if the telegraph line is constructed this way, until it is seen how the arrangement works. Perhaps the Political authorities could manage to provide the necessary house accommodation for these at the local thanas. If it will be found that offices are necessary at shorter intervals, then the following places might be suitable for them: Nushki, Yadgar, or somewhere in its vicinity further south, Chahsundan, Mirjawa, or Saindak. The plan will then appear thus:—



In this case the office at Ladis, or Koh-i-Malik Seah, would require to be moved further west. For about 134 miles west of Chahsundan there is no place suitable for an office, as the quality of the water midway is so bad.

COST OF OBSERVATION OFFICES.

10. All the present buildings along the trade route are 'katcha,' or, to use an English word, perhaps flimsy, although not quite appropriate, may describe them. Photographs Nos. 10 to 16, attached, will show what some are like. Dāk bungalows are being built at important stages, but, at the time of my recent tour, only one or two were near completion. I regret the photograph I took of the Mirui bungalow, a good looking building, turned out badly. For a permanent telegraph line more substantial work for offices would I think be required. The drawings and estimates of the cost of construction of bungalows for observation stations, which I gave in statement I, attached to my former report, also the particulars in paragraph 10 therein, may, with some slight modification, still hold good. Thus a bungalow with three rooms and out-houses at Nushki would cost about Rs. 13,000, at Mirui or Chahsundan say Rs. 16,000, and at Ladis or Koh-i-Malik Seah Rs. 20,000. Instead of this latter amount I formerly said Rs. 23,000, but perhaps Rs. 20,000 may suffice.

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SHELTER HUTS FOR LINE STAFF.

11. Rest-houses, or shelter huts, for the linestaff, with sheds to stable camels in, will probably be required about every 20 or 30 miles apart west of Nushki. The following places would be suitable for them. Mal, or sometimes called Shakkar Chah, Padag, some place about half-way between Padag and Dalbandin, Dalbandin, Juzaki, Mirui or Chahsundan, whichever place has no observation office, Tratoh, Kondi, Ware Chah, and Makak for Ladis route, or Saindak and Chah Mahomed Raza for Koh-i-Malik Seah route. Thus, from Nushki to Ladis about 11 huts would be required, and from Nushki to Koh-i-Malik Seah about 12. The cost for each would be about Rs. 400. In my former report I said Rs. 250 would be sufficient for each, but I now think this amount is rather low to provide any sort of substantial work. Beams for roofing, and wood work for doors and windows, cannot be had locally. The purchase and carriage of such items from Quetta would be expensive. The total cost for construction of shelter huts for either route would be, say, Rs. 4,600. From Quetta to Nushki the linestaff on patrol duty could get accommodation at Kanak and Kurdagap villages.

MAINTENANCE STAFF.

12. West of Nushki the supply of local labour is precarious and very scarce. It will be necessary to maintain permanently sufficient establishment to restore telegraph communication promptly in case of breaks, or unusual damage to the line occurring. Employment of the following staff is suggested for consideration:—

At Quetta	...	1 Linerider.
		1 Telegraph Master.
		1 Signaller.
At Nushki	...	2 Lineriders.
		1 Riding camel.
At Mirui or Chahsundan	...	1 Telegraph Master.
		1 Signaller.
		1 Sub-Inspector.
		1 Linerider.
		4 Coolies.
		3 Riding camels.
At Ladis	...	1 Telegraph Master.
		1 Signaller.
		2 Lineriders.
or		2 Coolies.
		3 Riding camels.
At Koh-i-Malik Seah	...	1 Telegraph Master.
		1 Signaller.
		2 Lineriders.
		4 Coolies.
		3 Riding camels.

The camels entered above are meant to be good strong ones, capable of carrying two men with spare line material for repairs, not Jambazies, or the light type of animal, which will only carry one man.

I have not in the above list included camels for Sub-Inspectors and lineriders as these men would, I presume, provide their own transport in the usual course.

At mid-stations the linestaff should be of sufficient strength so as to admit of repair parties being sent out on the line in both directions, should occasion for doing so arise.

It would be advisable to arrange with the Political authorities to have some spare riding camels kept up at suitable posts midway between observation stations, so that the staff, on patrols over long distances, could change mounts, and in this way travel more expeditiously. If the linestaff could be placed at

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intervals between observation offices, and some system of signalling to them the state of line communication, by means of bell stations, introduced, the risk of long interruptions would be lessened.

My suggestions with regard to maintenance requirements admit of a good deal of alteration and modification; they are intended only as an outline of what may be required.

ESTIMATE, PART III.

Ladis to Pahra, 163 miles.

13. From Ladis to Pahra, the construction of a telegraph line would be 'plain sailing.' There are no great difficulties met with. The course should be kept to the west of the Koh-i-Taftan. Mr. Wood during his journey in 1898

The totals of this estimate are:

Capital cost of line and offices, Rs. 360,000;

Annual Maintenance charges, " 12,000;

Vide abstracts given at end of this report.

travelled to Khash, and then came north to Ladis round the east side of this mountain, but his report of this part of the route is not favourable. He writes as follows:—"Between Khash and Ladis, round the eastern base of the mighty Taftan, the country is indeed rough, and is a series of ravines and deep nullahs, taking the Taftan drainage, to build and maintain a line over which would prove an arduous and expensive undertaking." The western route, which I travelled by, may be described briefly as follows:—First 24 miles in a westerly direction ascending an open stony valley; next 23 miles over fairly even ground, through hilly country; then 62 miles over level country, midst valleys in some places; next 15 miles over very rough undulating ground; 29 miles along one of the banks of the Karwandar river bed, in which a small stream of fresh water flows; and last 10 miles over a stony plain. The country throughout is more or less barren, and uninhabited; little or no supplies can be procured north of Damin village, $17\frac{3}{4}$ miles from Pahra. There will however be no great difficulty in arranging for the wants of the construction working party. A substantial amount of grain and food can be taken on from Pahra, where there is plenty, and, as this becomes exhausted, spare camels can be sent back for more. Sheep and goats can be purchased along the route at intervals. Water is scarce in the country for the first $\frac{3}{4}$ of the distance from Ladis, but there is enough at all the halting places for one working party.

It is best, I think, to send all line stores and material for this section to Pahra, *via* Gwadur. The cost for primary and local distribution of stores have been calculated in my estimate accordingly.

TELEGRAPH OFFICES FOR LOCAL BUSINESS.

14. No telegraph offices for local business will be required anywhere between Ladis and Pahra.

MAINTENANCE. OBSERVATION OFFICES.

15. An important matter for consideration is to locate a suitable site for an observation office on this section of line. Mr. Wood, on page 153 of his report on the Preliminary survey of the route for the Central Persia telegraph line (1899), recommends the opening of an office at Bazman. This place is 67 miles north west from Pahra, and Pahra is 163 miles from Ladis. The half of the sum of these distances is 115 miles. I therefore think Karwandar which is $112\frac{1}{2}$ miles south-south-west from Ladis would be suitable for an office. Its altitude is about 3,600 feet. I don't know much about its climate, as I arrived there late one evening and left early next morning. The minimum temperature on the night of March 5th last was 44° F. Probably the summers are very hot, and the rest of the year pleasant. At present the place is marked by a few mud huts in which about 20 people live. The supply of water is plentiful and good from an open stream which flows down the Karwandar river bed. The inhabitants cultivate a small amount of land, enough to supply their own wants. Excellent dates can be obtained there from a fine grove of about 150 date trees. Camel grazing from a plant called

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mesk is plenty, but firewood is somewhat scarce. I am unable to give any reliable figures as to what the cost for building a bungalow there would be; probably something near Rs. 20,000 would provide a comfortable building.

SHELTER HUTS FOR LINE STAFF.

16. Shelter huts for the line staff would probably be required at Baianichah, Dehpabed, Sadakh, Chahshahi, some place $\frac{1}{2}$ way between Karwandar and Pahra, also at Pahra. Altogether 6 huts. The total cost for these at Rs. 400 each would be Rs. 2,400.

MAINTENANCE STAFF.

17. The following staff is suggested for employment at Karwandar—
- 1 Telegraph Master.
 - 1 Signaller.
 - 1 Sub-Inspector.
 - 2 Line riders.
 - 3 Coolies.
 - 4 Riding camels.

ROUTE WEST OF KOH-I-MALIK SEAH.

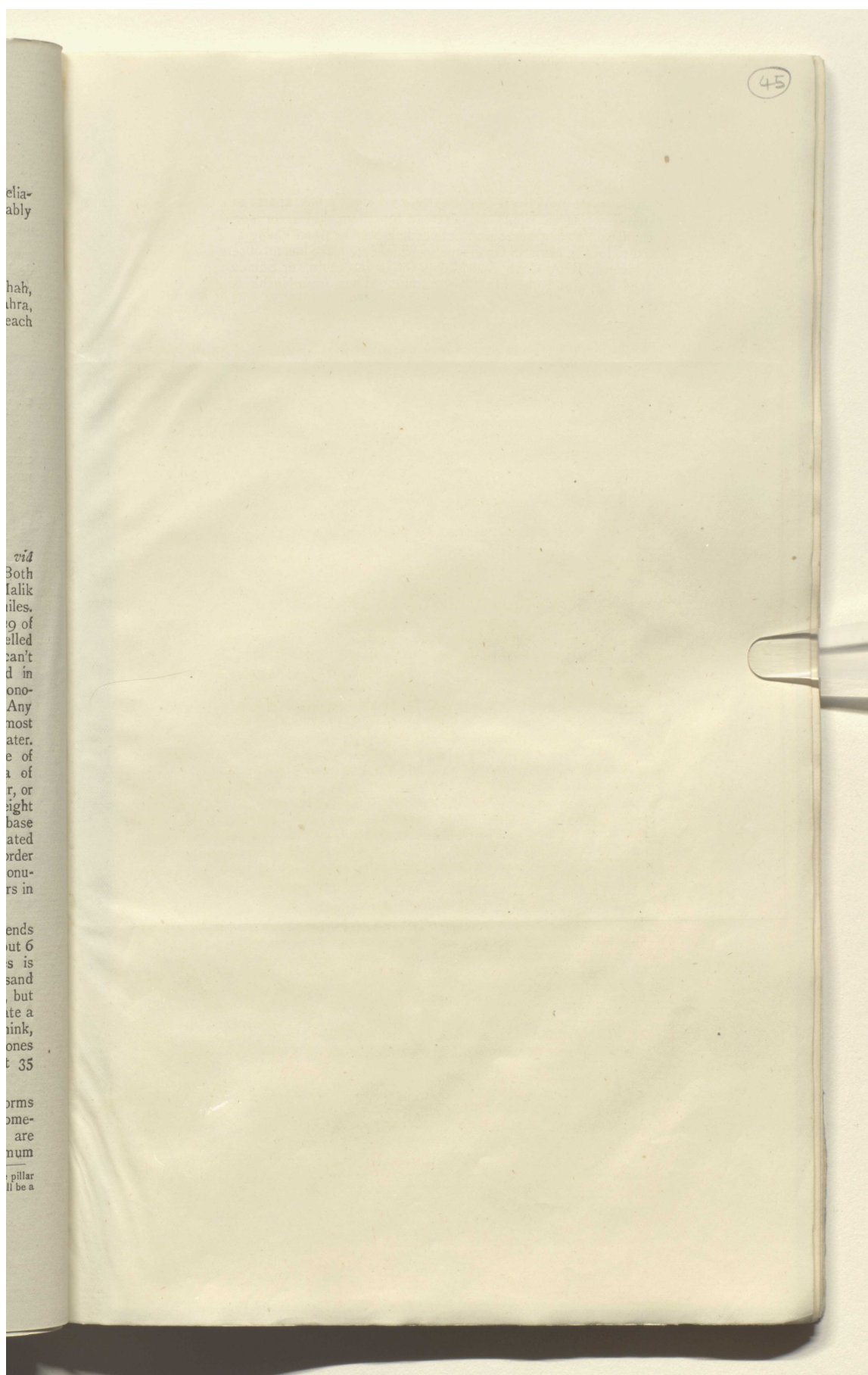
18. From Koh-i-Malik Seah there are two routes westward; one goes *via* Nasratabad; the other is further south, and passes through Hyderabad. Both conjoin at Shurgez, and are very much the same in distance. From Koh-i-Malik Seah to Shurgez *via* Nasratabad is 145 miles, and *via* Hyderabad 142 miles. Mr. Wood in 1898-99 travelled over the Nasratabad route, and on page 229 of his report (1899) he condemns this as unsuitable for a telegraph line. I travelled over the Hyderabad route in the hope of finding it more favourable, but I can't say that I was successful. I give a description of the course I followed in appendix I of this report. A journey over most of this course is about as monotonous and uninteresting for a single traveller as one can wish to make. Any route west through Koh-i-Malik Seah to Bam, or Regan, passes for the most part over an uninhabited barren desert, devoid of supplies, and scarce of water. A glance at a map will show what an abandoned, hopeless country the centre of Eastern Persia is. *Photograph No. 17, will also help to give one an idea of what some of the desert is like. This photograph is a view of the Mil-i-Nadir, or pillar of Nadir, a curious cylindrical sort of structure, built up of brick to a height of about 55 feet, with a small spiral staircase inside; the diameter at the base is about 13 or 14 feet, and somewhat less towards the top. The pillar is situated 13 miles south-west from Shurgez, and is said to have been constructed by order of Nadir, who, I believe, was a great King in that land in former years, as a monument to himself. Its only use now is to act as a land mark to weary travellers in that most desolate region.

The worst part of the country between Koh-i-Malik Seah and Bam extends for about 32 miles east and west of Shurgez. Here a belt of sand hills, about 6 miles wide, would have to be crossed; also the ground for another 10 miles is hardly stiff enough to support a heavy telegraph line; it consists of fine soft sand with a slight gravelly surface. I dug down in a few places for about 4 feet, but could find no substantial soil. Telegraph posts carrying heavy wires vibrate a good deal, and this vibration combined with strong wind pressure would, I think, require a firmer foundation than fine dry sand to hold up posts securely. Stones for foundations cannot be obtained at Shurgez within a distance of about 35 miles.

An unpleasant feature of this desert is the frequency with which sand storms blow. The variations in temperature between night and day are great, sometimes more than 50° F. The changes from heat to cold, and *vice versa*, are sudden, so that the atmosphere in consequence is often disturbed. The minimum

* It will be seen from this photograph, which, by the way, is an enlargement from a smaller size, that the pillar is becoming undermined at its base, due probably to mischievous travellers carrying away bricks. It will be a pity if such a curious monument be allowed to fall down for want of trifling repairs.

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'View on the Kerman Desert: No. 17. The Mil-i-Nadir, or Pillar of Nadir' [46r]
(1/1)

(46)

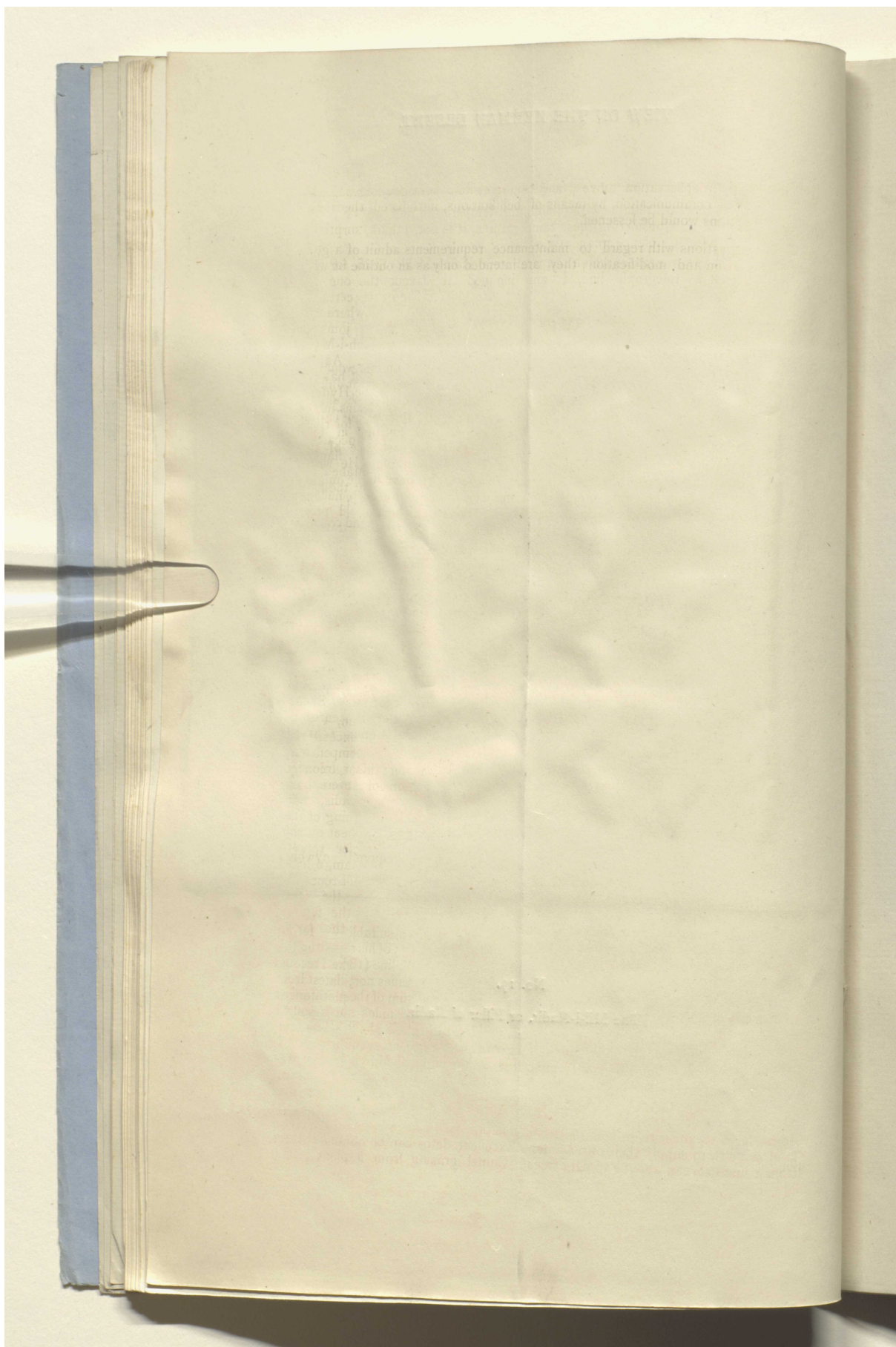
VIEW ON THE KERMAN DESERT.



No. 17.

The Mil-i-Nadir, or Pillar of Nadir.

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Line from Quetta to Bam and Pahrā' [46v] (97/162)



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temperature at Shurgez in the early morning on the 3rd February last was 22° F., and in the afternoon of the same day the thermometer registered 64° F., in the shade. When I was camped on this same desert, a little further to the south, near Regan, on the 14th February, the minimum temperature was 26° F., and the maximum 78° F. Considering these temperatures, it is not, I think, surprising that storms with great violence frequently occur.

Comparing the two routes which run west from Koh-i-Malik Seah for the construction of a telegraph line, I am inclined to favour the one *viā* Nasratabad in preference to the one *viā* Hyderabad. There is certainly not much to choose between them. Both run through Shurgez where the worst feature of the desert, sand, is met with. The former however joins in with the Siestan-Bunder Abbas trade route, about 55 miles west of Koh-i-Malik Seah, and continues on with it to Regan, *viā* Nasratabad and Shurgez. As far as I could gather, very little trade passes along this way, but still it has the pretensions of a trade route, and this is, perhaps, a superiority over the Hyderabad route. Moreover, the latter crosses the Pir Soran range of mountains in the bed of the Rood Mahee, or river Mahee. Rood is the Persian name for river. This river is usually dry, but guides informed me that a flood of water occasionally rushes down it. Its width varies from 200 to 300 yards, and it is flanked in many places by high precipitous hills on either side. The Rood Mahee appears to be the principal pass through the Pir Soran mountains, so that the construction of a telegraph line across this range would be difficult.

Any course directly west of Koh-i-Malik Seah must pass through bad country as far as Fahreh. This place is a small unimportant village, 37 miles east from Bam, and is situated on the south-west border of the great Dasht-i-Lut, or Central Persian desert. The Siestan-Bunder Abbas trade route passes through Fahreh, and continues on *viā* Regan. The best course for a telegraph line along this way would, I think, leave the trade route at Fahreh, and branch off to Bam direct. Fahreh to Bam *viā* Regan is about 78 miles. Regan, although marked prominently on maps, is an insignificant village of perhaps 400 people, so that there is no object for a line to take an oblique course in order to pass through it. The country anywhere between Fahreh and Bam is very good.

CLIMATE.

19. As regards the climate of the country between Nushki and Bam, I cannot give many particulars beyond stating that the summers are excessively hot, and the winters cold. During my recent tour, the minimum temperature every day up to the end of February was, as a rule, somewhere near freezing point, sometimes 8 or 10 degrees Fahrenheit below it. The most severe cold I experienced was at a place called Abahmed, 66½ miles west of Ladis, and about 3,600 feet above sea level. Here the thermometer on the morning of the 21st February last registered 14° F. During the summer the heat on the desert must be terrific. As I quoted in paragraph 12 of my former report, Captain R. E. Roome recorded the temperature in the shade at Paniham, a little west of Dalbandin, as 127° F. on the 2nd May 1897 in a double-fly hill tent. It would be interesting to see a record of temperatures registered during the summer at a few places along the Nushki trade route. I fancy some of the figures would be amazingly big, especially at places, like Yadgar, situated in the midst of sand hills.

If it be decided to construct a telegraph line from Quetta to the Persian Frontier, it will be very important to arrange that work be started not later than the middle of October, so as to permit of the working parties completing the construction before the following May. If work be continued into the summer months, the health, if not lives, of the men engaged on it will be seriously endangered.

THE QUETTA-NUSHKI-SIESTAN TRADE ROUTE.

20. It may, perhaps, be permissible for me to make some remarks in this report on the Quetta-Nushki-Siestan trade route, for the welfare of this route directly concerns the interest of any telegraph line that may be constructed along it.

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If the trade route attains some permanent success, the maintenance of a telegraph line from Quetta to the Persian Frontier, *via* Nushki, would be facilitated thereby, but if, on the contrary, it proves a failure, or should at any time be abandoned, the trouble and expense of maintaining a long line of communication through most difficult country would then all devolve on the Telegraph Administration concerned. It is therefore most important in the present consideration to examine carefully the conditions under which the Nushki trade route exists, and what its prospects in the future are likely to be. I will, in the course of my remarks, take the liberty to refer to last year's Official Report* on the development of the route (1899-1900) written by Captain Webb Ware, Political Assistant, Chagai. Some of the statements contained in this are so much at variance with what my knowledge of the country is that I must venture to disagree with them. My object is not to criticize, but, as Captain Webb Ware very strongly advocates the extension of the telegraph system from Nushki on to Kerman, and his report is in consequence likely to receive the attention it deserves in deciding on the alignment the Central Persian telegraph line to India should follow, it appears to me expedient that some of his opinions bearing on the subject, which are obviously open to question, should be noticed.

THE NUSHKI-TRADE ROUTE. ITS DESERT CHARACTER.

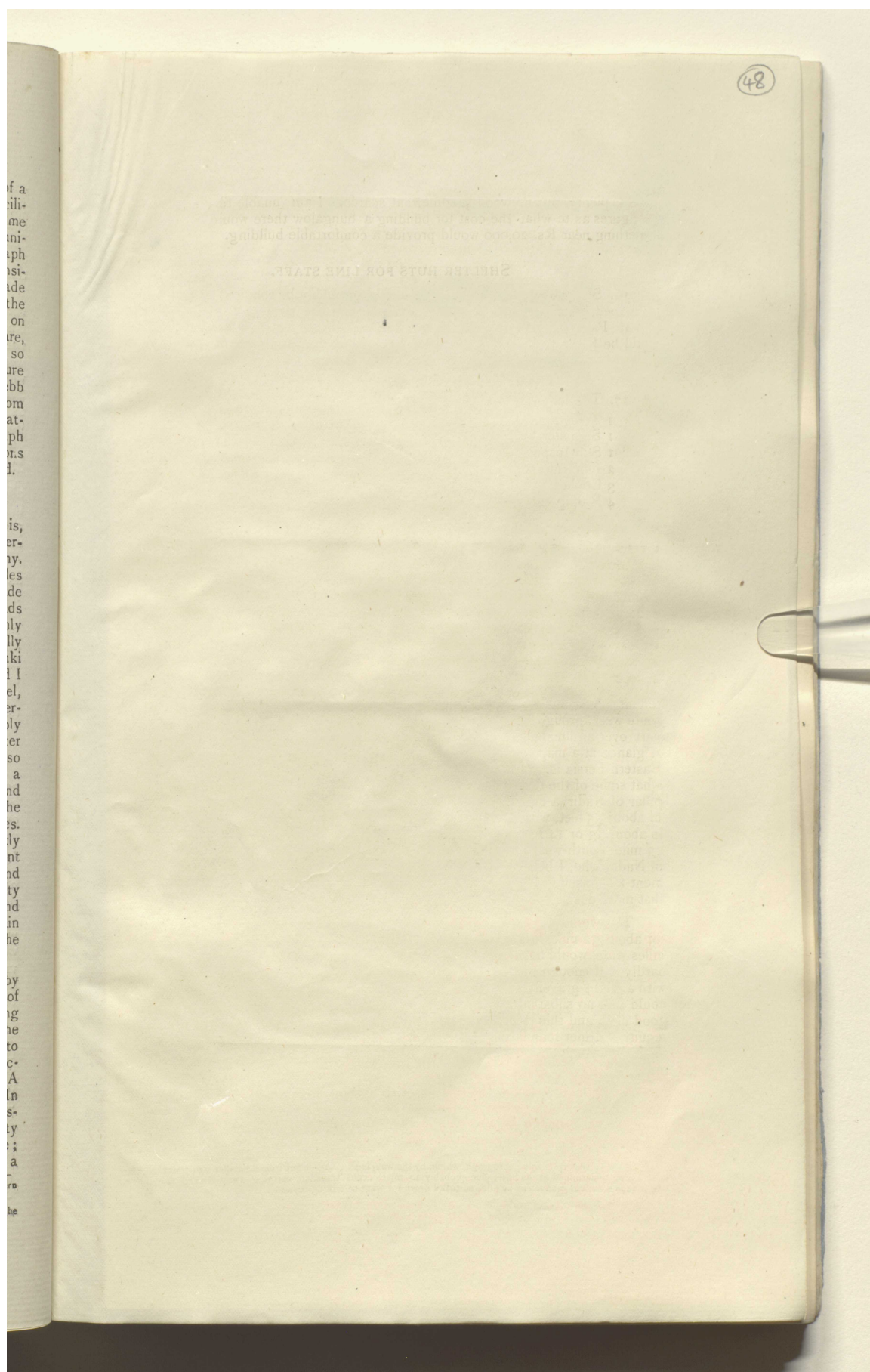
21. In the first place, the country through which the trade route passes is, for the most part, a desert in the fullest sense of the term, that is a barren, waterless tract. It contains no population, nor has it the means of supporting any. West of Nushki District, in which I include a few huts around Baghak, 7 miles distant, there is not a single village, or habitation, met with, except the trade route posts, until Siestan is reached, a distance of over 465 miles. A few nomads with some flocks of sheep and goats are occasionally to be seen, but only at favourable seasons of the year. For the same distance, there exists practically no cultivation. During my recent journey, while marching from the Nushki plain to Koh-i-Malik Seah, a distance of about 360 miles, the only fertile land I saw consisted of about 2 acres near a small artificial karez, or water channel, at Charsar, 83 miles west of Nushki, and about 3 acres at Makak; the water-supply from a few small springs at this latter place is brackish, so that probably cultivation is possible here only after a season of unusual rain, such as last winter has been in Baluchistan. I was informed that north of Padag there is also about 3 or 4 acres under cultivation after a favourable rainfall. Thus in a vast area extending for about 360 miles east of Koh-i-Malik Seah,† and several miles north and south of the trade route as far as one can see, the total cultivated land amounts to a trifling quantity of less than, say, 10 acres. There is no possibility of getting much more either. The country consists mostly of sterile ground, composed either of stones or sand; it lacks both sufficient rainfall, and the possibilities of irrigation. In the region between Chahsundan and Saindak, extending south of the Koh-i-Sultan for 133½ miles, the small quantity of water met with, mostly at distances of over 20 miles apart, is so salt and contaminated as to be altogether unfit for human consumption; and again between Dalbandin and Mirui, 46 miles, the water obtained from wells at the stages midway is brackish, and not good.

The character of this country as a desert is also very prominently marked by its physical, and geological features. I have had an exceptional opportunity of having these explained to me, for in 1898-1899 I had the pleasure of travelling in company with Mr. Vredenburg, of the Geological Survey, from Quetta to the Persian Frontier, and again in December last from Quetta to Dalbandin, and to his kindness and scientific knowledge I am indebted for much valuable instruction. This officer has since written a very interesting memoir, entitled "A Geological sketch of the Baluchistan Desert, and part of Eastern Persia." In this he mentions some evidences of the country's scant rainfall; for instance, the absence of any well marked river course possessing an individuality of its own, etc. He also explains that this region is an area of inland drainage; the water evaporated from its surface does not all return in the shape of rain, a

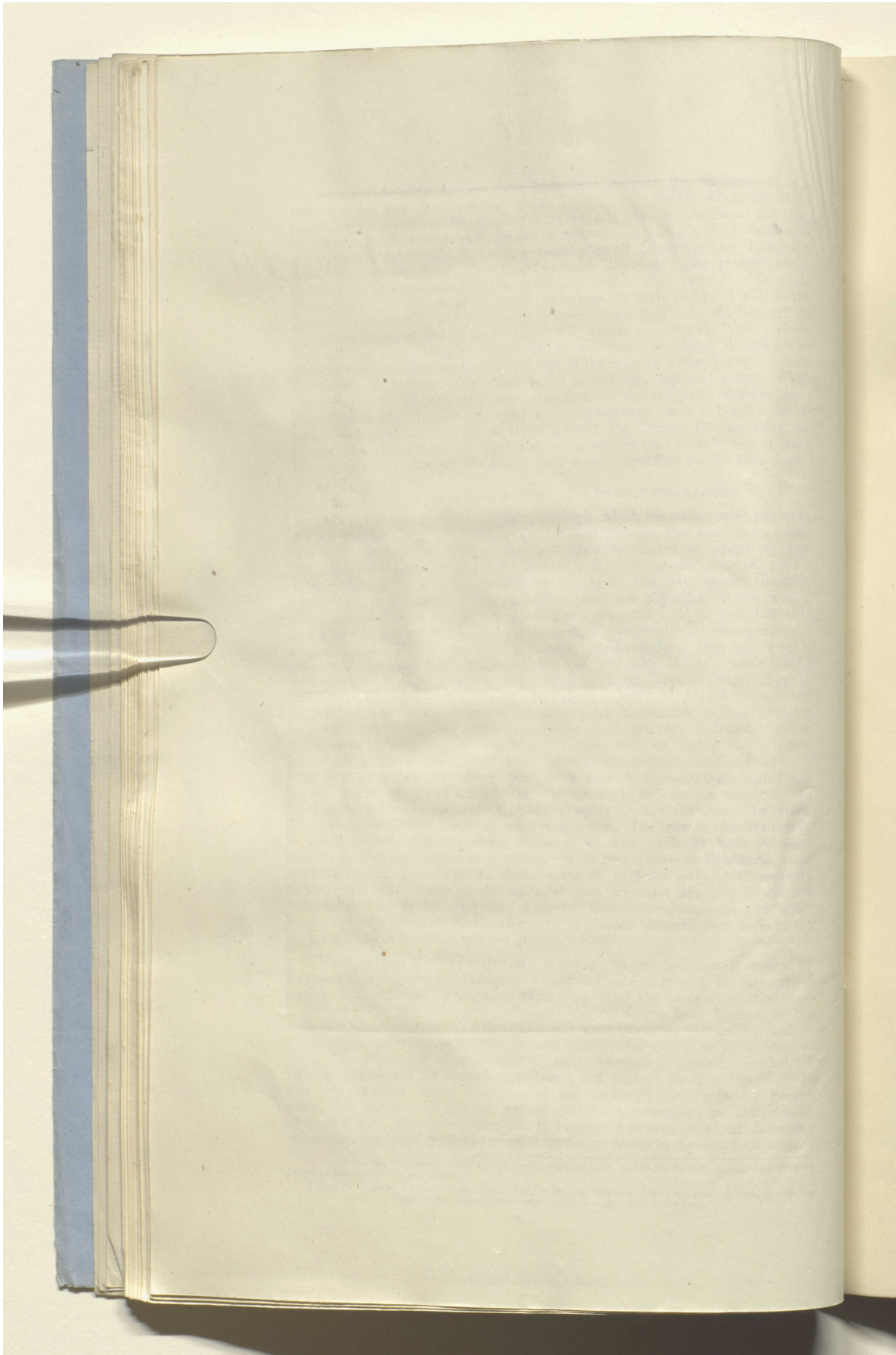
* "Report on the development of the Baluch Persian caravan route, and on the Nushki, Chagai and Western Sigerani districts, for the year 1899-1900."

† Desert area extends beyond Koh-i-Malik Seah in Persian territory, but I am now discussing only the part of the Nushki trade route which is within British territory.

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'Views on Quetta-Nushki-Siestan [Sistan] Trade Route: No. 18. View of desert
west of Padag' [49r] (1/1)

(49)

VIEWS ON QUETTA-NUSHKI-SIESTAN TRADE ROUTE.



No. 18.

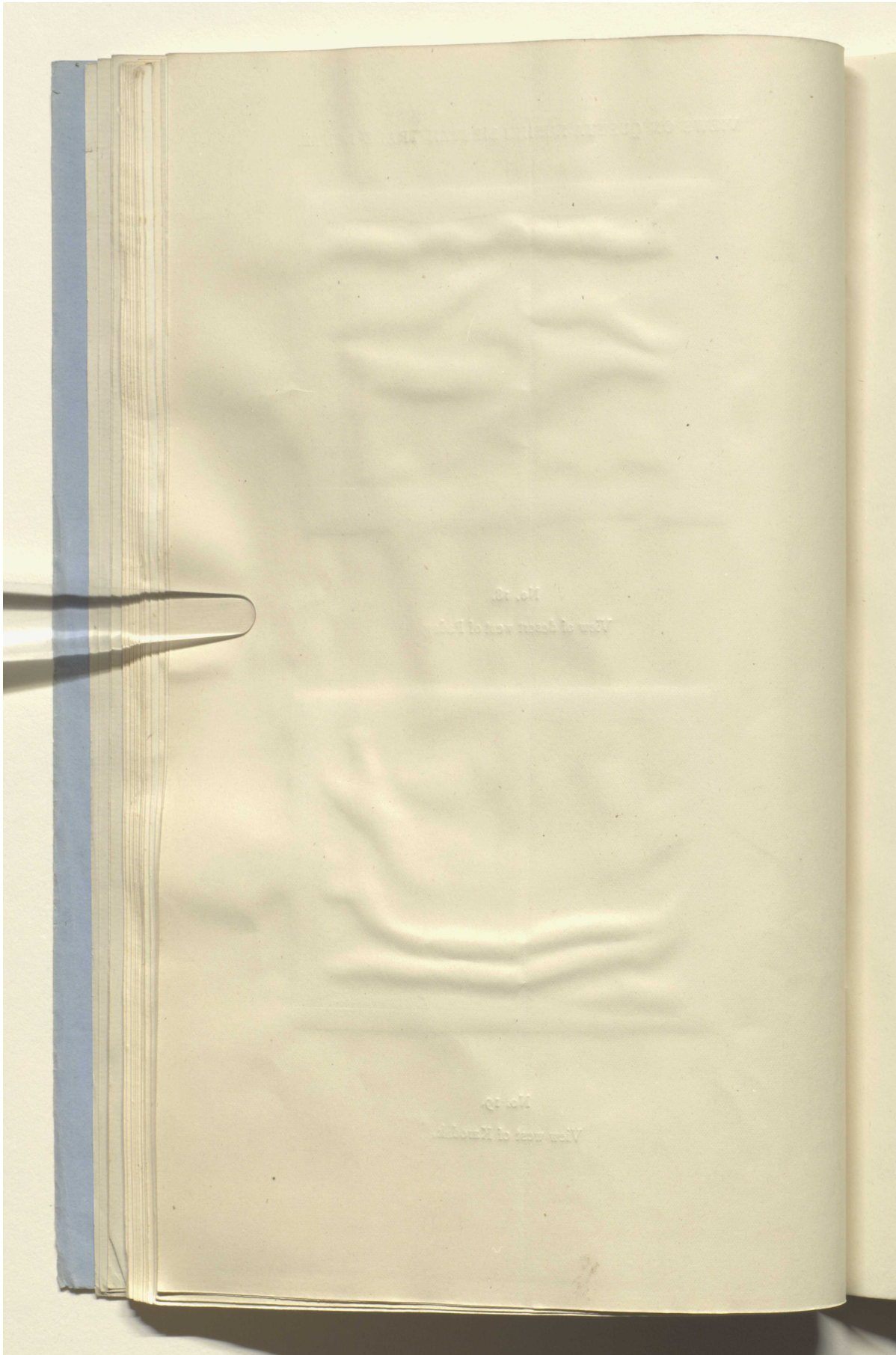
View of desert west of Padag.



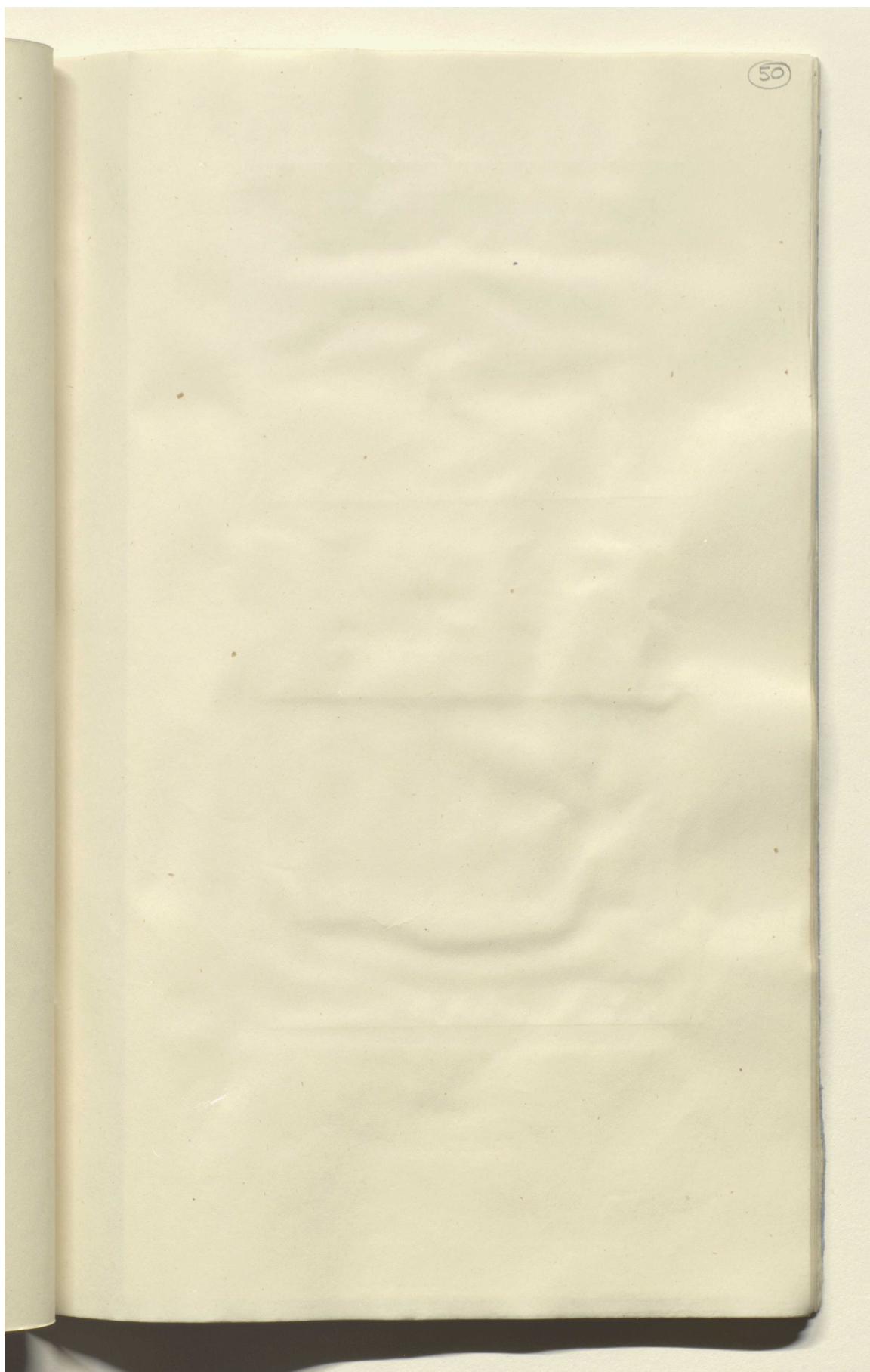
No. 19.

View west of Karodak.

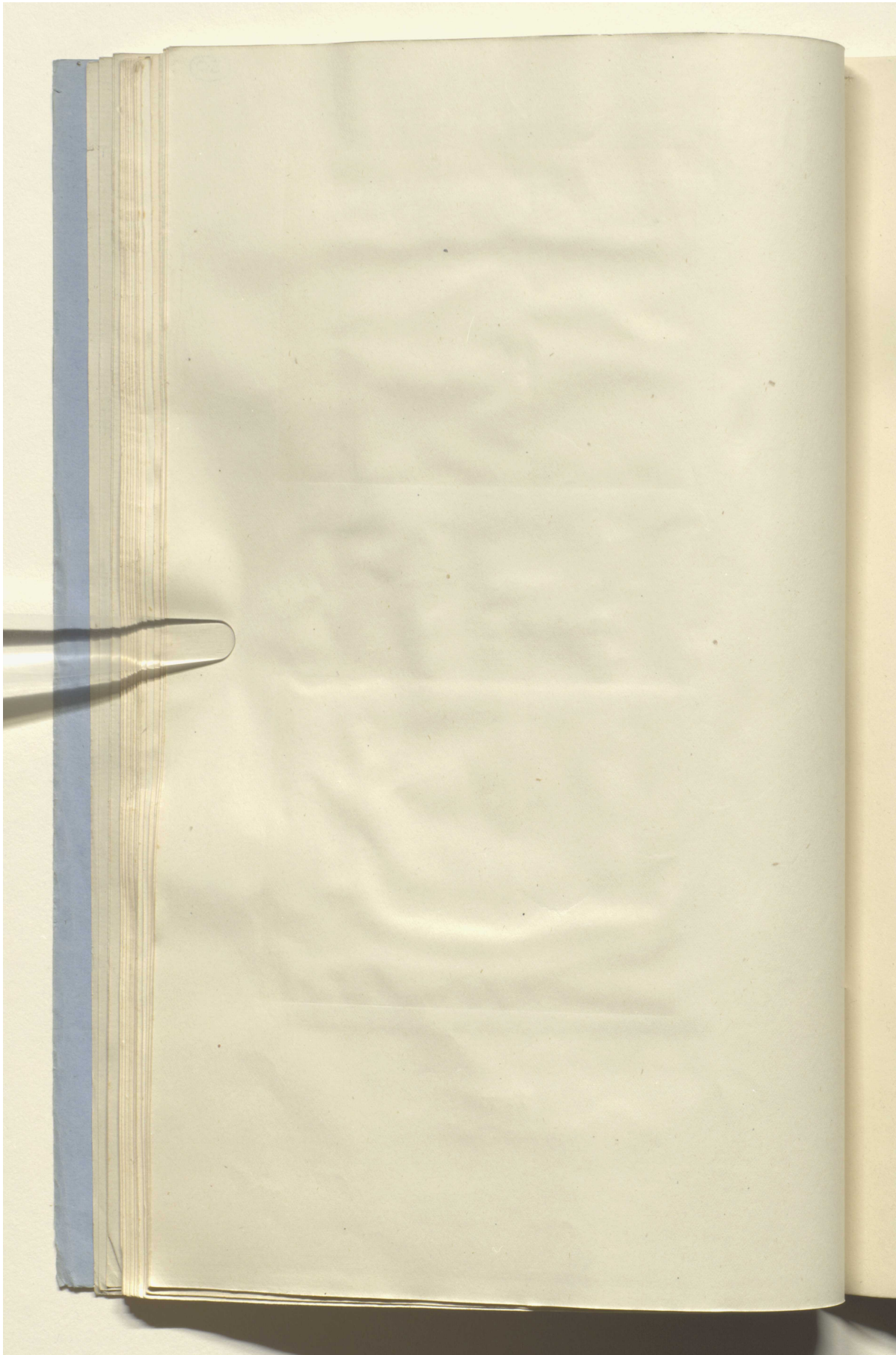
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**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [50r] (104/162)**



**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [50v] (105/162)**



'Views on Quetta-Nushki-Siestan [Sistan] Trade Route: No. 20. View near Koh-i-Malik Gatt west of Mirui' [51r] (1/1)

(51)

VIEWS ON QUETTA-NUSHKI-SIESTAN TRADE ROUTE.



No. 20.

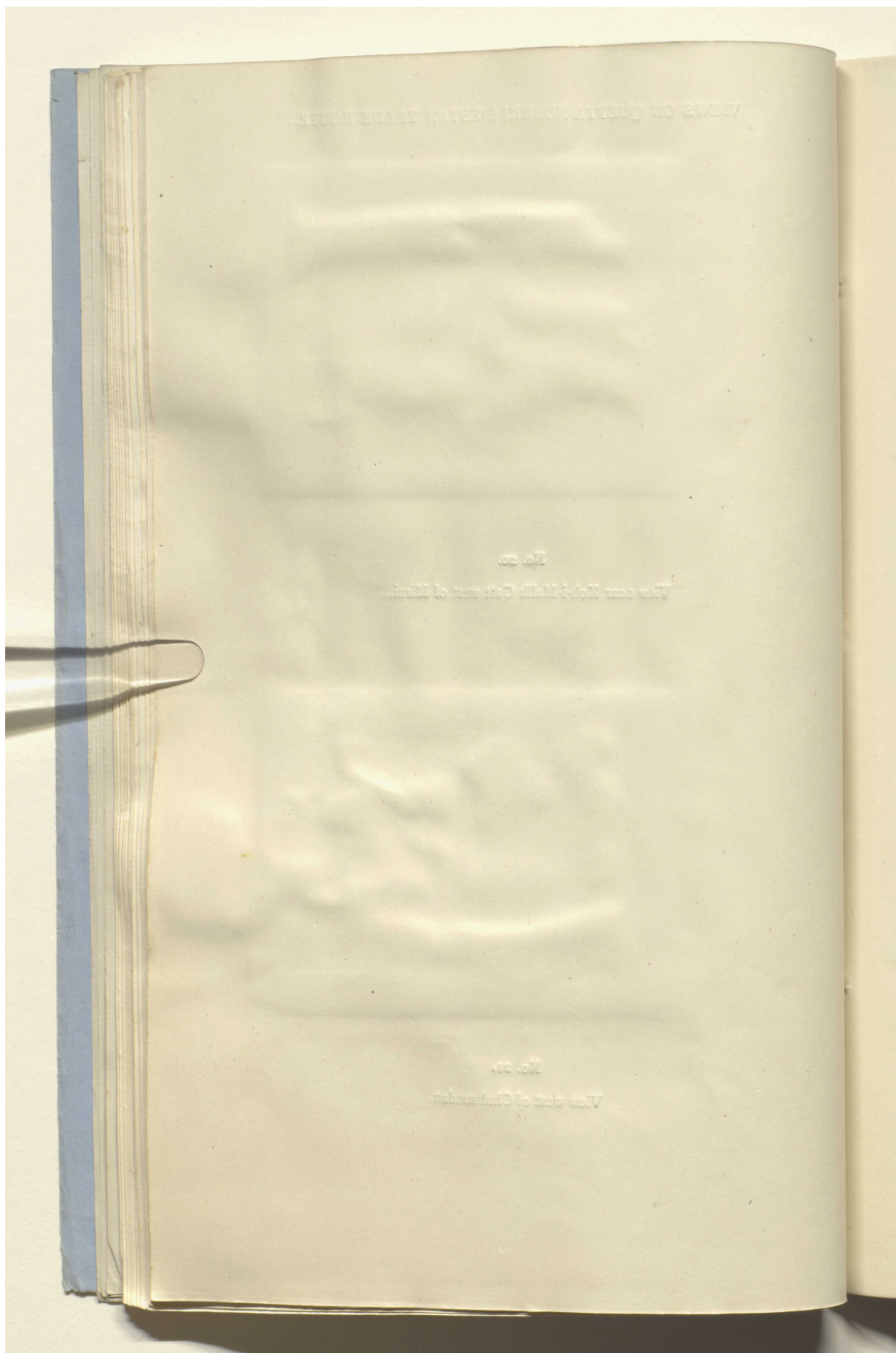
View near Koh-i-Malik Gatt west of Mirui.



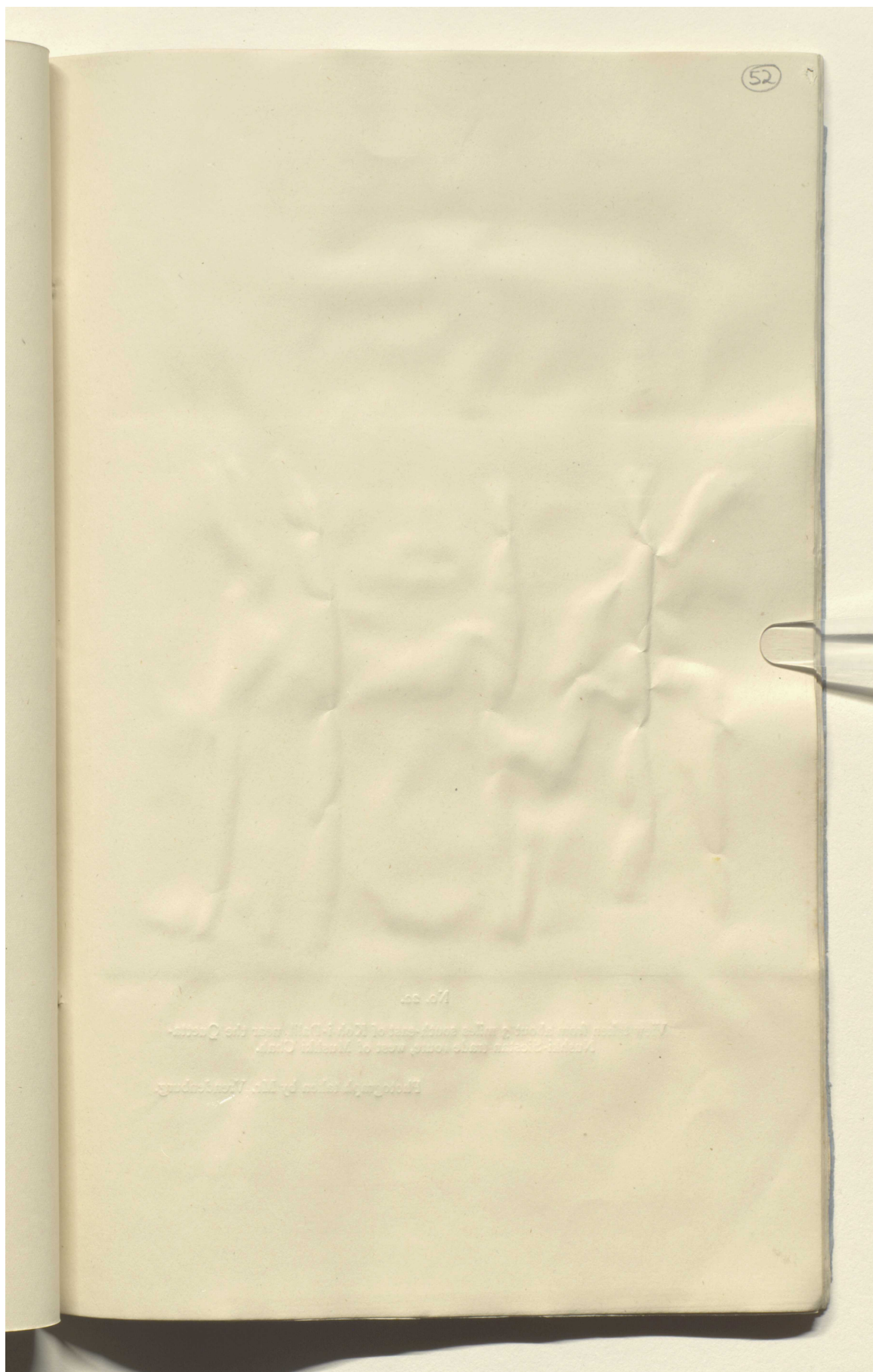
No. 21.

View west of Chahsundan.

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'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
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'No. 22. View taken from about 3 miles south-east of Koh-i-Dalil, near the Quetta-Nushki-Siestan [Sistan] trade route, west of Mushki Chah' [52v] (1/1)

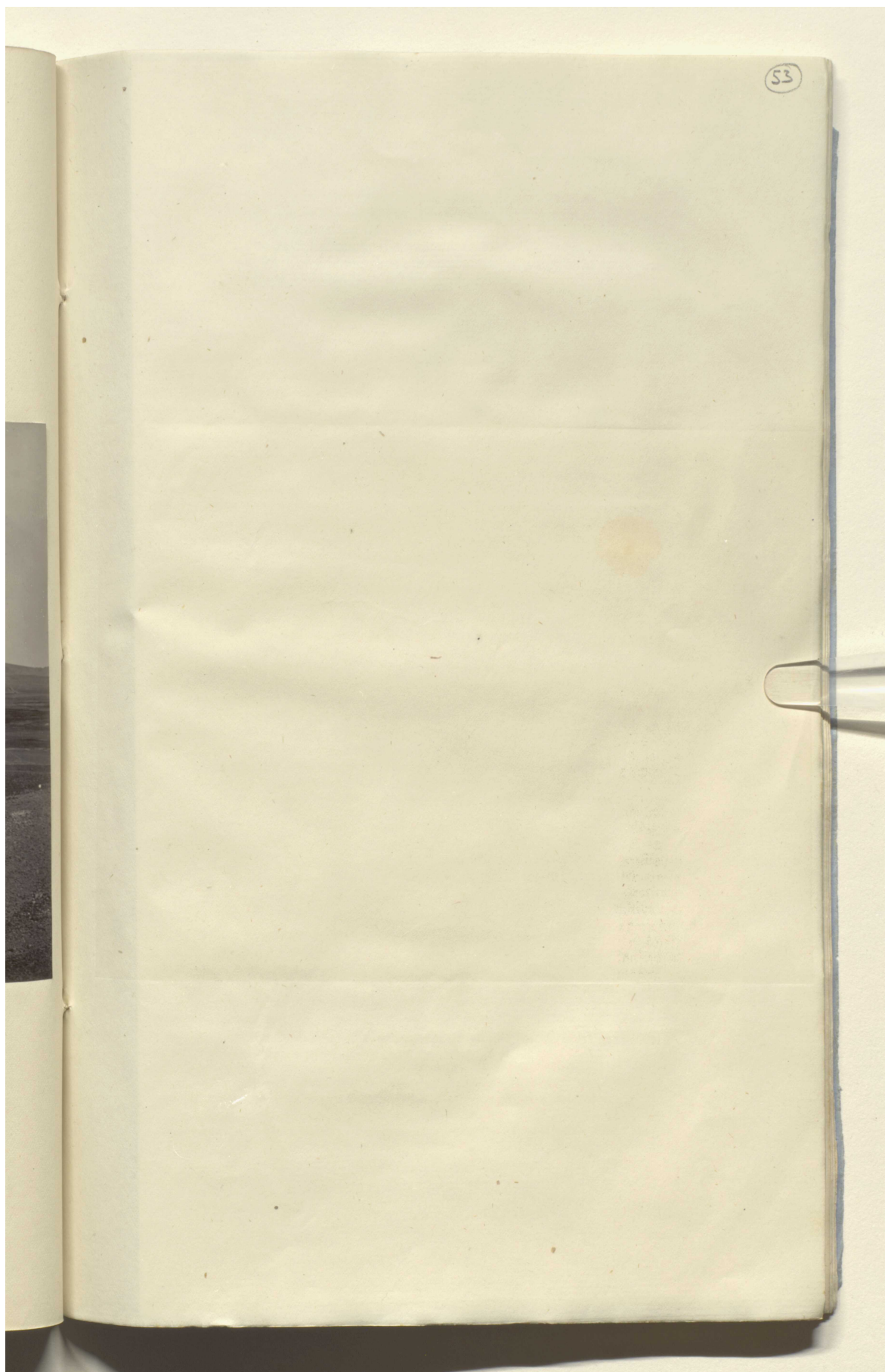


No. 22.

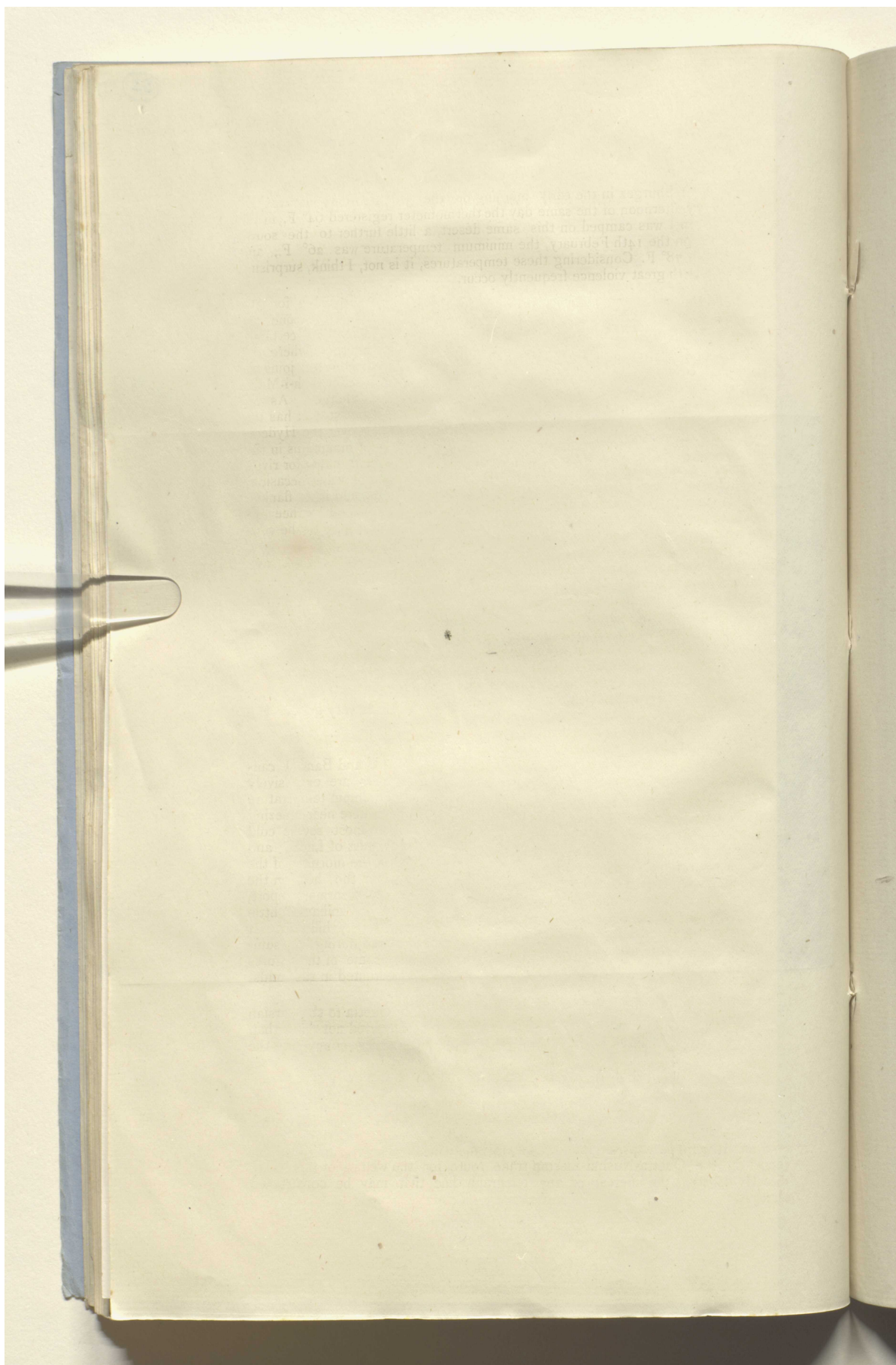
View taken from about 3 miles south-east of Koh-i-Dalil, near the Quetta-Nushki-Siestan trade route, west of Mushki Chah.

Photograph taken by Mr. Vredenburg.

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certain amount is always lost, and the clouds originating from the évaporation of sea water cannot be counted upon to make good this loss, for, in ascending the mountains bounding the closed drainage area, they have had to precipitate their moisture in the form of rain on the slope turned towards the sea, and, on reaching the opposite slope, they descend once more to lower altitudes, but not in a saturated condition. Hence, briefly, the reason why Western Baluchistan is already in its deplorable, and hopeless, condition. It has at present almost reached what I may call its 'breaking strain' as regards water-supply, and, should any further pressure be put on the existing wells in consequence of a year or two of drought, the passage of caravans along the Nushki Trade Route would, without doubt, become most difficult, if not altogether impossible.

I will now quote from Captain Webb Ware's report, referred to in my last paragraph. In paragraph 9 of his Appendix II, he writes: "..... I trust that I may be pardoned for once more repeating that west of Nushki the road traverses an open, almost level, and nearly sandless plain, where water is to be obtained at every stage in quantities which are, to all intents and purposes, unlimited, where camel grazing, except in the depths of winter, is luxuriant..... It is only between Tratoh and Makak Karez, a stretch of 70 miles, that anything approaching a waste is crossed. I use the word approaching advisedly, for here patches of grass are to be found in every nala bed, and, as far as camel-grazing is concerned, there is sufficient of this for the requirements of caravans."

There are other descriptions in the report written in the same favourable strain which are open to question, but, not to make my discourse too long, I will neglect them. To call the water-supply of the Nushki route in any sense unlimited, and its camel grazing luxuriant, is putting the meaning of these words to rather a severe strain. What an unreasonably optimistic view Captain Webb Ware takes may be judged from the fact that he refuses to admit that the country south of the Koh-i-Sultan, between Tratoh and Makak, is a desert. This is an appalling waste, an area of dried up lava stones and sand, absolutely barren, and containing no decent drinking water, a veritable desolation of desolations*. Continuing with the report, Captain Webb Ware expresses great hopes of extending cultivation by means of karez digging, but at some of the places he mentions the water is brackish,† and at these it is hopeless to expect any crops to grow. The naïveté of the confession in paragraph 25, Appendix II, is worth noticing. Talking of the proximity of water to the surface of the ground at Gut, and Chahsundan, which promises well for karez cultivation, he states "It is to be noted however that at both these places there is a difficulty in finding suitable land"!

In considering the possibilities of karez cultivation, it may be remembered that the amount of water obtainable from karezes is, like Artesian wells, directly dependent on the rainfall. If there is little or no rainfall in a country, it is waste of time and money in digging karezes indiscriminately, for no profitable supply of water can be obtained from them. That this country along the trade route is lacking in rainfall is obvious, otherwise it would not be in the destitute condition it is. In paragraph 30, Appendix II, the conclusion on the cultivation subject, Captain Webb Ware writes as follows:—"Writing with the experience of three years, I say without hesitation that, provided that the necessary funds are forthcoming, karezes could be opened at, or near, almost every individual stage on the caravan road between Nushki and Killa Robat." This statement appears to me somewhat extraordinary, in view of the fact that not only is the water obtainable from wells at some stages distinctly limited in supply, but its quality for at least $\frac{1}{3}$ of the whole distance from Nushki to Killa Robat is, as I have already shown, highly contaminated, and would surely kill off any seeds sown in the ground which came in contact with it. I presume that the intention of opening up karezes at each stage is to get a supply of water which would support, not destroy, cultivation. Then in addition there is that curious difficulty of finding suitable land at some places. The whole country is a desert, and will not permit of cultivation to any appreciable extent. The significant

* Photograph No. 22 is a good view showing the barren nature of the country I refer to. It was kindly given to me by Mr. Vredenburg.

† For instance, water is brackish at Chakul, and Setag (paragraph 23 of report, appendix II), also at Tratoh, and Mushki Chah (paragraph 26), etc.

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fact remains that, except for an acre or two at Makak, there is at present absolutely no cultivation within sight of any of the stages along the route west of Nushki plain. I might continue quotations from this official report, but, for brevity's sake, those that I have made are sufficient. *Ex uno disce omnes*. It can be seen how extravagant Captain Webb Ware's optimistic view of the trade route is, and that most of his opinions with regard to it are vitiated thereby. This subject I am writing about is one of some importance for, if it is contemplated sinking money in the country between Nushki and Robat, it is obviously worth while knowing exactly what the nature of that country is. I have now written briefly my description of it, and if, in face of conflicting evidence, this needs corroboration, I would suggest that either of the two Survey Officers, Messrs. Tate and Vredenberg, the former of the Trigonometrical, and the latter of the Geological Branch be consulted. Both these officers have recently been employed on special duty in the country, and, from the nature of their duties, must know it better, and more in detail, than an ordinary traveller, and are in a position to give a disinterested opinion.

THE NUSHKI TRADE ROUTE AN INFERIOR ONE.

22. Now of all the routes leading from Persia to India, this one *via* Koh-i-Malik Seah and Nushki is unquestionably the most inconvenient, and unattractive, both for passenger and goods traffic. From places in Central and Southern Persia, the easiest course to India is by road to some port on the Persian Gulf, and thence by sea to Karachi, or Bombay. Consider, for instance, the position of any town, say Bam, the most westerly of any importance in Central Persia, and one of all others from which, if the Nushki route has any claims at all to attract trade from this region, it might expect some traffic. From Bam to Bunder Abbas is about 15 marches for camels, over country where, I am informed, there is no scarcity of water, and where grain supplies are procurable at intervals. Bam to Koh-i-Malik Seah is about 13 marches, but across a barren uninhabited desert, where water is scarce, and no supplies obtainable. From Bunder Abbas there is an easy and cheap sea journey to Indian ports, while from Koh-i-Malik Seah there is about 478 miles of difficult desert country to traverse as far as Quetta, and in addition a long train journey before any large commercial market is reached. Quetta is a frontier outpost, whose population consists mostly of a military garrison; it is isolated from the rest of India, and its bazaar cannot in any way be considered as a favourable trade terminus for Persian goods. The journey from Bam to Karachi, *via* Bunder Abbas, occupies about 3 weeks, while from Bam to Quetta, *via* Koh-i-Malik Seah, would require 6 weeks, or more. The cost of transport too for the journey *via* Bunder Abbas, even including customs dues, is obviously very much cheaper than for that *via* Koh-i-Malik Seah. What a vast difference there is then between the relative advantages of these two routes from Bam to India will, I think, readily be seen. No merchant in Bam would, in ordinary circumstances, think of sending his goods to India by the route *via* Koh-i-Malik Seah and Nushki in preference to the one *via* Bunder Abbas.

The above considerations in favour of the southern route would apply with equal force to towns further east, such as Kerman, Yezd, etc., if the only way from them to the sea coast lay through Bam, but this is not so, there are more direct routes, whereas the best, or in fact the only, route from them to Nushki must pass through Bam; hence any comparison of the two routes to India from other towns in Central Persia would show up more unfavourably for the Nushki route than in the case of Bam. Yet I have seen loud advertisements, both in the Indian press and elsewhere, describing the increased advantages which this route offers for trade with India and Central Persia, and giving as an example an instance of a caravan with carpets which arrived in Quetta last year from Kerman. During my recent journey I passed a similar caravan on its way from Kerman to Quetta. But these two instances cannot be taken as any criterion that the Nushki route will be used by merchants in Central Persia. I understand both caravans were organized, and their owners guaranteed against financial loss, by British officers who are interested in making the Nushki route a success. How any fruitful result can be expected from such action is not quite apparent. An

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attempt to divert trade from a place like Kerman to India, *via* the present Nushki route, appears almost as hopeless as if one tried to divert trade with, say, Mandalay and Madras along some katcha road line *via* Calcutta, instead of allowing it to go by the direct land route to Rangoon, and thence by sea. The analogy I have here used is slightly exaggerated, but it may not be out of place.

I will again refer to Captain Webb Ware's report (1899-1900). Paragraphs 77 and 78, Appendix II, contain his views on opening up a trade route between Koh-i-Malik Seah and Kerman, and in paragraph 77 are particulars of the circumstances under which one of the caravans I have just alluded to was started. Captain Webb Ware states that this caravan left Kerman on the 14th January, and reached Koh-i-Malik Seah 14 days later. The distance between Kerman and Koh-i-Malik Seah is, according to Mr. Wood's and my measurements, 19 marches, or a little over 328 miles. It is unlikely that a caravan will travel this in 14 days, unless perhaps the owner of it is having a race for a big stake. Paragraph 77 continues: "The Krayakashes reported on their arrival at Killa Robat that they had had an uneventful but cold journey, and they went on to say that the track the whole way from Kerman to Robat was an excellent one, possessing all the requirements of a good trade route, with a very fair water-supply, whose improvement offered no serious difficulty." Captain Webb Ware's optimism in trade route affairs is unbounded, and his view appears to me to be like that obtained by placing both ends of powerful field glasses alternately to the eyes; matters that admit of improvement are looked at from the magnifying end, and those adverse are removed, or diminished, by looking at them through the other end. Such a method of developing an object can, no doubt, give a gratifying result, but it is scarcely practical. If this description of the country west of Robat, which I have quoted, is meant to be taken literally, it is not true. The caravan came across the Kerman Desert by the track, *via* Nasratabad, which Mr. Wood traversed in 1899, and a description of which is given in his report on the Preliminary Survey of the route for the Central Persia telegraph line (1899), under the head of the third unsuitable route. I will make one quotation from this which will be enough to show how misleading is the description said to have been given by the Krayakashes above. "Leaving this (Nasratabad), the only habitation seen during the past four days, we cross in a day's march of 16 miles another range of rocky hills, and debouch on to the Dasht-i-Lut. It takes us five long marches to cross this bleak, lonely, and desolate wilderness of sand, where there are only two spots, Gurg and Shurgez, where salt water, quite unfit to drink, is obtained by digging wells. Thus we have three stretches of 35.03, 32.05 and 31.30 miles without water, while that procurable at Gurg and Shurgez, cannot be drunk by human beings."

A little consideration of the geographical position of Kerman, its proximity to a good sea port like Bundar Abbas towards the south compared to the vast extent of desert which separates it from India on the east, would, I think, show to most people that a camel route from Kerman to Quetta would have no chance of competing with the Bundar Abbas route. The advantages of the latter are so obviously superior to those of the former that no one, but those who could secure extraordinary guarantees for their ventures, could be expected to travel from Kerman to India *via* the Nushki route. Where then is the use of spending money in establishing direct trade communication between Koh-i-Malik Seah and Kerman such as Captain Webb Ware suggests? If Indian trade with Central Persia cannot be established, and maintained, by the Gulf route, there appears little or no prospect of assisting it by any desert camel route from Quetta.

It is, I think, unnecessary for me to show that the Persian Gulf route is at present the only practicable one to India from Southern Persia; any reason in favour of this route over the Nushki route from Central Persia applies, *a fortiori*, to Southern Persia.

Eastern Persia is hardly worth mentioning in the present consideration for, outside Siestan, which, for convenience, I will include in Northern Persia, it does not contain a single town, or even village, of any importance. Places marked prominently on the map, such as Ladis, Duzdap, etc., far from being towns, are at most a conglomeration of hovels, or else mere camping grounds only

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temporarily occupied by nomads. No passenger or goods traffic can possibly be expected from this region. However, I may note that Ladis to Gwador, *via* Pahra, is about 385 miles, and Ladis to Quetta about 440 miles; along the former route there is plenty of good camelgrazing, no scarcity of water at camping grounds, and supplies are procurable at intervals.

In Northern Persia I will include the large province of Khorassan, also Siestan. From Khorassan and Siestan there are three routes to India. One either *via* Bundar Abbas or Gwador, one *via* Afghanistan, and one *via* Koh-i-Malik Seah, and Nushki. The route which caravans usually take from Meshed to Bundar Abbas passes, I think, through either Yezd or Kerman, and is a trifle shorter than from Meshed to Quetta, *via* Koh-i-Malik Seah, and Nushki; it has the advantage of passing through some large towns and villages which between Khorassan and the British frontier are not so frequent, and east of Koh-i-Malik Seah along the Nushki route do not exist at all; moreover Karachi and Bombay, which are within easy reach from Bundar Abbas, are undoubtedly better trade termini than Quetta.

As regards the two routes from Northern Persia to Northern India, the one through Afghanistan is direct, while the one *via* Koh-i-Malik Seah, and Nushki, is approximately in the form of two sides of a triangle. A glance at a map will show this. The route from, say, Meshed to India *via* Herat and Kandahar, and the route from Siestan along the Helmand pass, comparatively speaking, through fertile country, where water is plentiful, and supplies abundant, compared to which the Baluchistan desert can have few attractions.

I am aware that there are difficulties at present connected with a passage through Afghanistan, and it is only so long as these difficulties exist that the Nushki route will have a leg at all to stand on. If the exorbitant taxes which are now levied on transit trade through Afghanistan were removed, or reduced within reasonable bounds, the Nushki route would at once cease to be used. The Ameer has the power at any time to divert all trade from it by lowering his taxation. If this route will be the means of causing the Ameer to remodel and improve his fiscal policy, it will deserve gratitude, but by doing so it is certain to effect its own destruction, for, considering the intrinsic attractions of each, the Nushki route is not in a position to compete with the Afghan routes.

THE SUCCESS OF THE NUSHKI TRADE ROUTE IS DOUBTFUL, AND ITS EXISTENCE PRECARIOUS.

23. In paragraph 21 above, I have attempted to show that the Nushki trade route runs through a barren desert for about 360 miles as far as the Persian frontier; beyond this frontier there is another huge desert confronting it, extending north for 80 miles before any village in Siestan is reached, and over 170 miles before any village in Central Persia is reached. Throughout the whole of this desert course the Nushki route cannot, of course, expect to get any local traffic. In the preceding paragraph, I have explained how the Nushki route is inferior to all other existing routes from Persia to India, and that the only places where it can expect a flow of trade from are Khorassan and Siestan. From Khorassan the flow is not likely to be very expansive. The trade returns of this province, last published, for the year 1899-1900 show, I think, that its trade with India is decreasing, and, considering the superiority of communications which exist on its north, and on the south *via* Bundar Abbas, compared with those connecting it with India *via* Nushki, the amount of traffic which at present comes from it along the Nushki route is not likely to increase much. In paragraph 78, Appendix II of his report, already quoted from, Captain Webb Ware considers that a line drawn through Birjand, or even a little north of that town, to Yezd roughly marks the boundary line between Russian and English commercial supremacy in Khorassan and Kerman. Birjand is very near the south of Khorassan, so, assuming Captain Webb Ware's demarcation to be accurate, it is clear that the Nushki route cannot expect any flood tide in the way of trade from this province.

There is at present an experiment being tried with a view to open up a tea market in Northern Persia which, from the way it is being carried out, is not altogether certain of success, at least as far as the Nushki route is concerned. Indian tea is not unknown in these parts. A wealthy and influential Persian merchant, I am informed, resides at Meshed who imports direct, *via* Bundar Abbas, and sells

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Indian tea in the local markets. One result of a competitor appearing on the scene, *viâ* Quetta, will probably be that the cost price of tea will drop, but the Nushki route is not likely to benefit much thereby. A merchant in Khorassan, importing tea from India, will bring it by the cheapest route, and one by which he can utilize his camel transport to the best advantage, and that is *viâ* Bundar Abbas. There is very little return trade from Khorassan to India *viâ* Nushki, and so the expense for transport over such a long journey, when the flow of trade is in one direction only, is enormously increased. There is a larger export trade from Khorassan *viâ* Bundar Abbas than *viâ* Nushki, for, amongst other things, opium is sent by the former route, and is, I understand, prohibited from passing over the latter.

Siestan, the only other place from which the Nushki route can get traffic, is comparatively a small district, a sort of oasis in the surrounding wilderness, with a poor population, numbering altogether not more than 6,000* people. Such a place, if situated in India, would be considered an insignificant village. Trade from here can never be of much importance. The chief industry is agriculture, but the cost of transport to Quetta for most articles under this head is prohibitive. Take grain, for instance. One camel can carry 5 maunds weight, and his hire from Siestan to Quetta is, at a very low figure, say Rs. 20: that is, the cost of carriage is Rs. 4 per maund; but a maund of grain in Quetta can be bought for less than this sum, so that, if grain could be got for nothing in Siestan, no profit could be gained in carrying it for sale to Quetta. A small export trade can, I think, be established from Siestan in ghee and wool, but these are not particularly valuable, or rare articles.

Exports from India to Persia along the Nushki route must, to a certain extent, be regulated in quantity by the amount of trade from Persia to India; the eastward and westward flow of traffic must be more or less even, for it could hardly pay traders to send camels laden in one direction for such a long journey, and then return them empty.

Taking a general view then, there does not appear much scope for the Nushki route to prosper, and there are, I think, no grounds for predicting that it can ever become a financial success. In these circumstances, can any guarantee be given from the Political Department that it will be permanently kept up?

There is one other important point. The Afghan routes from Siestan and Khorassan to India are, as I have shown in the preceding paragraph, far superior to the Nushki route. Hence it follows that, once Afghanistan is opened, the Nushki route would be abandoned by trade, and in this case also any political object in maintaining it open would, presumably, vanish at the same time. A discussion of whether and how soon this consummation is likely to occur is not, of course, within my province. I may however say this much. Past experience shows that a country situated as Afghanistan is, and exposed to the civilizing influences of two powerful neighbours, from which there is no escape, cannot remain unmoved, but must in time become progressive. Even if within some years the country does not, either by treaty or conquest, come more within the bond of the Indian Empire, yet it is not unreasonable to expect that a more enlightened and liberal Government will soon prevail, which, by prudent methods, will, for its own profit, foster transit trade through the country instead of crushing it out by arbitrary and ruinous taxation as at present. The Nushki route depends entirely for its support on Afghanistan remaining closed to trade. That this country will remain permanently closed is improbable, or at least uncertain; hence the existence of the Nushki route is precarious, and the chances of its abandonment are not at all remote.

PRESENT SUCCESS OF THE NUSHKI ROUTE.

24. The chief argument in favour of the route is, I suppose, that the statistics of trade along it for the past few years may be considered progressive and favourable. I quote the following particulars from official returns.

					Rs.
1895-96	value of total trade	...	...	...	<i>Nil.</i>
1896-97	do.	...	...	...	63,883
1897-98	do. do.	...	...	...	5,89,929
1898-99	do. do.	...	...	...	7,28,082
1899-1900	do. do.	...	...	...	12,35,411

* Vide Gazetteer, pages 208 and 209 of Mr. Wood's report (1899)

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It would be interesting to know how these figures are arrived at, and what method of check, if any, is employed to test their accuracy.

There are no customs offices on the Nushki route, such as exist on other trade routes, through which, when trade passes, some guarantee of the amount of this trade is established. I understand the registration and valuation of passing caravans are, on the Nushki route, entrusted to subordinate officials, at each thana a local Munshi working under the orders of the local Thanadar. It is, of course, in the interest of such officials that the route should prosper, and appear in its most favourable light. How then do these men arrive at their valuations? Do they accept the statements of the owner of the caravan in the matter, or do they adopt a valuation of their own? From what I know of the valuation of caravans, the custom is that, when there are taxes to be paid, owners will understate the value of their goods, but, if there are no taxes, they will exaggerate the real value. There are no taxes to be paid on the Nushki route, so that owners of caravans would in all cases probably declare a valuation of their property very much in excess of the real one. Persians are especially inclined to exaggerate, and do so to an absurd degree. I found it impossible to get accurate information from them about the size of anything. It would, in many cases, be quite safe to divide any figures they might give by 10, and, regarding their own property, the valuation arrived at in this way would probably be very expensive. Can the Munshis and Thanadars along the trade route be relied on to properly reduce the exaggerated values given by owners of caravans, or to fix a true value of their own? It is not, I think, unreasonable to raise these questions, and, in doing so, I have no desire to throw any doubt on the good faith of Captain Webb Ware, the officer who signs the trade returns, for he cannot possibly vouch for the accuracy of initial valuations himself.

Whether the figures are accurate or not, it may be noted they start from zero,* and so at first positive results would naturally be expected, more especially as the route so far has been, what I may term, bounty fed. Caravans coming along it to Quetta are free from all trade taxes; they are, as far as my information is correct, even exempt in some cases from the ordinary Quetta octroi duty. Considerable sums have been spent to cater for the convenience of travellers, and an expensive staff is maintained to administer to their wants. In fact traders are offered liberal inducement to travel by this route, and are not asked to contribute anything towards its upkeep. In support of this, I may mention here rather a quaint remark which one intelligent Pathan trader made to me during my recent tour in reply to some of my enquiries regarding various routes from Persia to India. "Sahib," he said, "this route differs from all other routes I know; this one takes expenses from Government for our benefit, whereas we have to pay expenses to Government when we travel by the others." Herein is described exactly the attraction of the Nushki route, and the only advantage it offers over its rivals.

Assuming the statistics which I have just quoted to be accurate, the route can at present be considered as in its experimental stage only. How far trade along it will continue to expand remains to be seen. There may be an abnormal rise in the returns for last year,† 1900-1901, but, if so, no direct conclusions can at present safely be drawn from this, for there have been disturbing influences on the Persian Gulf routes which may account for it. I understand the customs at Bunder Abbas, and all the Gulf ports, were in the spring of 1900 placed under the management of Belgian officials, a measure which produced a great deal of opposition on the part of Persian merchants, and resulted in commercial unrest and uncertainty. There was, I believe, almost a total cessation of trade through Bunder Abbas for a space of four or five months. It is probable that exaggerated rumours of this state of affairs spread to the interior of Persia, and induced many caravans to turn their course from the Gulf routes to the new Nushki route. If this latter is really attractive for Persian traders, it will secure the continuance of any increased traffic which has come to it in this way, and trade through Bunder Abbas will suffer accordingly. The poor restricted area with which only the Nushki route has to deal will, however, not permit the flow of its trade expanding much.

* A small amount of trade passed over parts of this route before 1896-97.

† Since writing this, I have seen it stated in a *Pioneer* article that the trade returns for 1900-1901 gave a total of 13½ lakhs of rupees, or a comparative rise of a little less than 1 lakh over the returns for 1899-1900. This, in the circumstances, is not as much as I would have expected.

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LOCAL REQUIREMENTS OF THE NUSHKI TRADE ROUTE FOR TELEGRAPH COMMUNICATION.

25. Captain Webb Ware advocates very strongly the extension of the Quetta-Nushki telegraph system firstly to Dalbandin, and afterwards up to, and beyond, the Persian Frontier to Kerman. I cannot find any direct mention in his report as to whether such an extension would be likely to pay, or whether the class of traders which travel over the Quetta-Siestan route require telegraph communication, or would be likely to use it, if established for them. A true answer to these enquiries will, I think, be found to be in the negative.

There are at present two offices on the Quetta-Nushki telegraph system, one at Panjpai, and one at Nushki. When passing through Nushki on my recent tour, I had an opportunity of scrutinizing the traffic returns of the Telegraph Office there. I found that from the time it was opened in May 1900 to the time of my visit in December 1900 the revenue derived each month was, in no single instance, sufficient to cover the office working expenses, exclusive of other expenses incurred on account of line maintenance. If then a telegraph office at Nushki, which is, to use a grand expression, the metropolis of the trade route, is found to be unprofitable, it is not unreasonable to infer that offices, if opened at other places on the route, would be still more so.

If the extension which Captain Webb Ware suggests is demanded for political reasons, I have nothing to say in the matter, except that, in this case, it would I think be better to continue on the light line with a single wire which now exists to Nushki to the Persian frontier, or whatever place it is wanted, than to imperil an important commercial and international line by bringing this along an unsuitable route for some indirect and secondary purpose.

THE NUSHKI TRADE ROUTE. A POLITICAL MATTER.

26. In stating my opinions so far in this report, I have endeavoured to keep on the right side of the boundary within my own province. I will now ask leave to overstep this boundary for a moment. Assuming that the Nushki route admits of much development, there is one objection to its undue advancement which presents itself to me. This may, or may not, be worth considering, but I will state it. The existence of the Nushki route is directly against the interests of Afghanistan. Any marked assistance given it may appear like an attempt to injure the revenues of that country, and, in consequence, may create a certain amount of ill feeling on the part of the Amir towards the Indian Government. This would perhaps be a trivial objection if the Nushki route could claim any intrinsic worth, or secure any profitable return for the money spent on it, but where the chief, if not the only, advantage that can be claimed is the establishment of political influence in a small isolated province like Siestan, which, as I have said before, would be considered, if in India, as an insignificant village, it may be questionable whether this influence is not being bought too dearly if, in addition to all the expenditure which the route will entail, and for which there cannot possibly be any direct return, it will alienate the friendly feelings of the Government of Afghanistan from the Indian Government. Personally I do not think the Nushki route is important enough to create much friction, as the Amir is probably kept well informed, and can gauge its value pretty accurately. That the subject has attracted his attention, however, may be seen from the fact that he has established several preventive posts on the Afghan-Baluch frontier, obviously with the view of injuring the Nushki-Siestan trade route. More particulars regarding these preventive posts are given in paragraphs 14 and 35, Appendix I, of Captain Webb Ware's report (1899-1900). While I am beyond my boundary, I will state one other matter which I remember hearing from a Political Officer of experience. In repeating it here I hope I am not committing any breach of etiquette. It is that the undue prominence which has been given to the Nushki route, and the frequent flourishing references to it which are published in the Indian press, are certain to create a suspicion amongst those representing the Russian forward policy, who will not be slow in taking full advantage of the occasion to make some much more valuable countermove in return. These press references are no doubt beneficial as advertisements, but it is worth noting that they may be attended with some

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degree of harm, especially when they are unduly embellished. Having written so much I will now step back to my own ground.

NEWSPAPER REFERENCES ABOUT NUSHKI TRADE ROUTE.

27. On the subject of newspaper references, I would like to make a few remarks. Amongst the Indian press, the *Pioneer* in particular advocates with strange persistency the claims of the Nushki route. It would be interesting to know why. It would also be interesting to know from what source it derives its information on the subject, for many of the statements which have appeared in its columns are, I think, misleading, and very much open to question. With most of the matter which is published I have, of course, no concern. It is only because the telegraph is occasionally mentioned that I have any right to meddle, or allude to the subject here. My reason for referring to the *Pioneer* is the same as for referring to the official report by the Political Assistant, Chagai, which is that it advocates very strongly the extension of the Quetta-Nushki telegraph system, first onwards to Robat (Koh-i-Malik Seah), and hence to Kerman. This, it may be noted, corresponds with the proposal made by the Political Assistant, Chagai. As the paper is an influential one, whose views are generally marked by sound common sense, its opinion with regard to extending the telegraph from Nushki to Kerman may tend to prejudice the interests of the Central Persia Telegraph Extension in some minds. I cannot at present lay my hand on some references I would like, but I will quote extracts from two leading articles which have appeared recently. The *Pioneer*, dated the 26th January 1901, contains the following:—

".....so far the telegraph has only been extended to Nushki, its extension onwards to Robat, and hence to Kerman is urgently demanded. A survey of the old route made in 1898, *via* Amir Chah, resulted in an unfavourable report being sent in by an Indian Telegraph Officer, as the moving sand hills seemed an insuperable barrier, but now a fresh survey is being made, and we cannot believe that any difficulties will be found to exist."

I don't know why the extension of the telegraph is urgently demanded to Robat,* and hence to Kerman. The *Pioneer* does not supply many reasons to support its extravagant request. As far as I can see, there is no trade between Robat and Kerman,† and never likely to be any, at all events until some better means of transport than the camel is obtainable for the journey.

In the course of an article dated the 1st June 1901, the following appears:—

".....For the due expansion of the trade which has sprung up so rapidly in the last three or four years, telegraphic communication is urgently required. The wire has been already laid from Quetta to Nushki, and its extension onwards to Siestan is a work which the Government of India might well sanction for next cold weather.....Leaving strategic considerations out of the question, though they are important enough to claim attention, the building of the telegraph line can now be justified on commercial grounds alone." It is impossible for me to surmise who the writer of these and other similar articles is, although it is evident he is a staunch supporter of the trade route. I would like to know what are the commercial grounds which would justify the extension of the telegraph line along the Quetta-Siestan route. The Quetta-Nushki telegraph system is worked at a loss, and this being so it is probable, nay certain, that telegraph offices, if opened further west, would be still more unprofitable. I have referred to this subject in paragraph 25 of this report. I need not here add further to what I have already said. So long as the Nushki route bases its demand for support on political reasons, it can claim a certain immunity from ordinary criticism, but, when it tries to justify its existence on commercial grounds, its case, I think, is a weak one. I have not space, if my discourse is to be kept within reasonable bounds, to question more of the *Pioneer's* statements regarding the Nushki route. I will only say that many of its utterances on the subject appear to me to be characterized by the same enthusiastic optimism which is evident in the official reports by the

† Vide paragraph 22 of this report.

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Political Assistant, Chagai. The opinions of both correspond closely, and should, in their proper valuation, be accepted with great caution. References have appeared in other local papers, but with less frequency than in the *Pioneer*. In fact from the free use that has been made of the press in attempting to force on the Nushki route, I cannot help likening it to the case of some new patent medicine, pushed forward on the public by loud advertisements, and exaggerated promises, and, with these methods, sometimes even a worthless article will thrive for a time. That it should be necessary to advertise any Government undertaking with such unblushing persistency, as in the case of the Nushki route, shows, I think, that its intrinsic worth is of a poor order.

THE NUSHKI TRADE ROUTE. GENERAL REMARKS.

28. I have now finished my discourse on the Nushki-Siestan trade route. I have written more freely about the subject than I at first intended, but I hope I have not transgressed the limits of propriety. I offer my remarks for what they may be worth, without laying claim to any knowledge not directly within my province, or that is not within the reach of an ordinary uninitiated observer. The opinions I have expressed may, or may not, be sound. They have, however, not been hastily formed. I have now had the experience of having three times traversed the country from Quetta to the Persian Frontier, *via* Nushki, twice in a westerly, and once in an easterly, direction. I have had the advantage of consulting local traders as far west as Bam, and of hearing their opinions, and I have also heard the views of various officials. On careful consideration I can come to no other conclusions than those I have stated. From what I have written I may be considered prejudiced against the Nushki route. This is not the case. That my opinion is unfavourable I admit, but if it could be shewn how, and where from, a reasonable flow of trade might be expected, and how any tangible result is likely to accrue to Government for all the expense the route entails, I would be glad to change this opinion. I trust my criticisms will be found moderate and fair, as I know my statements of fact are accurate.

CONCLUSION.

29. The overland routes available for the extension of the Central Persian telegraph line to India are, I think, from Pahra to Karachi, or from some place such as Pahra, or Bam, to Quetta. As far as I can gather the Pahra-Karachi route appears a practicable one, and does not present any unusual difficulties, whereas, on the other hand, the Quetta route will under any circumstances be troublesome. Before at all considering the construction of a telegraph line along the Quetta way, it is essential for the Telegraph Administration concerned to obtain a definite understanding as to whether the Quetta-Nushki-Siestan trade route is likely to be permanent, or not. If the route is to be permanent then, as I have already said, the maintenance of a telegraph line along it would be facilitated thereby, but if it proves a failure, or should at any time be abandoned, the trouble and expense of keeping open a long line of communication through five or six hundred miles of most difficult country, a barren uninhabited desert of the worst description, would all devolve on the Telegraph Department. The figures of cost, etc., given in my estimates will not in this case apply, but will require to be greatly increased. Some signs of life now appear at the various thanas and rest huts along the trade route, but withdraw the artificial support that keeps these thanas and the staff at them in existence, and the country will at once lapse into its normal condition of weird desolation. I have attempted to show that the Nushki trade route is a very inferior means of communication between Persia and India; (1) it runs through a barren desert as far as Siestan for about 500 miles; (2) the range of its Agency is very limited, that is, it taps no field of commercial prosperity along its course, and very little at its extremity; (3) the country with which it has to deal is poor; (4) the expense of its upkeep is considerable; (5) the amount of trade which can flow along it is restricted, because there can be only a small flow in the eastward direction, and, consequently, the westward flow is checked thereby; moreover the cost of transport is great, and prohibitive for many ordinary articles of commerce which might otherwise be dealt with. These and other disabilities must, I think, prevent

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the Nushki trade route from becoming a financial success, but, even assuming that it could become prosperous, its life would still be precarious. Whatever flow of trade it can get is only on the condition that the routes through Afghanistan remain closed. This condition will last only on the supposition that the Afghan Government continues unprogressive, and ignorant of its own advantages, which is improbable, or, to say the least, uncertain. A great deal of favourable, and, I think, unwarranted prophecy has been published about the Nushki trade route, but, before any of this can be accepted, some satisfactory statement of its claims for success is necessary. I do not know whether this trade route is being forced on as a commercial enterprise, or as a move of political importance. My criticisms are directed on the assumption that the former is partly the case. The official and other reports on the subject certainly lead one to believe that the route possesses great intrinsic value commercially. As regards the political side of the question, I do not, of course, attempt to express any opinion.

However, assuming that the Telegraph Department will derive permanent assistance from the Quetta-Nushki-Siestan trade route, the advisability of bringing an important telegraph line along this way is still doubtful. In the concluding paragraph of my former report on the route north of the Koh-i Sultan, I summed up the difficulties that would be encountered: *vis.*, (1) quantity of drifting sand met with, (2) scarcity of water, (3) the total absence of supplies and labour over the greater part of the distance, (4) transport cannot be obtained when required at short notice, (5) climatic conditions unfavourable, and violent storms frequently occur, (6) the route lies through a comparatively unsettled country, and telegraph wires along it would be exposed to malicious damage from raiders and local malcontents, and (7) restoration of communication in case of interruptions would be liable to such long delay, owing to the difficulty in procuring labour and transport locally, that telegraph traffic would be rendered most uncertain and insecure. All of these difficulties still exist along the route now under report, except that the quantity of sand met with is not so great. The route from Teheran to Karachi, *via* Yezd, Kerman, Bam, Pahra, Magas, and Bela, is, *prima facie*, the most direct one, and passes through the most fertile and populated region of what is at its best a poor country. A great portion of Persia north of the line this route takes, with the exception of part of Khorassan, is, I think, of little value. The route from Bam to Quetta will pass through almost the maximum amount of desert, 600 miles at least, scarce in water, and devoid of transport, labour, and supplies. Any advantages that may be urged to influence a decision in the latter's favour will require very careful consideration. What they can be I do not know. It is usually easy enough to get into a quagmire, but to progress through one, or get out again, is more difficult. So it is with the country between Quetta and Bam. A lot of tempting literature has been written to draw on expensive projects. By spending enough money, a telegraph line can readily be constructed through it, but to maintain this in efficient order, and to ensure that telegraph traffic will not be subject to undue delay, will be more difficult.

Considering all the circumstances, I am unable to recommend that the Central Persian telegraph line be extended to India, *via* Ladis, or Koh-i-Malik Seah, unless, as I have said before, it should be proved impossible to select a more favourable route elsewhere.

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Assistant Superintendent of Telegraphs.

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APPENDIX. I.

Description of the route from Koh-i-Malik Seah to Bam, *via* Hyderabad.

From Robat, the camping ground at Koh-i-Malik Seah, the course to Bam leads in a general south south west direction to Pepelee, the first halting ground, ascending the whole way over stony nala, or torrent beds through bare mountainous country. Pepelee is $13\frac{1}{4}$ miles from Robat, and is marked by a few springs of brackish water in a narrow defile; the supply of camel grazing and fuel in the vicinity is very scarce.

From Pepelee, the course continues ascending through a narrow nala bed for about 1 mile, then descends for $1\frac{1}{2}$ miles in a westerly direction, and enters on to a desert plain, soil stony mixed in some places with gravelly sand; course now takes a south west direction, for 6 miles, up to the north west spur of Lakshak mountain, then changes to south south west, and continues on over the open plain right up to the north north west base of Koh-i-Petki. Petki, the second camping ground, is close to the foot of this mountain, and is 16 miles from Pepelee.

After circling round the north west spur of Koh-i-Petki for about $\frac{1}{2}$ mile, the course continues in a west direction for about 6 miles, ascending an open stony valley; it then leads over a broad flat desert plain for 7 miles to Chama, which is near some undulating ground. There is a good spring of water at Chama. A small encampment of about 10 men, and some women and children, have settled here, and live in gidans, or little blanket tents, hidden away in a hollow amongst low hills. They have cultivated a small patch of ground near the spring of water.

From Chama, the course for the first two miles is almost due west, in a dry nala bed between low undulating ground, then descends for 12 miles, in a south south west direction, through a stony valley, about 4 miles wide, with the Koh-i-Dumag on the south and a low range of irregular hills, called Pachangucht, on the north. Last $2\frac{3}{4}$ miles of this march, direction south, are over a broad desert plain with sandy gravelly soil. Dumag camping ground is due south of the south west spur of Koh-i-Dumag. Three small dilapidated remnants of a mud wall mark the place. There appears to have been a small mud fort here in by gone days. There are also some signs of 4 old wells, which have all collapsed. The only water available at the time of my visit was from a few muddy pools which had collected after the heavy rain last winter. If fresh wells were sunk more water would probably be found.

From Dumag, the course is due south for about 4 miles, over a flat plain with sandy gravelly surface, then crosses a low range of hills, and descends through open low hilly country for 6 miles in a south west direction. Last 5 miles to Galugan, the direction is west south west, over a sandy gravelly plain. Galugan is the name given to a small area in a narrow valley, enclosed between low hills varying in height from 150 to 200 feet. A small roving population of about 50 people have settled here in little tents, and have cultivated 3 or 4 acres of land.

The course from Galugan for 3 miles is in a north west direction through a narrow valley which gradually develops into a nala bed, or dry water course, and becomes a tributary of the Rood Mahee, or river Mahee. This river is dry, but a flood of water occasionally rushes down it. The course for the next $14\frac{1}{2}$ miles continues winding about in a general west north west direction down the stony bed of the Rood Mahee, which is flanked by high precipitous hills on either side. This river passes through the Pir Soran mountains. My guides informed me there is no other pass between these mountains within a distance of 50 miles.

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At about 17½ miles from Galugan the course leaves the Rood Mahee, and ascends over stony ground for 3 miles, direction a little west of north west, to a pass in the Sianacha range of hills. The ascent for about half a mile to the top of the pass is very steep, and difficult for laden animals, as also is the descent for about half a mile at the other side. After crossing this range of hills, a broad desert plain is seen extending far away to the west up to and beyond Bam. The course from the Sianacha hills to Hyderabad for 6 or 7 miles continues down a gentle slope, over sandy gravelly surface, direction a little south west. Hyderabad is a sort of oasis in the surrounding desert, and contains about ¾ square mile of cultivated land; its population consists of about 30 men, and some women and children; these live in gidans, or little blanket tents. The supply of water from a small open stream is plentiful and good. Between Galugan and Hyderabad, about 17 miles from the former, there is a suitable place for camping on one of the banks of the Rood Mahee. There is a good supply of water near which springs out of the ground at intervals, and disappears again after flowing a short distance. From Hyderabad some sign of a track appears leading west, and for the first 3 miles ascends over sandy gravelly ground to the top of a low range of shaley hills, then descends gradually for another 3 miles the same hills, in a west south west direction; the last 6 miles to Mazarab are almost due west, over a stony plain, surface mixed with sand in some places. The water from springs at Mazarab is very brackish, and not good.

Hyderabad to Maza ab—12 miles.

The course from Mazarab to Shorguz is in direction about 15° south of west, for the first 20 miles over flat open desert country, surface sandy gravelly, and for the most part absolutely bare; the last 5½ miles to Shorguz are through sand hills, varying in height from about 10 to 40 feet. Shorguz is the name of a camping ground, near the sand hills. The place is difficult to find, as there is no good land mark near. It possesses one well of brackish water.

Mazarab to Shorguz—25½ miles.

From Shorguz to Fahreh, the general direction is about west south west; first 5 miles over flat sandy ground, on which a few tamarish trees grow, next 25 miles over a sandy plain with surface of fine gravel, on which for the most part there is no sign of growth of any sort. At the 13th mile from Shorguz is the Mil-i-Nadir or pillar of Nadir. This has already been described in paragraph 18 of my report. The track for the last 1½ miles to Fahreh is over flat cultivated ground. Fahreh is a small village of about 200 houses, situated on the south west border of the Kerman desert; its population is probably about 500 people, and a very poor looking lot these are. Ordinary supplies can be procured here in small quantities. There is a fine grove of about 300 date trees on the north side of the village.

Shorguz to Fahreh—31½ miles.

Between Hyderabad and Fahreh, a distance of 69 miles, there is not a sign of life to be seen anywhere, and no decent drinking water procurable midway.

From Fahreh, the track for the first 4 miles is in a west south west direction, over open country, barren pat soil mixed with a good deal of sand. At the 4th mile is Nymabad, a small village of about 100 houses, and a population of about 300 people. From Nymabad the track turns west, and continues over soft soil, on which is a plentiful growth of tamarish trees and thick jungle. The country in this vicinity very much resembles Sind. At the 12th mile from Fahreh, Husseinabad, a small village of about 100 houses, is passed. From here the track turns to west north west, and continues on over flat cultivated country, with a few small villages scattered about at intervals. Vakeelabad contains a large walled in garden, about 270 yards square, owned by Vakeel-el-Mulk, also a small village of about 40 houses, with a total population of about 200 people. Ordinary supplies in fair quantities are procurable here.

Fahreh to Vakeelabad—18½ miles.

From Vakeelabad, the track traverses flat open country and, after leaving the cultivation about 1 mile west of Vakeelabad, continues in a west north west direction over a barren plain, with gravelly surface, for 15 miles, until the Suburbs of Bam are reached.

Vakeelabad to Bam—18½ miles.

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List of halting places on the route from Koh-i-Malik Seah to Bam, via Hyderabad.

Names.	Distances apart in miles.	REMARKS.
Robat (Koh-i-Malik Seah)	...	Most westerly post in British territory on the Nushki trade route; height about 2,800 feet.
Pepelee ...	13½	Contains a few springs of brackish water in a narrow nala-bed: camel grazing and firewood very scarce. Height about 5,100 feet. Prismatic compass bearing: to Lar Koh 91½°.
Petki ...	16	Contains two wells close to the north-north-west spur of Koh-i-Petki: water in one 3' from ground surface, 5' deep and 3' diameter, " " second 9' " " " 2' deep and 3' diameter, quality of water good. Camel grazing plenty, consisting of mesk and a little lana. Firewood rather scarce. Height about 5,200 feet. Prismatic compass bearings: to Lashkak Koh 59°, to Petki Koh 202°, to Buzghargi 311½°.
Chama ...	14½	Water from a spring plenty and good; camel grazing plenty, reoo and jowassa; firewood from some tamarisk trees plenty. Height about 5,800 feet. Prismatic compass bearings: to Petki Koh 37°, to Buzghargi 348°, to Bozae 110°. About 30 people live here.
Dumag ...	16½	No water obtainable except from pools after rain; camel grazing plenty from Tagaz and jowassa; firewood plenty from tagaz trees. Height about 4,700 feet. Prismatic compass bearings: to Dumag Koh 21½°, to Pir Soran 242½°.
Galugan ...	15	Water from a small open stream, good and plenty; camel grazing plenty, from tamarisk, mesk, and jowassa; firewood plenty from small tamarisk trees. Height about 4,700 feet. Prismatic compass bearings: to Pir Soran 270°, to Koh-i-Gow 78°, to Koh-i-Taftan 124°. About 50 people live here.
Hyderabad	29	Water from a small open stream, plenty and good; camel grazing plenty from tamarisk, lana and jowassa; firewood plenty. Height 4,000 feet. Prismatic compass bearings: to Pir Soran 109°, to Sultan Pawal 35°. About 70 people live here. A few supplies in the shape of bhoosa and grain can be procured in small quantities.
Mazarab	12	Water from few springs, very brackish, and not good; camel grazing plenty from tamarisk trees. Height 4,000 feet. Prismatic compass bearings: to Koh-i-Basman 164°, to Pir Soran 99°, to Sultan Pawal 47°.
Shorguz ...	25½	Water from one well, about 4' from surface, supply scarce, quality brackish, and not good; camel grazing plenty from tamarisk and lana; firewood plenty. Height 3,600 feet. Prismatic compass bearings: to Basman Koh 148½°, to Pir Soran 89° to Jamalbareh 235½°.

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*List of halting places on the route from Koh-i-Malik Seah to Bam, via
Hyderabad—concl'd.*

Names.	Distances apart in miles.	REMARKS.
Fahrehabad ...	31½	Small village on south west border of Kerman desert; population about 500; water-supply good; ordinary supplies procurable in fair quantities. Height 3,650 feet. Prismatic compass bearings: to Pir Soran 77°, to Koh-Basman 127½°.
Vakeelabad ...	18½	Contains large walled in garden, about 270 yards square; also small village with a population of about 200 people; ordinary supplies procurable in small quantities. Height 3,400 feet.
Bam ...	18½	Small town; population about 5,000 people; civilization very backward; supplies procurable in plenty. Height 3,600 feet.

G. C. Press, Simla.—No. 23 D. G. T.—5-8-01.—50.

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APPENDIX II.

AN EXPLANATORY NOTE.

IN paragraph No. 4 of a memorandum by Mr. Finch, the Director-in-Chief Indo-European Telegraph Department, No. I. E.-956, dated 15th November 1899, the following is written :—

"I think it is to be regretted that Mr. Armstrong did not travel by the southern route on his return journey to Quetta, as he might then have come to a different conclusion as to the practicability of constructing the line."

With reference to this paragraph, I have been directed to state in this report my reasons for not surveying the route south of the Koh-i-Sultan during my journey from Ladis to Quetta in 1899. In doing this I will at the outset invite a perusal of three letters, copies of which marked A., B. and C. respectively, are given below.

It will be seen from these letters that the possibilities of a route existing south of the Koh-i-Sultan had not escaped my notice. In the early part of 1899, however, the country south of this mountain had not attained the importance which now attaches to it, in fact it was not then considered to possess any feasible route at all. I decided to explore it on my own initiative, and how I was forced to abandon my attempt will appear from the following narrative.

After our arrival at Mirjawa, close to Ladis, in February 1899, the Political Assistant, Chagai, in compliance with my request for three reliable guides and the necessary escort, deputed six men to accompany me on my journey east. These men were of a very nondescript class, and were of all ages from 12 to 50 years; five of them were altogether unarmed, and one possessed an old matchlock gun, more a thing of ornament than of use. My party was a very small one, consisting of Sub-Inspector Ainuddin Khan, and a few servants, with 7 baggage, and 3 riding, camels. I had started from Quetta in company with Captains Webb Ware and Roome, and Messrs. Tate and Vredenburg, and I never anticipated I would have to separate myself from them except perhaps for a few days at a time. I therefore made no special arrangements for carrying separate supplies, but was dependent for what I required on the General Camp Mess, and Commissariat. I need hardly say that Camp stores were not in abundance in the middle of February, after a three months' drain on them. Hence it happened that, when separating myself from the main party at Mirjawa, I took with me sufficient rations, estimated to last for about 11 days, during a rapid journey to Dalbandin, where I knew some supplies had been deposited. I had with me the means of carrying sufficient drinking water to last my party for about one day, or with economy for two days, not including any drink for camels. I was possessed of no maps of the country. I had asked for these before leaving Quetta, but I was told that there would be considerable delay in getting them, and was directed to make any tracing of one necessary for my guidance. This I did, but the information it recorded of the country south of the Koh-i-Sultan was, I regret to say, very vague. Considering my general equipment, it will be seen that I was not well prepared for any hazardous exploration. We left Mirjawa on the 21st February 1899. Our first march of 15 miles to Juzhak was an easy one. From Juzhak we had to face an uninhabited barren desert; for about 48 miles no water was to be met with until Duzghi would be reached. Our second march for about 24 miles was all right; there was no track marked out, so we had only to keep an approximate direction towards Duzghi, and we could drop anchor, so to speak, whenever we felt inclined to; one place in this desert was as good as another, as there was no water or decent camel grazing anywhere. Our third march, however, was more important. At the end of our long 24 miles we expected to find the harbour of Duzghi, where a small spring of water existed. The quality of this water was not good, as the analysis of it, which I quoted in paragraph 4a of my last report, will show, but, in the country we were placed in, it was of priceless value. I had sent on all the baggage camels at 10 o'clock at night, so that they might arrive at Duzghi early, and obtain drink, as they had had none the day previous. I started at 8 o'clock the following morning riding a pony, with Sub-Inspector Ainuddin Khan and one guide on a riding camel, and one servant and

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a syce on another. Our advance party, which started the night before, had very great difficulty in finding Duzghi; the camels were 18 hours under their loads wandering about, and it was more by good fortune than the guides' direction that they eventually reached the place. I too with my small party had an anxious time coming on after them in trying to keep on their tracks. A slight sandstorm blew during the day which gradually covered up all their footmarks, and at 4-30 P.M. we found ourselves altogether stranded. I halted for half an hour, and sent off the four men with me in different directions to try and pick up the tracks somewhere. Fortunately my servant with the baggage camels had anticipated our difficulty, and sent five men, the Guides, in search of us as soon as he reached Duzghi. Had it not been for meeting with one of these men, my party would probably have been belated all night. The animals, especially the pony, were showing signs of distress for want of water, and going a third day without getting any would have been very trying for them, as well as for us. The prospect of becoming lost in a waterless desert is not the most pleasing subject one can think about. On arriving at Duzghi I cross-examined the guides as to what they knew of the country further east where we were going. I then discovered the startling fact that only one of the six men who were supposed to be guides had ever before been to Duzghi, or any other place south of the Koh-i-Sultan, and this one only once, many years ago; his knowledge was of the most hazy description. Four of the men had never even been to Amir Chah along the trade route. Considering then my scant equipment, I thought it best to abandon my course, and to strike north for the trade route at Amir Chah. It was, I know, very foolish of me to have started from Mirjawa without having carefully ascertained there how much, or rather how little, the guides knew. On arriving at Amir Chah, I dismissed four of the men, misnamed guides, and sent them back to Captain Webb Ware, informing him at the same time by letter (copy marked C attached) that my reason for doing so was that they were more of an encumbrance than use to my party, that they were not guides, neither could they be considered an escort, for they were unarmed. Had I decided to retrace my steps from Amir Chah to Duzghi, and carry out my original intention of keeping to the south of the Koh-i-Sultan on my return journey to Quetta, I should have had to wait for, perhaps, 10 days, or more, at Amir Chah while the local Thanadar was collecting more guides, and would also have been placed almost on famine rations. Considering the circumstances, I did not think the object worth delaying for, so I came on eastward, as fast as I could, by the trade route track. I must explain that I did not, at the time, attach much importance to seeing the country south of the Koh-i-Sultan. From the information I had received, I did not expect to find a satisfactory route there. Captain R. E. Roome, 6th Bombay Cavalry, who was exploring on behalf of the Intelligence Department, gave me much assistance. He had seen most of the country and knew it thoroughly. From his descriptions, I gathered that the place was a hopeless desert, as I have since found it to be, and that water was met only at long distances apart, and was almost, without exception, unfit for drinking. I was altogether ignorant of any intention to divert the trade route that way. Had I suspected that such a diversion was likely, I would have acted differently. I don't know how far the Political Assistant, Chagai, contemplated, in February 1899, diverting the trade route south of the Koh-i-Sultan; apparently he had in mind some idea on the subject, *vide* paragraph 55, Appendix II of his report on the development of the Baluch Persian Caravan route for 1898-99; I was not, however, informed of this at the time.

I cannot say what the composition of the men who were detailed to accompany me from Mirjawa was intended to be, how much guide, and how much escort, but practically there was very little of either. Only one man could claim any pretensions to being a guide, and only one to being an escort. One antiquated matchlock gun is not, I think, sufficient to guard a Sahib's party with safety travelling through any part of Western Baluchistan. That the country I was in was not exceptionally peaceful, or settled, can be judged from paragraph 56, Appendix II of the report on the development of the Baluch Persian Caravan route for 1898-99, above referred to. My baggage camels travelled mostly by night, and I by day, so that even if one gun was sufficient for me, there was nothing left to protect my kit from becoming the prey of any bandit on the road.

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I much regret the necessity for having to refer to this unpleasant incident. It was my desire to suppress the matter, and with that object I refrained from any mention of the country south of the Koh-i-Sultan in my previous report dated 7th May 1899.

Letter A. From H. A. ARMSTRONG, Esq., Assistant Superintendent, Indo-Persian Telegraph Survey, to CAPTAIN F. C. WEBB WARE, Political Assistant, Chagai,—(No. 13, dated Koh-i-Malik Seah, the 2nd February 1899).

I HAVE the honour to inform you that I will require to inspect the country from Ladis in an easterly direction towards Amir Chah, so as to report on the possibility, and estimate the cost, of constructing a telegraph line from there, or some other suitable place on the Quetta Koh-i-Malik Seah trade route, to Ladis; also, with the same object, I require to survey the country south of the Koh-i-Sultan range of mountains, so as to select, if possible, some alignment which will avoid the sandhills on the northern side, and to fix on some suitable place on the trade route, such as Chah Sundan, or Butag, for a telegraph line to branch off from the trade route to Ladis.

2. To enable me to do this, I shall be obliged if you will please arrange for the necessary escort, and for three reliable guides, and let me know when they can start with me from Ladis.

3. If I can traverse a route south of the Koh-i-Sultan from Ladis to some place, such as Butag, or Chah Sundan, mentioned in my paragraph 1 above, my field work will, on arrival at the latter, probably have finished, and I will therefore be free to return to Quetta, and I shall be obliged if you will kindly make arrangements in the way of escorts for my doing so. If, however, it is necessary for me to rejoin your party, please let me know your movements, and when you propose to leave the vicinity of Ladis, so that I can time my work accordingly.

Letter B. From CAPTAIN F. C. WEBB WARE, Political Assistant, Chagai, to H. A. ARMSTRONG, Esq., Assistant Superintendent, Indo-Persian Telegraph Survey,—(No. 33, dated Camp Killa Robat, the 3rd February 1899).

IN reply to your letter No. 13, dated the 2nd instant, requesting me to make certain arrangements in order that you may bring your field work to a completion at an early date, I have the honour to inform you that your requirements have been noted.

2. I propose leaving Koh-i-Malik Seah at an early date, probably on the 4th or 5th, and expect to reach the vicinity of Mirjawa on, or about, the 10th or 11th. The escort and guides you request will probably be ready to accompany you to Ladis and Chah Sundan a couple of days subsequent to the latter date.

3. Your proposal to return to Quetta, direct from Chah Sundan, quite meets my views, and I will facilitate it in every way. I anticipate no difficulty in arranging escorts from Chah Sundan onwards.

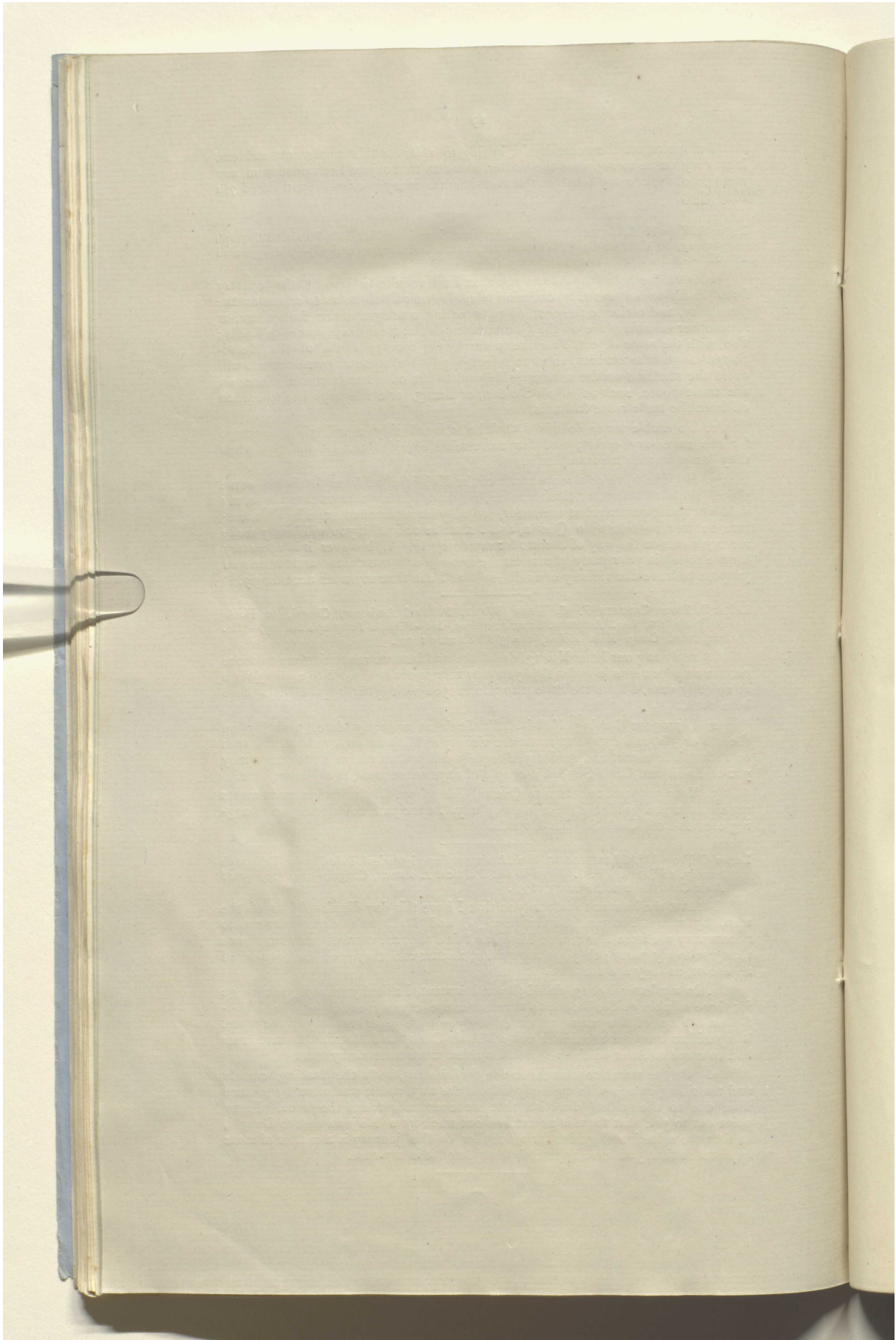
Letter C. From H. A. ARMSTRONG, Esq., Assistant Superintendent, Indo-Persian Telegraph Survey, to CAPTAIN F. C. WEBB WARE, Political Assistant, Chagai,—(No. 20, dated Amir Chah, the 25th February 1899).

I HAVE the honour to inform you that I have this day dismissed four of the men, by name Thagazi, Birphi, Gungol, and Malikshah, deputed by you to accompany me from Mirjawa to Mirui, as I find they are more of an encumbrance than use to my party; they are not guides, neither can they well be considered an escort, as they are unarmed.

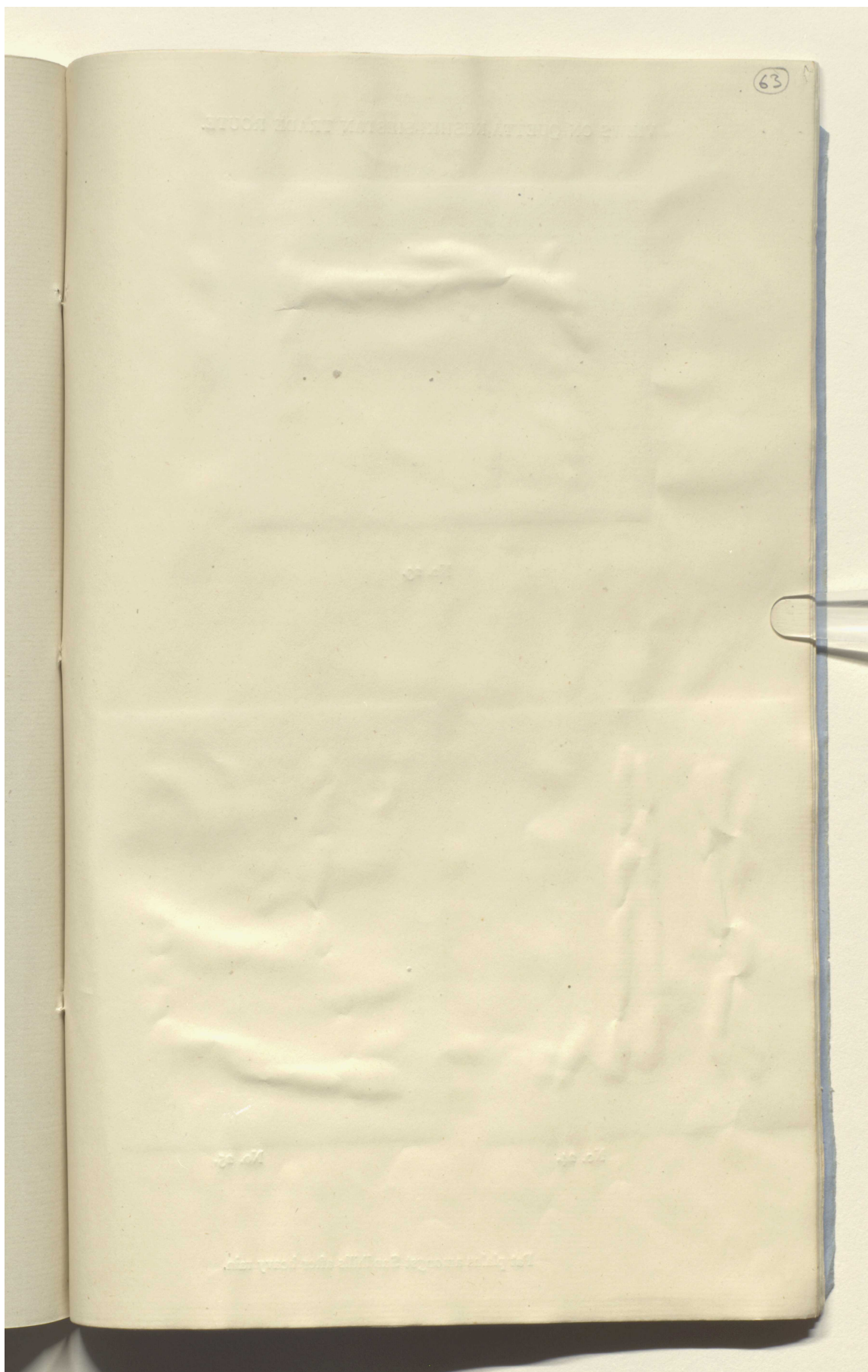
2. In my letter No. 13, dated the 2nd instant, I asked you to please arrange for three reliable guides for me to travel over the country south of the Koh-i-Sultan. Five of the men appointed by you have never seen any of the route. Thagazi has been once to Mirui, but *via* Amir Chah, and Manzil. I have now had to come to Amir Chah to search for a few more trustworthy men.

3. On the march to Duzghi on the 23rd instant, both the loading camels and the riding camels with me strayed from the way, and it was more by chance than due to the guides' direction that we eventually found the place. I may point out to you that there is no marked out track from Mirjawa east to Duzghi, so that the selection of guides for a traveller on this journey is a matter of more importance than you have apparently considered it in my case.

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'Views on Quetta-Nushki-Siestan [Sistan] Trade Route: No. 23. Pat plains amongst Sandhills after heavy rain' [63v] (1/1)

VIEWS ON QUETTA-NUSHKI-SIESTAN TRADE ROUTE.



No. 23.



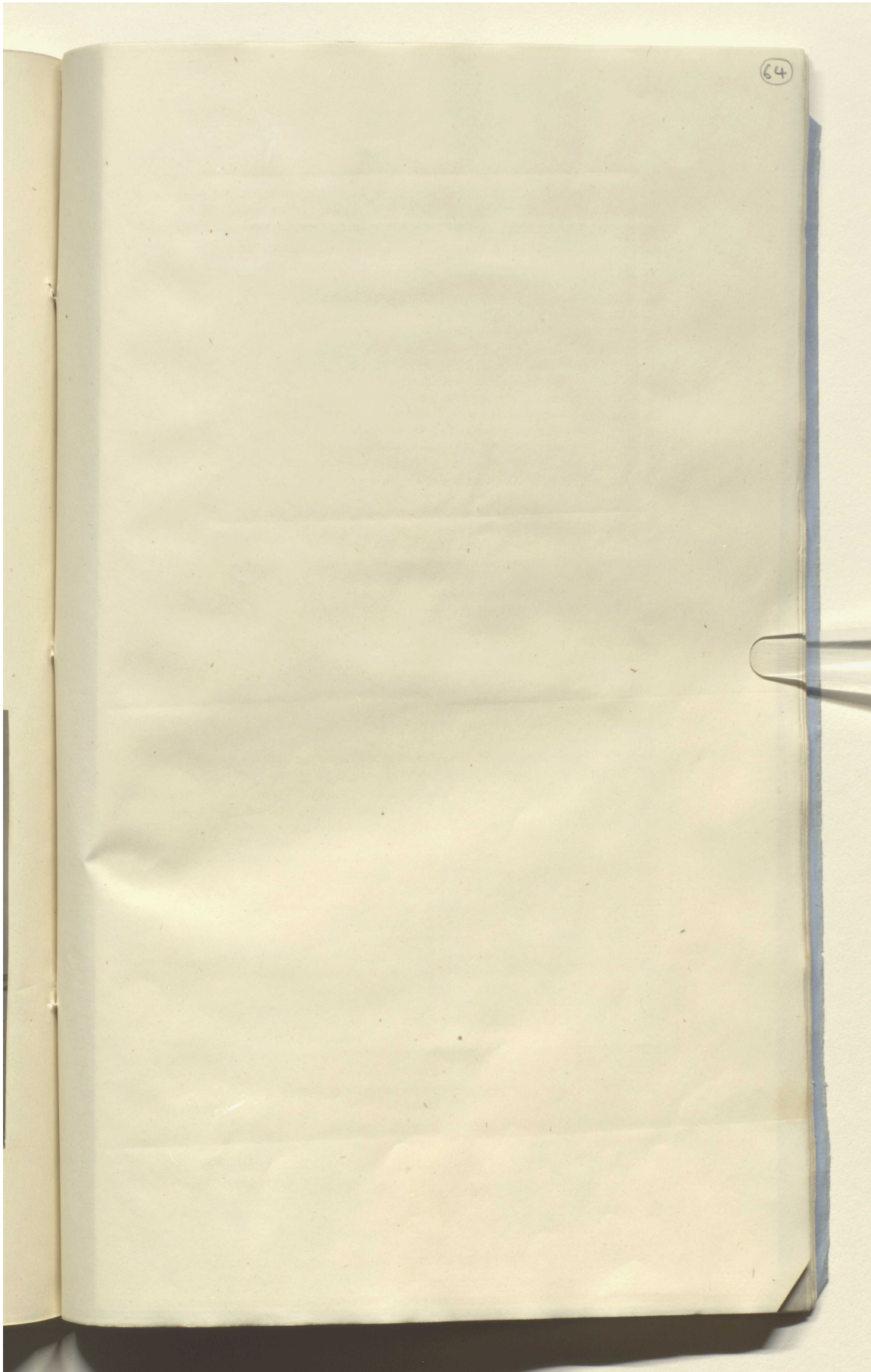
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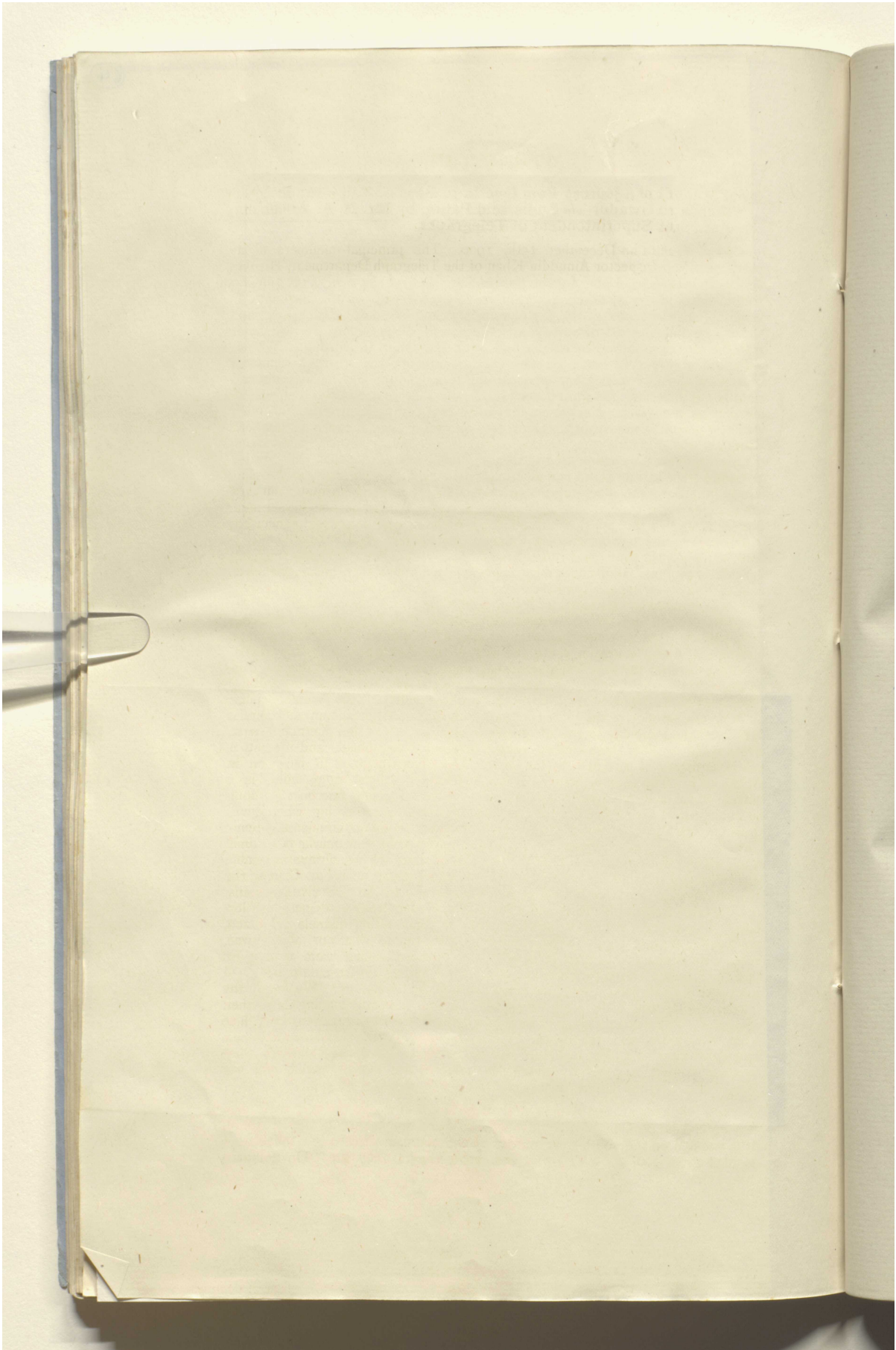
No. 25.

Pat plains amongst Sandhills after heavy rain.

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APPENDIX III.

Brief account of a journey from Quetta to Bam, *via* Koh-i-Malik Seah; thence to Gwadar, *via* Ladis, and Pahra, by Mr. H. A. Armstrong, Assistant Superintendent of Telegraphs.

I left Quetta on December 15th, 1900. The principal members of my party were Sub-Inspector Ainuddin Khan of the Telegraph Department, Hospital Assistant Mahomed Abdul Aziz of the Indian Medical Service, and Jemadar Rahim Khan in charge of my escort of six Baluch levies. I was fortunate in being able to travel part of my way in company with Messrs. Vredenburg, and Curtis, of the Geological Survey and Telegraph Departments, respectively; with the former as far as Dalbandin, and with the latter to Nushki. We experienced severe cold while on the Quetta plateau; the weather remained broken for about 10 days after our departure from Quetta, and heavy rain and sleet fell at intervals. In consequence of all this rain we had rather a novel experience on the Quetta-Nushki-Siestan trade route in meeting with too much water on one or two occasions. Our march on January 2nd, between Yadgar and Karodak, was a difficult one. In this vicinity there are several pat plains completely surrounded by sandhills, and these acted as basins to collect rain water. Some are from half a mile to one mile wide. As a rule, the best way of crossing was to go around the edge, but occasionally it was necessary to wade through the middle. The ground surface underneath the water had become liquid mud. Horses struggled through this with difficulty, while camels progressed somewhat in the form of amateur skaters. A camel is no doubt a good "ship" on dry land, but when his course lies through water, his position is not a happy one, and his rate of progress, slow under most favourable conditions, then becomes almost painful to look at, especially to the owner of his valuable load. All loads are, of course, valuable on a desert, for if damaged, they cannot be replaced. However we got through our difficulties all right on that day, without suffering more serious inconveniences than wet feet, and a late dinner. A few sand storms blew in that desolate region south and west of the Koh-i-Sultan, which made travelling here for the time being somewhat unpleasant, but beyond this we had an uneventful journey, and on the 22nd January 1900 reached Robat, the halting place near Koh-i-Malik Seah, a mountain on whose summit is the boundary pillar marking the junction of the three countries, Baluchistan, Afghanistan, and Persia. Here we halted one day to collect guides to steer us across the Kerman desert. From Robat to Bam there are two routes, one *via* Nasratabad, and the other *via* Hyderabad. I travelled by the latter, and a description of it is given in Appendix I. The country between Robat and Fahreh, about 173½ miles, is a barren waste, and practically uninhabited. A few hamlets are met at long intervals, where roving families have settled down near some spring which gives them enough supply of water to grow grain for their actual requirements. Some travellers occasionally frequent the route, as appears from faint marks of a camel track which exist in places. That the pursuits of these are not always peaceable can be judged from a little incident which occurred on my arrival at Chama, the 3rd halting place south-west from Robat, where about 10 families live in gidans, or little tents made of blankets and a few sticks, hidden away amongst some low hills. Two women, seeing our advance party on some riding camels approach, ran away in a great fright, and, without waiting to enquire what our object was, apparently announced to their protectors that some Baluchis were coming to raid their flocks. Soon we heard ominous shouts calling all the men to arms. I went with Sub-Inspector Ainuddin Khan and a guide to explore. We found the inhabitants of the little tents very disturbed, and hurriedly loading up all their old guns. The mere presence of strangers in their vicinity appeared enough to excite their fears, and suspicions. When, however, it was explained to them that there were no raiders near, and that only a Sahib was passing through, they became quieted, and shortly afterwards came to see our kit arrive, and sat around watching the proceedings in our camp with apparent interest.

On February 4th, we arrived at Fahreh, the first village we met with since leaving Nushki on December 27th, where ordinary supplies could be procured. It is situated on the south-west border of the Kerman desert; its inhabitants number about 500, and a very poor and unhealthy lot they are. On February

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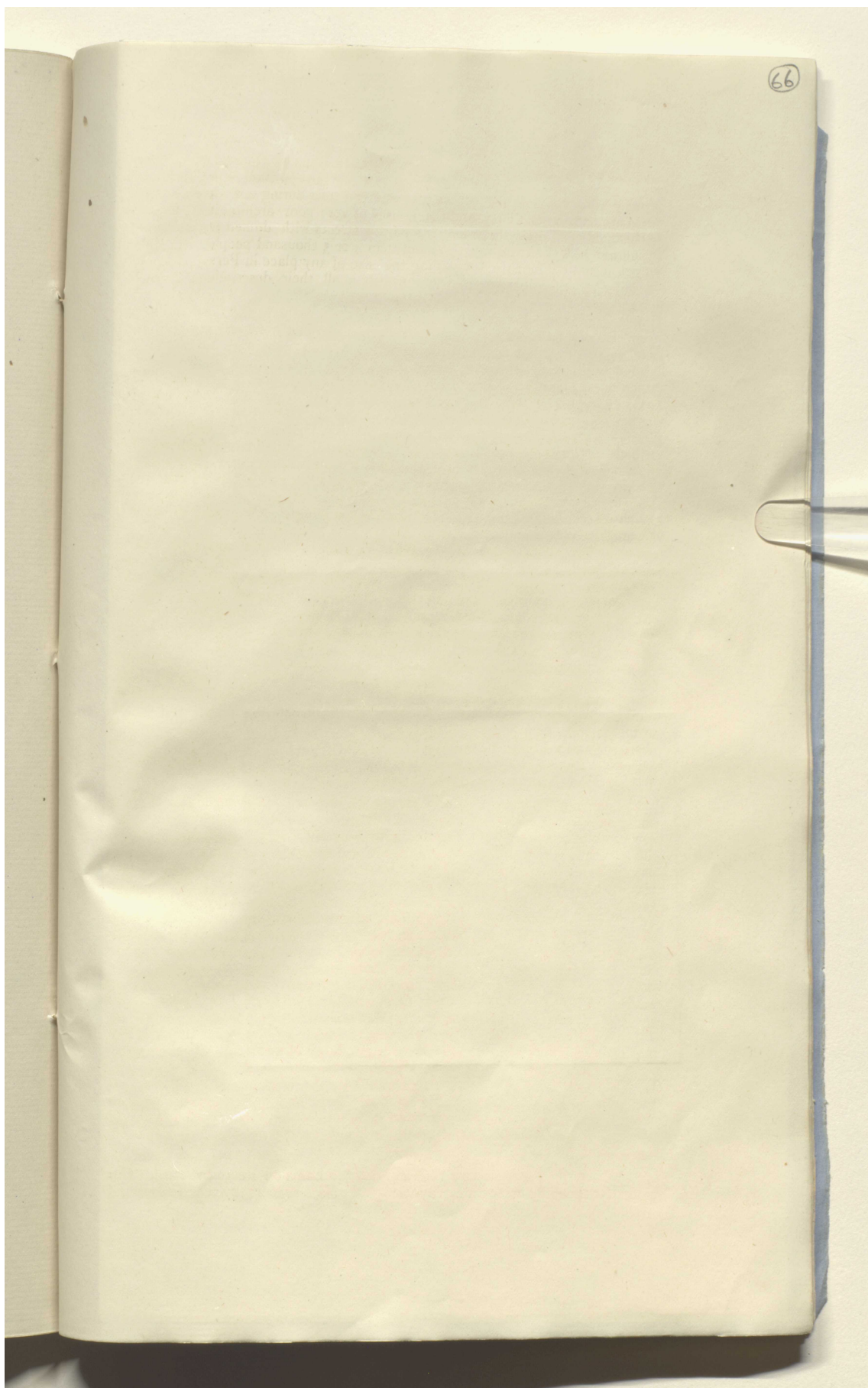
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6th we reached Bam, and were very glad to have come to the end of our journey westwards. Here we halted three days to rest our camels. Bam is not an imposing looking town, but is the largest we met with in Persia during our travels; its roadways are narrow and dirty, and the houses of very poor architecture; its bazaar consists of small open shops in a few narrow streets with domed roofs; its population numbers, I should say, not more than 4 or 5 thousand people; it is difficult to get accurate information regarding the size of any place in Persia from local inhabitants, as they exaggerate so obviously in all their descriptions given to a stranger. The most interesting sight in Bam is the old fort. This is about $\frac{1}{3}$ of a mile square, and is surrounded by high walls. In old days the town and bazaar were situated inside it. The citadel in the north corner was very strongly fortified, and must have been impregnable before modern guns were invented; it is skillfully designed, and solidly constructed, and its architecture shows signs of much more advanced civilization than exists in Bam at the present day. The guns on view were 3 old pieces of brass cannon, but I was told there are a lot more of improved pattern locked up in the arsenal. These, however, they did not display any wish to show me. The army in Bam, at the time of my visit, consisted, I think, of about two dozen men, and these were real caricatures for soldiers. They were undrilled, and armed with antiquated muzzle-loading guns. They appeared to have only four suits of uniform between them, and these were handed over one to the other by men on any special guard. The trousers was red in colour, very much shrunk, and tight fitting over other ordinary leg covering, and in some of them there were no buttons up the front. The coat was dark blue with red shoulder straps, and a variety of brass buttons. The hat was light dun in colour, cup shape in form, with a brass badge and a thin red band running diagonally across the front. There were three men dressed in the above style appointed to guard my camp, and they had four guns between them; three of these they piled in the orthodox fashion, and the fourth was then hung perpendicularly in the middle. Jemadar Rahim Khan, who was in command of my Baluch escort, strongly resented the presence of these Persian soldiers. He ridiculed them, and their weapons, and was very anxious to get my permission to clear them all out, as he considered they were a slight on his capabilities to protect me. With a little flattery I pacified him, and he agreed to tolerate them, but only by day. He said he could not be responsible for the peace and safety of the camp, if these foreigners were allowed to remain in it at night time. I shared his view in this matter, that it would be better if they withdrew in the evening. By feigning solicitude for their personal comfort, I succeeded in getting rid of them from sunset till sunrise.

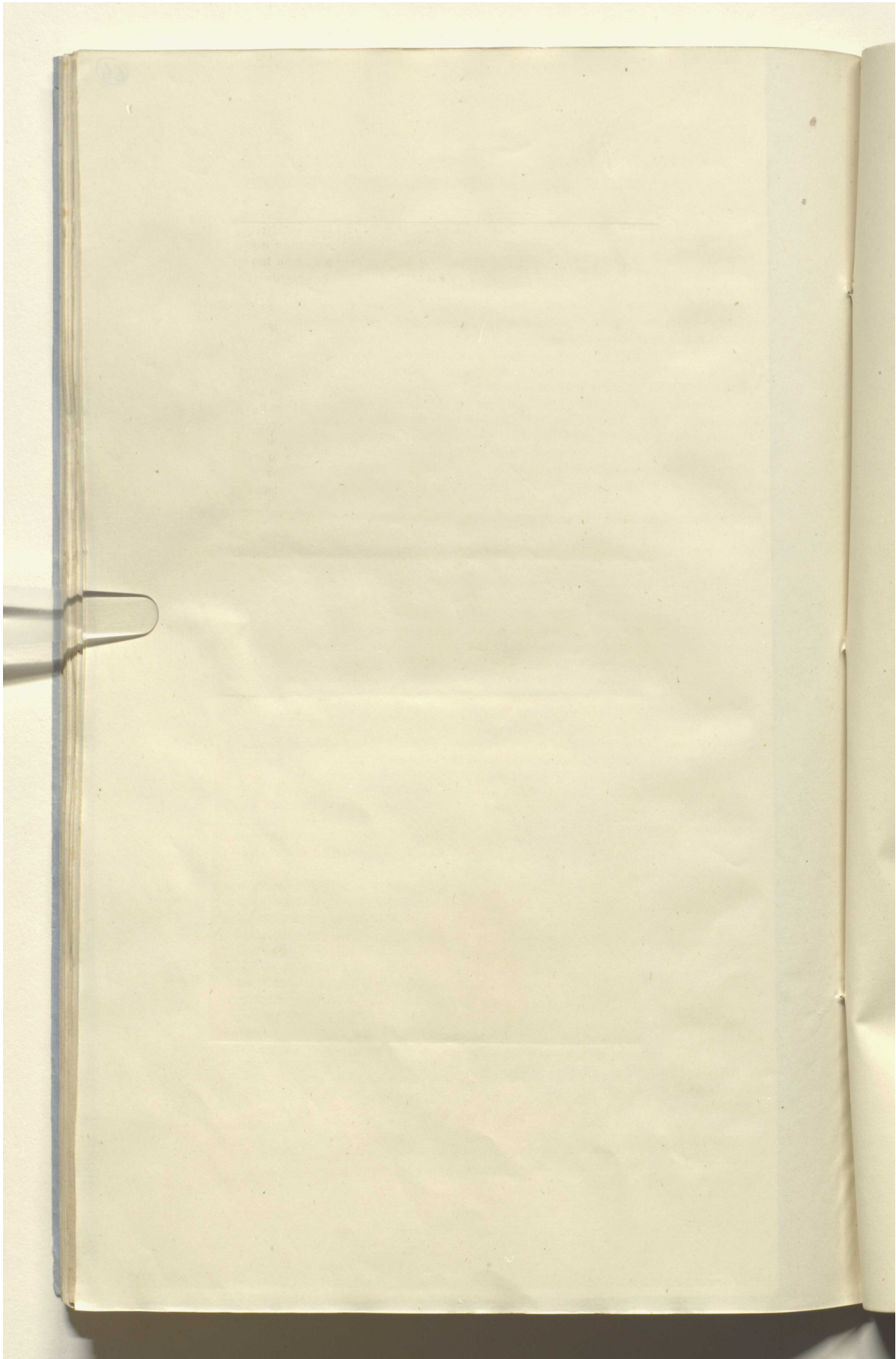
I exchanged visits with the Governor, and principal inhabitants of Bam, and was everywhere cordially received. It appears the custom in Persian polite society to offer visitors refreshments, invariably of the same kind; first sherbet; then tea with plenty of sugar, but no milk; and afterwards coffee, with a hookah passed round at intervals, also cigarettes and various sweets. The ceremony displayed in preparing and offering all this is amusing to a stranger, in spite of the very serious demeanour on the part of the Persians. Amongst my camp luggage was an old solid tyre bicycle, fitted with two cyclometers, one on the front wheel, and one on the back, and, when pushed along, these registered the distance travelled. This machine was a great source of curiosity to many people; some surmised it was a gun, others said it was some sort of charm, but when they were told its real use, and that it could carry a man for many miles, their astonishment was great. By special request I had to ride it for the Governor of Bam when he came to my camp. Nearly the whole town had collected round as spectators. The ground was very rough, so, not being an expert on wheels, I maintained my proper equilibrium when in motion with a good deal of wobbling. This probably made the balancing trick appear all the more wonderful to the onlookers. The Governor and those with him were much amused. One of his staff, Serteep Shokatul Mamalik, Commander of Kerman troops, said he felt greatly relieved when I got off, as, during my performance, he was very nervous for fear I might get a bad fall. The whole tamasha was indeed a curious one, just as much for me as for the Persians!

We left Bam on February 10th and reached Ladis on February 24th. Our course for about the first 70 miles lay through the Narmasheer province. The ground

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'No. 26. Agha Walli Khan, Governor of Bam' [67r] (1/1)

(67)



No. 26.

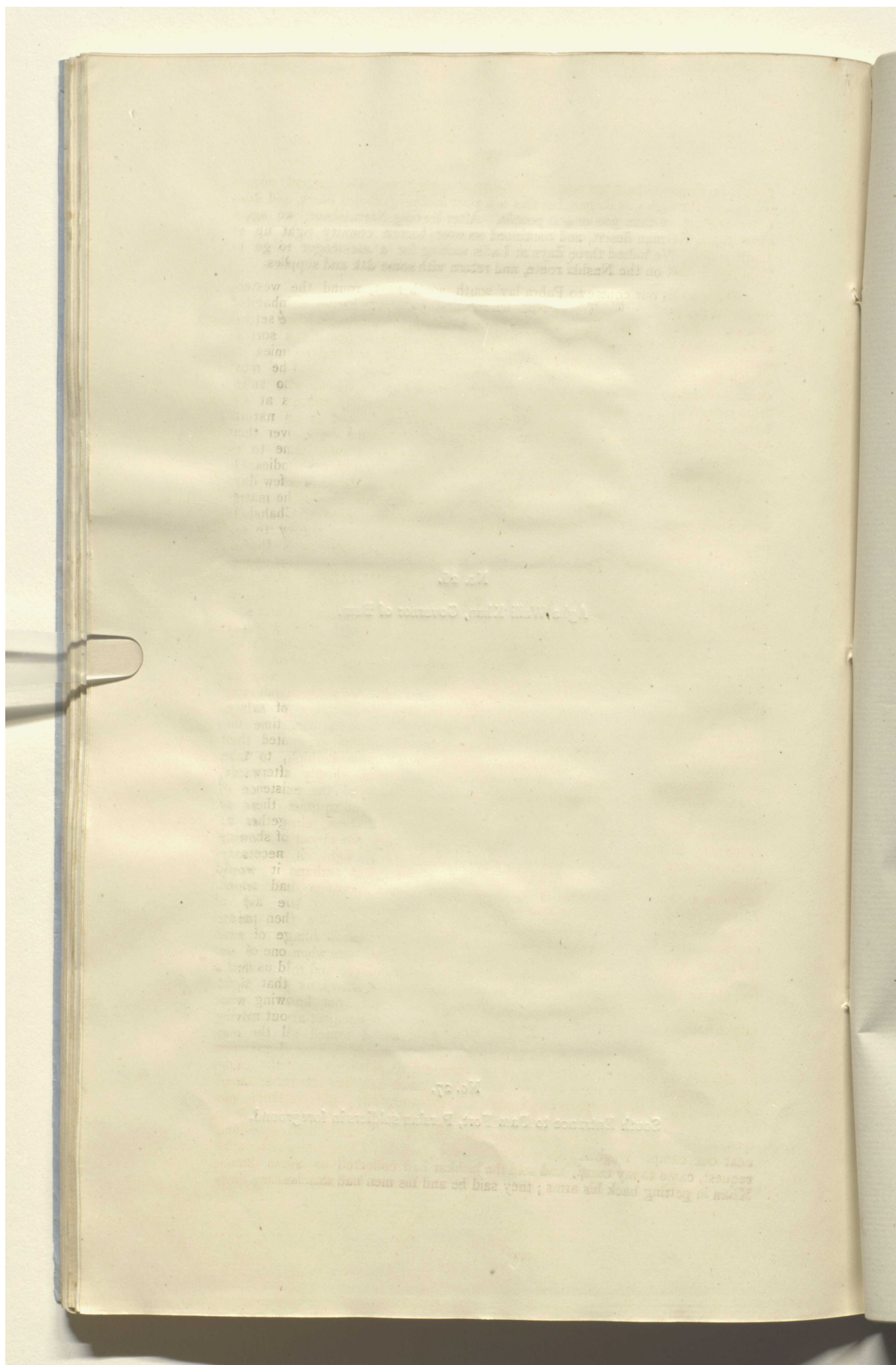
Agha Walli Khan, Governor of Bam.



No. 27.

South Entrance to Bam Fort, Persian soldiers in foreground.

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here is fertile, and there are many nice fields of cultivation. The largest village we passed through was Regan, but this is a poor and insignificant place, and does not contain more than 300 or 400 people. After leaving Narmasheer, we again entered the Kerman desert, and continued on over barren country right up to Ladis plain. We halted three days at Ladis waiting for a messenger to go to Saindak, a post on the Nushki route, and return with some dak and supplies.

From Ladis our course to Pahra lay south south-west, round the western slopes of the great Koh-i-Taftan, and, for the first part, over barren uninhabited country. At Dehpabad, three marches from Ladis, about 20 people have settled down, and cultivated a few acres of land, but they lead a precarious sort of existence, and are liable to frequent attack, either from personal enemies, or roving bandits. There is very little law observed in these parts. The most respected authority is plainly might, irrespective of right. Those who suffer from pillage, or assault, appear to have little chance of obtaining redress at the hands of the Persian Government. Quarrels are, however, looked on as natural events, and those who experience injury therefrom do not brood much over their misfortune. During our 5th march from Ladis, a party of men came to us asking for some medicine to remove bullets from some of their friends' bodies. On enquiry from them, we learned there had been a little row on the plain a few days previous; two men had been killed, and three injured, but they viewed the matter as a trivial occurrence. During our 6th march from Ladis, between Chahshahi and Karwandar, a little incident happened which added some variety to our otherwise monotonous proceedings. Two men, the chief of whom was Jhanoo Khan, fired on our advance party with the baggage camels, but fortunately caused no damage; while they were reloading their guns, Sub-Inspector Ainuddin Khan with three Baluch levies captured them, took over their arms, *vis.*, 2 guns, 1 pistol, 1 6-chambered revolver, 3 swords, 1 dal, and a quantity of ammunition, and informed them they would have to come on as prisoners until I would arrive a few hours later, and decide what action was to be taken regarding them. After proceeding about 7 miles, when near Ganeeh village, another lot of about 6 men opened fire on our party, with no doubt the object of trying to stop its progress, or rescue Jhanoo Khan and his partner. While Ainuddin Khan and the men with him were trying to get the camels quickly into a place of safety, the two prisoners escaped. Sub-Inspector Ainuddin Khan was at the time unmounted, so the only way he could, in the circumstances, have prevented their escape was by firing on them; he hesitated, with good reason I think, to take this extreme measure on his own responsibility. I arrived shortly afterwards, and found that our safe passage forward was blocked, owing to the existence of the snipers on the hill close by. Appeals and entreaties failed to quiet these, so our escort opened fire, and blazed away some volleys at them, altogether 21 rounds, at a range of about four hundred yards, with the object of showing that we were well armed, and prepared to continue a fight, if necessary. The shooting on both sides was somewhat erratic, but perhaps it would have improved if the necessity for coming to closer quarters had arisen. After a little time, negotiations were again tried, and, by the aid of various threats and appeals, mutual peace was declared. We then passed on, and arrived quietly at our next camp at Karwandar, a small village of mud huts, and 20 or 30 people. We had not long settled down here when one of our guides, named Nazir Mahomed, came back from the village and told us that a lashkar, or tribal army, of 200 men was being collected to attack us that night. I thought this information was probably exaggerated, but, not knowing what might happen in this turbulent and lawless country, we at once set about moving our camp on top of a small hill in a defensible position. I armed all the men I could, and, in recognition of the faithful service of Nazir Mahomed, I gave him an old sword; this excited the envy of the three other guides with us; they came to me and asked, with some sarcasm, were they women that they should be placed in the middle of the camp unarmed while a fight was going on? Scarcely had we completed our defensive arrangements, when sure enough at 10 P.M. about 50 men, real moonlighters as they would be called in another country, had assembled near our camp. Negotiations were once more started. Three ambassadors, by request, came to my camp, and said the lashkar had collected to assist Jhanoo Khan in getting back his arms; they said he and his men had attacked my party

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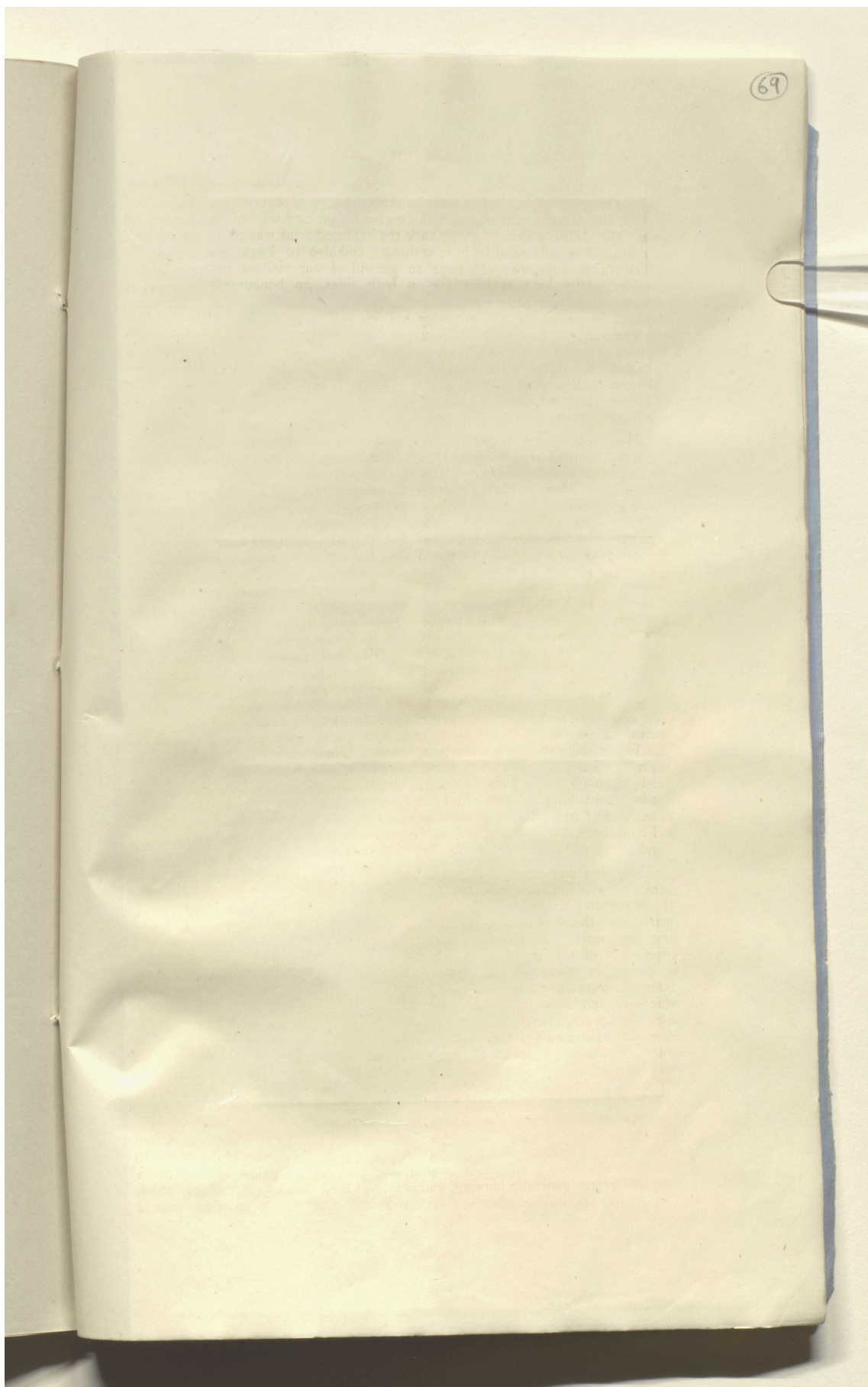
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by mistake in the first instance, thinking that we were some of Jhind's followers. I don't know who Jhind is, but, from local account, he appears to be a formidable ruffian, and when he next traverses this region his journey will not be a peaceful one. Our difficulty then in giving back the captured arms was to do so without appearing to be influenced by fear, or threats, and also to know whether, if we did return the arms, we could hope to get rid of our visitors without further trouble. After long explanations on both sides, an honourable peace was arranged. Jhanoo Khan was to surrender himself unarmed into my presence, and ask for pardon for all the annoyance he had caused. This he did, and, on receiving a verbal promise from the 'ambassadors' that we would receive no further trouble while in the country, the arms were handed back, and a receipt obtained for them. Thus hostilities were avoided, and what at first promised to be a noisy dispute blew away like smoke, and no one was hurt. I have reported the above occurrence more fully in letter No. 39, dated 15th April 1901, to the Director-General of Telegraphs.

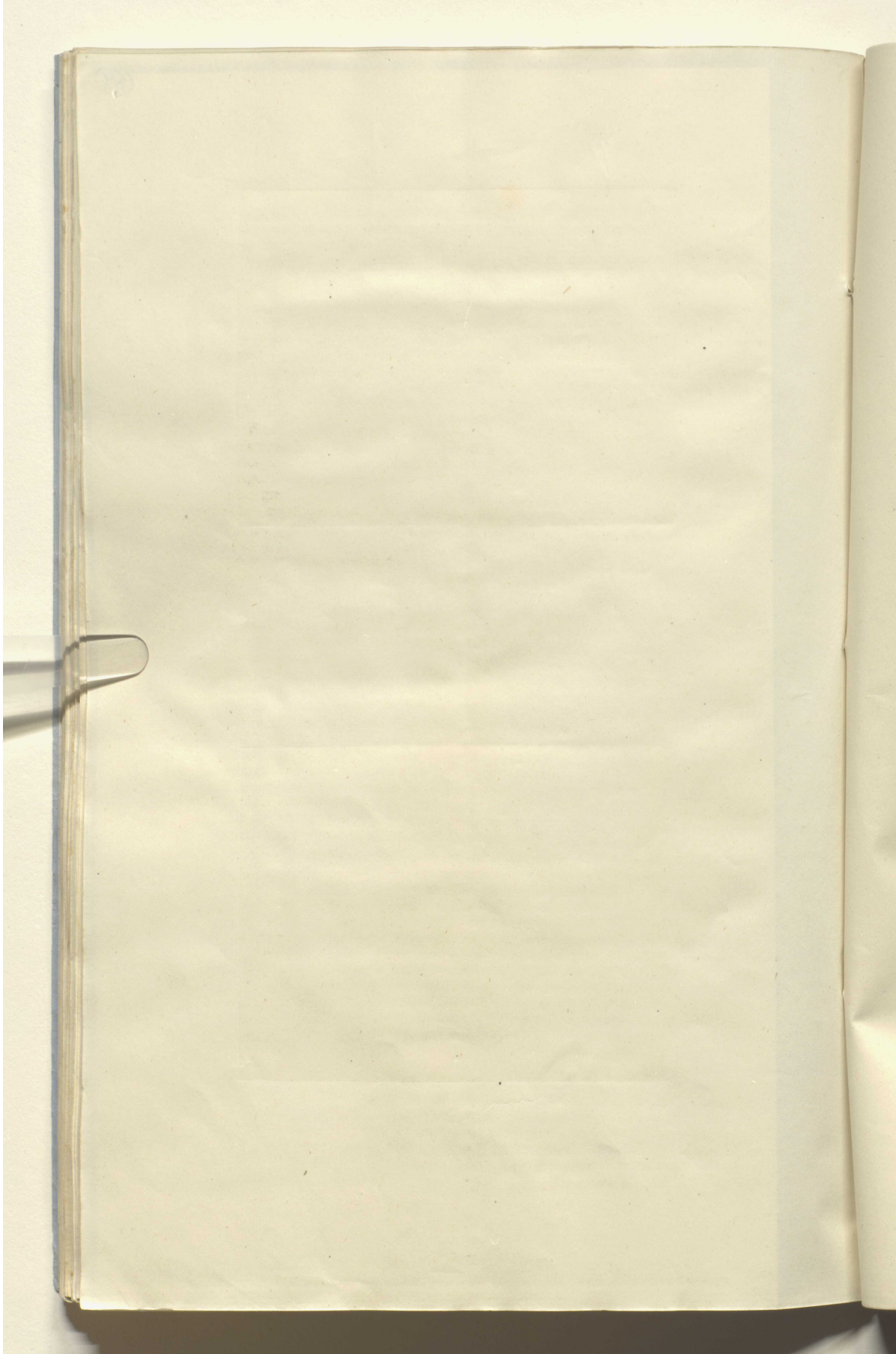
We reached Pahra on March 8th, The Wazir of Kerman with a large establishment was camped here in tents. He gave me a very honourable reception. Two Serteeps with about 30 mounted men rode out a few miles to escort me into the village. The Wazir paid me a visit next morning. On my return visit to him, there was a great show. About 30 soldiers formed a guard of honour, and a band of about 23 musicians was in attendance. The uniform of these latter was rather quaint. The front of the coat was red in colour, with gold braid ornamentations thereon, and the back was yellow, while the front of the trousers was of the same yellow colour, and the back red. Their music was not quite first class, but much better than I expected. For the first tune, they made a very laudable attempt to play the British National Anthem. Thereupon, I asked permission to stand up, and explained that English subjects invariably adopted this attitude of respect when listening to that tune. The Wazir then ordered every body to stand until I sat down. Other tunes, the names of which I did not know, followed in quick succession. The Wazir's reception tent was nicely arranged, and had a queer little artificial lake of water, about 300 square feet, on one side. After partaking freely of sherbet, tea and coffee, etc., inside, we adjourned on to the banks of the lake, and drank more tea. Altogether the ceremony was amusing, and somewhat farcical for me, but I and my party went through it with befitting solemnity. The Wazir had about 50 soldiers in his party. These could not be accused of smartness, but they were much better turned out than the specimens of the Persian Army I saw in Bam, and were armed with breech-loading rifles. The Persians are I think supposed to be teetotalers, and they consider themselves as such, but I found those, whose acquaintance I made, quite ready to receive, and appreciate, if offered under some euphonious name such as "syrup," any liquid which would pass for lemonade in Ballyhooly.

We left Pahra on March 11th, and travelled, as hurriedly as our jaded transport would allow, over the same route to Gwadur as that followed by Mr. Wood on his Journey in March 1899. There is plenty of water, and camel-grazing at the various halting places along this, but the ground for about the first half way, through mountains, is somewhat rough. The course along the stony bed of the Serbaz river, in which a large stream of fresh water flows, is pretty in many places, where nice patches of cultivation and fruitful datepalm groves flourish on its banks, but the swarms of flies and mosquitos, which abound here during hot weather, act as a continual torment to both man and beast. Animals are particularly to be pitied, for they already suffer so much at the hands of their owners. The Persians appear to be abominably cruel, and altogether devoid of humane instinct. Amongst the worst sufferers I saw were donkeys; these honest little beasts have a bad time in most countries, but the torture and mutilation they endure in some parts of Persia from the sawing effects of the crupper rope, used to hold back their heavy loads, beats anything I have seen even in Baluchistan, where the mule's treatment is notoriously bad. We arrived at Gwadur on March 21st, and found to our great disgust that we were then stuck fast for 10 days before any steamer would arrive to carry us to Karachi. However, there was a comfortable political bungalow to live in, a nice cool breeze generally blowing, and plenty of fresh fish to eat, all of which were greatly appreciated after our recent desert experiences, so time passed

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'No. 28. Mirza Abdur Rahim Khan, Wazir of Kerman, having a smoke outside his tent at Pahra' [70r] (1/1)



No. 28.

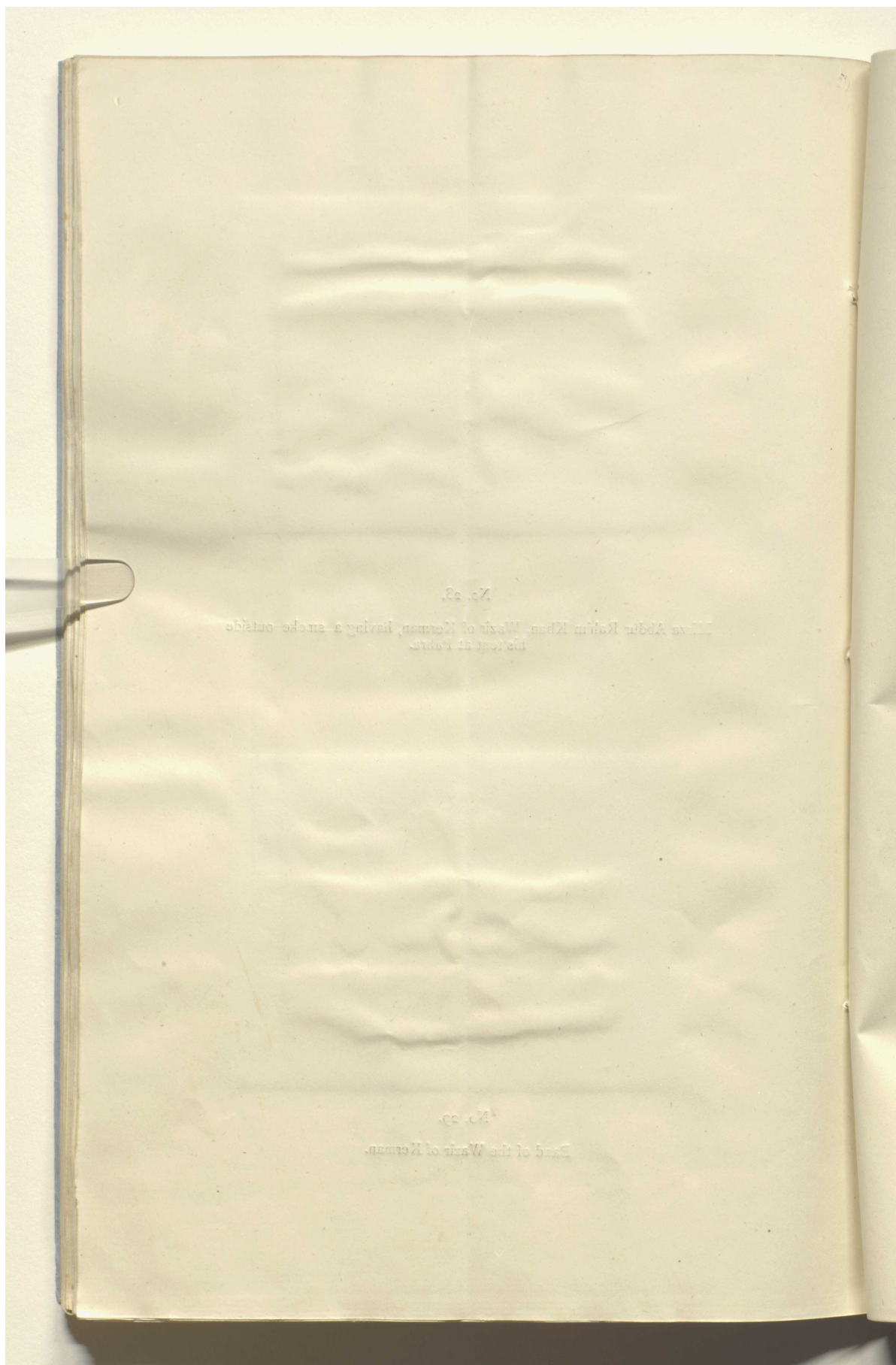
Mirza Abdur Rahim Khan, Wazir of Kerman, having a smoke outside his tent at Pahra.



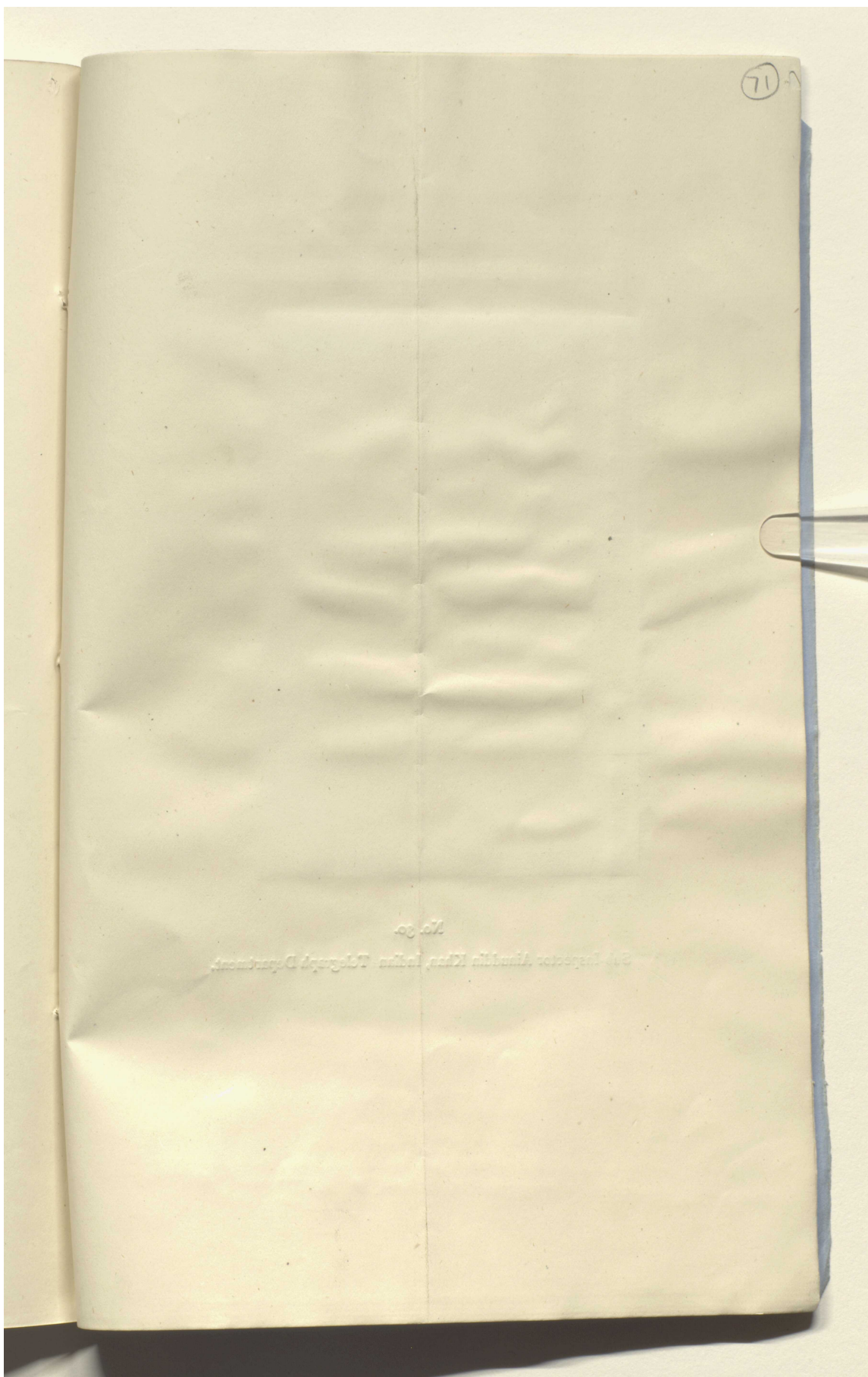
No. 29.

Band of the Wazir of Kerman.

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'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [71r] (146/162)



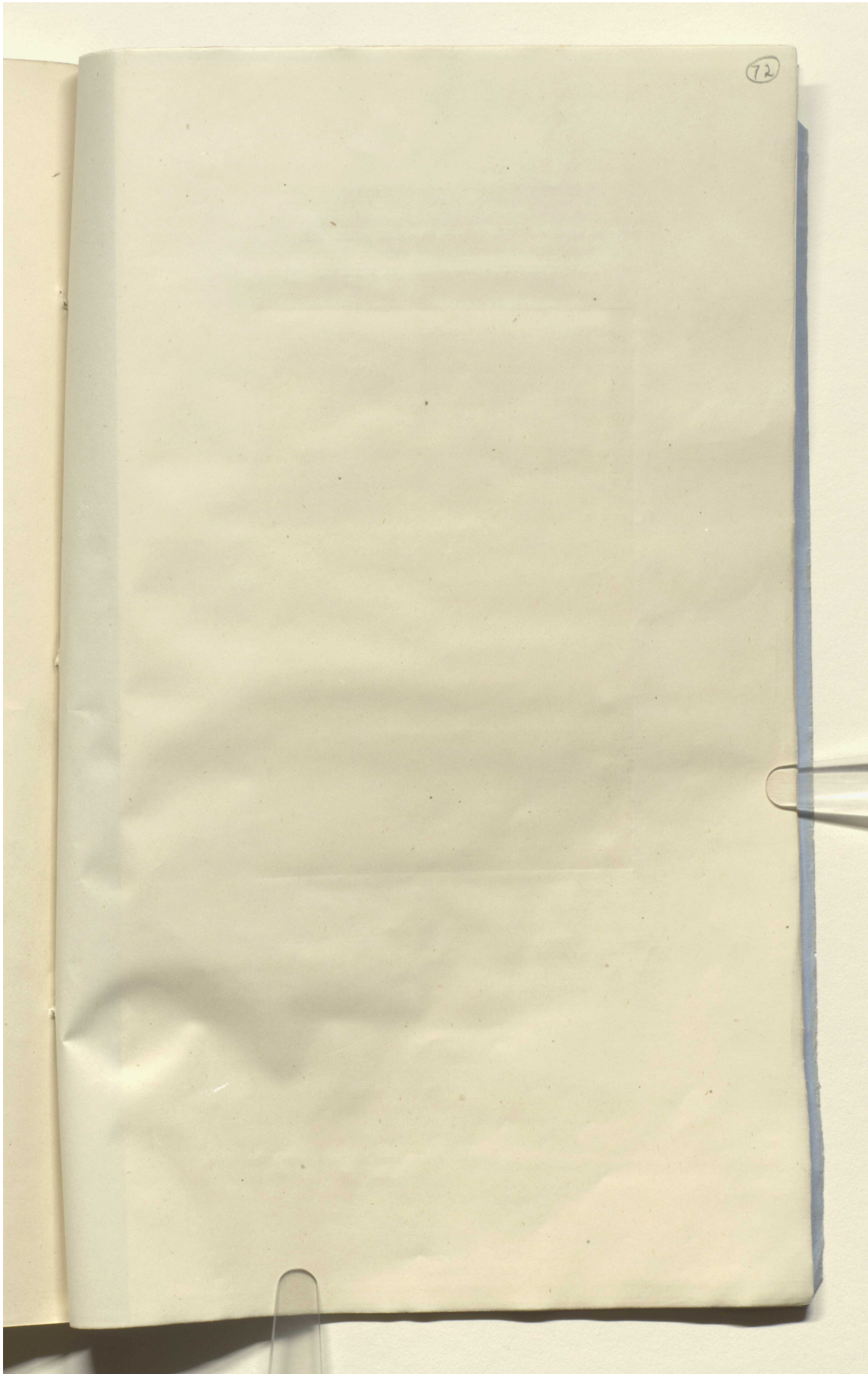
'No. 30. Sub-Inspector Ainuddin Khan, Indian Telegraph Department' [71v] (1/1)



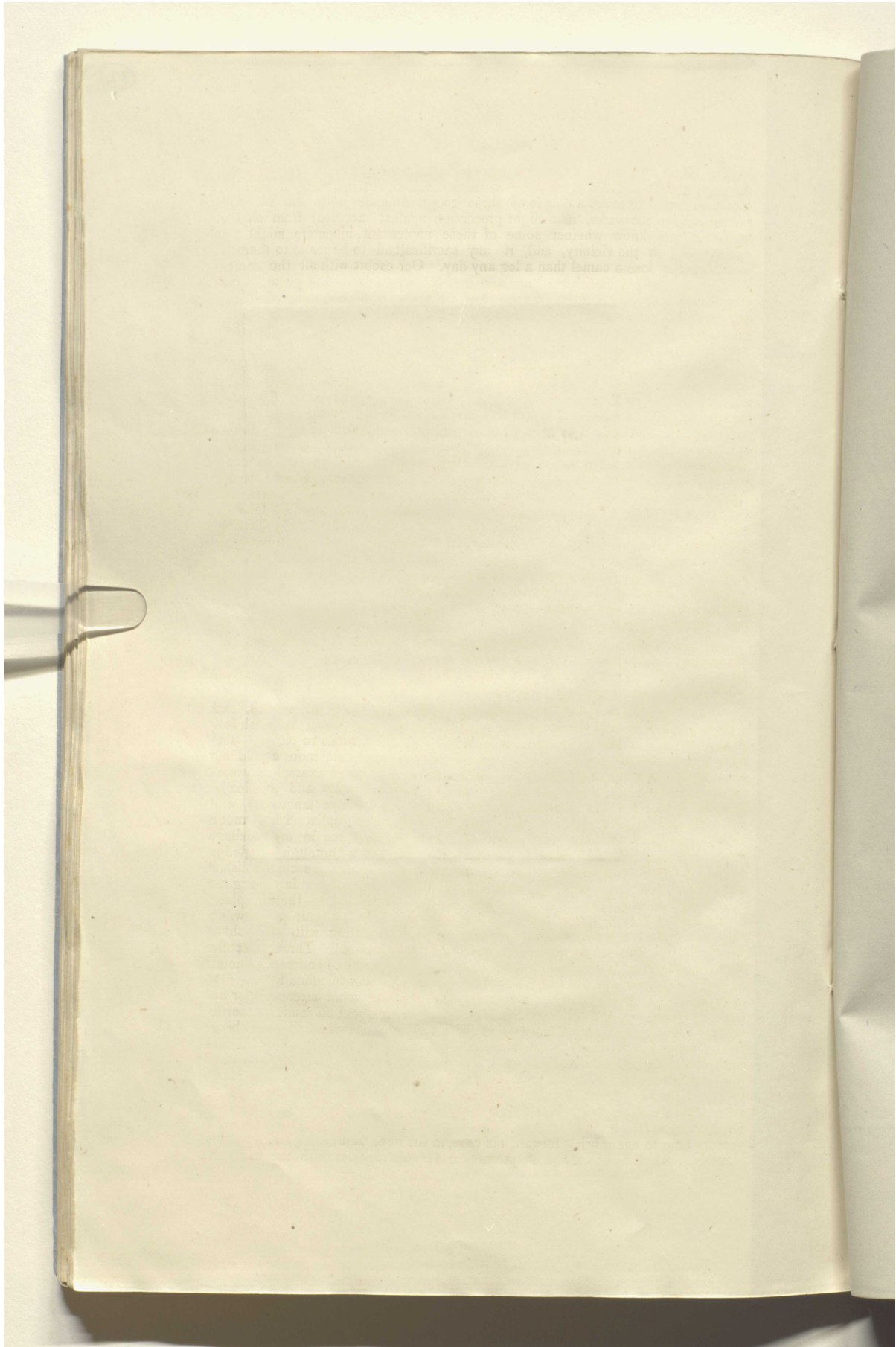
No. 30.

Sub-Inspector Ainuddin Khan, Indian Telegraph Department.

**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
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'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
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'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [73r] (150/162)

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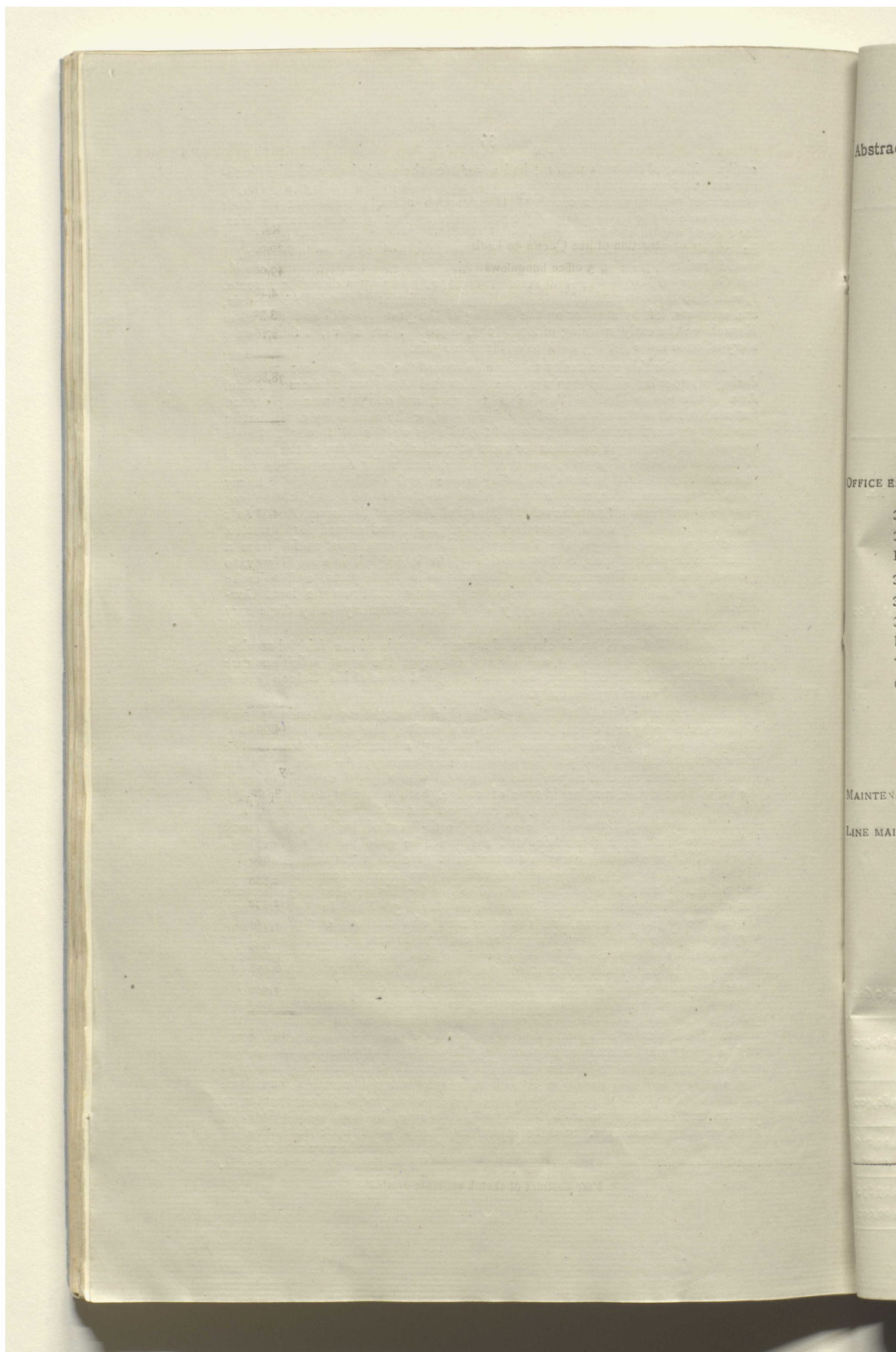
easily. Most of the men with me had never seen the sea before, and when bathing were at first as timid of breaking waves as camels; when having a swim, I sometimes tried to make a couple of these tough animals wade out till their humps were in the water, as a slight precaution against accident from sharks, for I could not know whether some of these unpleasant monsters might not be prowling in the vicinity, and, if any sacrifice had to be made to them, I would rather lose a camel than a leg any day. Our escort with all the camels left Gwadur on March 26th, and marched back to Quetta by a direct land route. I, with Sub-Inspector Ainuddin Khan, Hospital Assistant Mahomed Abdul Aziz, and servants, left by steamer on the evening of the 31st March, and arrived in Karachi on the early morning of April 2nd, 1901. None of us, I think, were sorry at once more getting back to civilization again.

I may take this opportunity to place on record the good services rendered during my tour by all the men with me. Hospital Assistant Mahomed Abdul Aziz of the Indian Medical Service is a smart, and obliging man. By good fortune, he had not much medical practice on me, or the men in my camp, but he was kept extraordinarily busy at most of the villages we passed through. Persia appears in a lamentable condition for want of medical aid. Many of the people, in Eastern Persia at all events, are very sickly, and suffer from various complaints. Hundreds of patients, including women and children, flocked to my camp for treatment, but, with only a limited supply of medicines, it was not easy to afford them all suitable relief. Hospital Assistant Mahomed Abdul Aziz worked unremittingly when his services were required, and earned for himself a grand reputation amongst the Persians. His work was most useful from a philanthropic point of view, as also politically, for it helped, in a small way, to promote the Indian Government's good reputation in those parts, and to make a visit of a British official acceptable to the inhabitants. From the local Governors down to the poorest, the supply of medicines from my camp dispensary was greatly appreciated.

Jemadar Rahim Khan, in charge of my escort, rendered me faithful service. He was my constant attendant, and always displayed the most solicitous care for my safety. Cheerful, hardy, and brave, he, and some of his Baluch levies, could be relied on in any difficulty.

Sub-Inspector Ainuddin Khan was the chief amongst my attendants, and a more trustworthy and useful companion, as a native, one could not wish for. Always cheerful in any circumstances, hardworking, and anxious to please. The more uncomfortable, and depressing were his surroundings, the more would his good spirits show up, and inspire the other men with a good example to work. He is, without doubt, a splendid type of native, both mentally and physically. In addition to other qualifications, he can read and write five languages, and speak fluently seven of those in use on the North-West of India. I feel much indebted to him for the able advice and assistance he gave me in my dealings with the Persian officials I came in contact with. He has a thorough knowledge of the Persian language, and etiquette, and his own manners are most polished and polite. I am also especially indebted to him for his services in getting me out of the difficulty I was in at Karwandar on March 5th last. In the first place, his capture of Jhanoo Khan, and the other man who fired on our party, was a very smart piece of work, and his tact and courage in dealing with the lashkar who visited us the same night were none the less marked. Throughout the whole negotiations, which lasted about three hours, and were of course conducted some little way outside my camp, Ainuddin Khan was a conspicuous figure. He exposed himself freely, both in attempting to discover what strength our opponents possessed, and also in his endeavours to bring about an amicable settlement. He is a most competent man in every way, and one whom it would benefit the Telegraph Department to promote. I speak from experience, for he has worked directly under me for four years. The Director General graciously honoured him, on his return to Karachi in April last, by presenting him with a handsome lungi. This was of course a very unusual distinction for a Sub-Inspector to receive, and coming from such hands will, I am sure, be immensely prized. I have, on other occasions, brought Ainuddin Khan's good work to notice. I venture here to again bring forward his case, in the hope that he may receive some tangible reward in the shape of promotion for his services with me in Persia.

**'Report on the Preliminary Survey of The Route for The Central Persia Telegraph
Line from Quetta to Bam and Pahra' [73v] (151/162)**



'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [74r] (152/162)

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Abstract of Estimate, Part I, Quetta to Ladis, 430 miles, showing capital cost and annual maintenance charges of the line and offices.

CAPITAL OUTLAY.

			Rs.	Rs.
Capital cost for construction of line Quetta to Ladis	...	...	9,20,000*	
" " " 3 office bungalows	...	...	49,000	
" " " 11 shelter huts at Rs. 400 each	...	...	4,400	
" fitting of offices at Rs. 1,100 each	...	...	3,300	
" purchase of 18 camels at Rs. 120 per camel	...	...	2,160	
			9,78,860	
		Total capital outlay say		9,79,000

ANNUAL RECURRING CHARGES.

OFFICE ESTABLISHMENT—

3 telegraph masters, (salary) $3 \times \text{Rs. } 120 \times 12 =$	...	...	4,320
3 signallers, $3 \times \text{Rs. } 100 \times 12 =$	...	...	3,600
Extra allowances to above at 30 per cent on salary, say on Rs. 7,900	...	...	2,370
3 bhisties at Rs. 12 per mensem each	...	...	432
3 sweepers at Rs. 12 „ „	...	...	432
3 peons at Rs. 15 „ „	...	...	540
Ration charges for office staff, say Rs. 100 per mensem	...	...	1,200
Travelling charges in arranging for reliefs, etc.	...	...	1,200
Contingencies, oil, wood, punkahs, etc., at Rs. 25 per office per month	...	...	900
			14,994
		Say	15,000
			3,000

MAINTENANCE OF BUILDINGS

LINE MAINTENANCE—

1 sub-inspector at Rs. 50 per month	...	...	...	...	600
8 lineriders at Rs. 30 per month	...	...	...	...	2,880
18 camels at Rs. 12 "	...	...	...	...	2,592
6 permanent line coolies at Rs. 15 per month	...	...	...	...	1,080
1 hospital assistant with allowances at Rs. 75 per month	...	...	...	...	900
Cost of ordinary maintenance of 430 miles of 3 wire line at Rs. 15 per mile					6,450
Damages and unforeseen charges	...	Rs.	...	...	1,500
					<u>16,002</u>
				Say	... 16,000
				Total annual recurring charges	... 34,000

* *Vide* abstract of sketch estimate overleaf.

'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [74v] (153/162)

38

Abstract of sketch estimate for the construction of a line from Quetta to Ladis, miles 430.

GENERAL SPECIFICATION.

Class of posts ...	...	...	...	B. Cs.
" insulators ...	...	...	...	S. No. 38, screw stalks.
" brackets ...	...	...	...	B. 6" N. P. with backs.
No. of posts of extra length ...	...	...	...	100
" wires weighing 1,200 lbs. per mile ...	...	...	...	...
" " " 900 " " " ...	...	...	...	...
" " " 750 " " " ...	...	...	...	...
" " " 600 " " " ...	...	...	...	Three.
" " " 450 " " " ...	...	...	...	...
" " " 300 " " " ...	...	...	...	...
Estimated number of angles ...	...	...	...	1,000

ABSTRACT OF COST.

	Rs.	Rs.
Value of stores ...	3,03,653	
Add 5 per cent. for contingencies ...	15,183	
	3,18,836	
Total value of new stores, say ...		3,18,800
CASH TO BE SPENT IN INDIA.		
	Rs.	
Purchase of materials ...	1,780	
Miscellaneous charges ...	8,600	
Extra establishment for supervision and their travelling charges ...	4,300	
Carriage ...	1,01,100	
Local distribution ...	2,92,882	
Labour ...	12,900	
Total ...	4,21,562	
Add 5 per cent. for contingencies ...	21,078	
	4,42,640	
Total cash expenditure, say ...		4,42,600
Estimated actual fresh expenditure. Total ...		7,61,400
Add value of stores transferred from existing line.		
Total value ...		7,61,400
Add 15 per cent. on the whole for establishment ...		1,14,210
Add 10 per cent. on stores for store-keeping charges ...		44,260
Total capital cost ...		9,19,870
Say ...		9,20,000

Rate per mile—Rs. 2,139'5.

'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [75r] (154/162)

75

39

Abstract of Estimate, Part II, Quetta to Koh-i-Malik-Seah, 478 miles, showing capital cost and annual maintenance charge of the line and offices.

CAPITAL OUTLAY.

	Rs.	Rs.
Capital cost for construction of line Quetta to Koh-i-Malik-Seah ...	10,71,000*	
" " " 3 office buidings ...	49,000	
" " " 12 shelter huts at Rs. 400 each ...	4,800	
" fitting of offices at Rs. 1,100 each ...	3,300	
" purchase of 20 camels at Rs. 120 each ...	2,400	
	<u>11,30,500</u>	
Total capital outlay, say ...		11,30,500

ANNUAL RECURRING CHARGES.

OFFICE ESTABLISHMENT—

Rs.		Rs.
Same as for estimate, Part I ...	15,000	
	Say	15,000

MAINTENANCE OF BUILDINGS ... 3,000 3,000

LINE MAINTENANCE—

1 sub-inspector at Rs. 50 per month ...	600
8 lineriders at Rs. 30 " ...	2,880
20 camels at Rs. 12 " ...	2,880
8 permanent line coolies at Rs. 15 per month ...	1,440
1 hospital assistant at Rs. 75 per month ...	900
Cost of ordinary maintenance of 478 miles of 3 wire line at Rs. 15 per mile	7,170
Damages and unforeseen charges ...	1,600
	<u>17,470</u>
	Say ...
	17,500

Total annual recurring charge 35,500

* Vide abstract of sketch estimate overleaf.

'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [75v] (155/162)

40

Abstract of sketch Estimate for the construction of a line from Quetta to Koh-i-Malik-Seah, miles 478.

GENERAL SPECIFICATION.

Class of posts	B. Cs.
" " insulators	S. No. 38, screw stalks.
" " brackets	B. 6" N. P. with backs.
No. of posts of extra length	100
" wires weighing 1,200 lbs. per mile	
" " " 900 "	
" " " 750 "	
" " " 600 "	Three.
" " " 450 "	
" " " 300 "	
Estimated number of angles	1,200

ABSTRACT OF COST.

	Rs.	Rs.
Value of stores	3,38,860	
Add 5 per cent. for contingencies...	16,943	
	3,55,803	
Total value of new stores, say		3,55,800
CASH TO BE SPENT IN INDIA.		
	Rs.	
Purchase of materials	1,780	
Miscellaneous charges	9,560	
Extra establishment for supervision and their travelling charges	4,780	
Carriage	1,12,033	
Local distribution	3,61,808	
Labour	14,340	
Total	5,04,301	
Add 5 per cent. for contingencies	25,215	
	5,29,516	
Total cash expenditure		5,29,500
Estimated actual fresh expenditure. Total		
Add value of stores transferred from existing line.		
Total value		8,85,300
Add 15 per cent. on the whole for establishment		1,32,795
Add 10 per cent. on stores for store-keeping charges		52,950
Total capital cost		10,71,045
Say		10,71,000

Rate per mile—Rs. 2,240'6.

'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [76r] (156/162)

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41

Abstract of Estimate, Part III, Ladis to Pahra, 163 miles, showing capital cost and annual maintenance charge of the line and offices.

CAPITAL OUTLAY.

	Rs.	Rs.
Cost of construction of line Ladis to Pahra	3,36,000*	
" " " 1 office building	20,000	
" " " 6 shelter huts at Rs. 400 each	2,400	
" " " fitting 1 office	1,100	
" " " purchase of 4 camels at Rs. 120 each	480	
Total	3,59,980	
Total capital outlay, say		3,60,000

ANNUAL RECURRING CHARGES.

OFFICE ESTABLISHMENT—

Rs.	One-third of that in estimate, Part I, i.e., $\frac{1}{3}$ of 14,000, or say	5 000	5,000
	MAINTENANCE OF BUILDINGS	1,000	1,000

LINE MAINTENANCE—

1 sub-inspector at Rs. 50 per month	600
2 lineriders at Rs. 30	720
4 camels at Rs. 12	576
3 permanent line coolies at Rs. 15 per month	540
Cost of maintenance of 163 miles of line at Rs. 15 per mile	2,445
Damages and unforeseen charges	1,100
	5,981
Say	6,000
Total annual recurring charges	12,000

* Vide abstract of sketch estimate overleaf.

'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [76v] (157/162)

42

Abstract of sketch Estimate for the construction of a line from Ladis to Pahra, miles 163.

GENERAL SPECIFICATION.

Class of posts	...	...	...	B. C.
" insulators	...	...	...	Siemens' No. 38, screw stalks.
" brackets	...	...	...	B. 6" N. P. with backs.
No. of posts of extra length	...	...	...	50
" wires weighing 1,200 lbs. per mile	...	...	...	
" " " 900	...	...	...	
" " " 750	...	...	...	
" " " 600	...	...	...	Three.
" " " 450	...	...	...	
" " " 300	...	...	...	
Estimated number of angles	...	...	...	450

ABSTRACT OF COST.

		Rs.	Rs.
Value of stores	...	1,16,616	
Add 5 per cent. for contingencies	...	5,830	
		1,22,446	
Total value of new stores, say	...		1,22,400
CASH TO BE SPENT IN INDIA.		Rs.	
Purchase of materials	...	410	
Miscellaneous charges	...	3,260	
Extra establishment for supervision and their travelling charges	...	3,260	
Carriage	...	92,976	
Local distribution	...	43,756	
Labour	...	4,890	
Total	...	1,48,552	
Add 5 per cent. for contingencies	...	4,727	
		1,55,979	
Total cash expenditure, say	...		1,56,000
Estimated actual fresh expenditure. Total	...		2,78,400
Add value of stores transferred from existing line.			
Total value	...		2,78,400
Add 15 per cent. on the whole for establishment	...		41,760
Add 10 per cent. on stores for store-keeping charges	...		15,600
Total capital cost	...		3,35,760
Say	...		3,36,000

Rate per mile—Rs. 2,061'3.

'Report on the Preliminary Survey of The Route for The Central Persia Telegraph Line from Quetta to Bam and Pahra' [77r] (158/162)

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*List of halting places on the trade route between Quetta and Koh-i-Malik Seah.**

Names.	DISTANCES IN MILES.		REMARKS.
	Each stage.	From Quetta.	
Girdi Bagh or Girdi Talao.	15 $\frac{1}{2}$	15 $\frac{1}{2}$	A small fort with accommodation for travellers has recently been constructed here.
Talira	17	...	A small mud fort similar to that at Girdi Talao has been built here. Water supply from a small stream good. Talira is about two miles north-west of Kanak village where ordinary supplies can be procured.
Kurdagap	25	...	Small village of mud houses. Water good and plentiful from an open stream. Supplies procurable in fair quantities. A small thana with accommodation for travellers has been built at a short distance from the village.
Kishingi	23 $\frac{1}{2}$	...	A small thana has been built here with accommodation for travellers. Water from wells scarce. No village or inhabitants near.
Nushki	11 $\frac{1}{2}$	93	Fair sized village. A dāk bungalow has been built here, supplies procurable in plenty.
Baghak	8	...	A small village of mud huts. Water plenty and good.
Mal or Shakkar Chah	26	...	A dāk bungalow being built here.
Kuchakki	16 $\frac{1}{2}$	...	A levy post.
Padag	14	...	Do. A dāk bungalow being built here.
Yadgar	22	...	Do.
Karodak	20	...	Do.
Dalbandin	16 $\frac{1}{2}$	216	Contains a Thana and Dāk Bungalow.
Jujaki	26 $\frac{1}{2}$	...	Water from small spring brackish.
Mirui	20 $\frac{1}{2}$	...	A dāk bungalow has been built here. Arrangements are being made to break up the distance from Dalbandin to Mirui, 46 $\frac{1}{2}$ miles, into three stages; levy posts are being built at Chagul, 18 miles from Dalbandin, and Sotak, 14 $\frac{1}{2}$ miles from Chagul, but at each of these places the water-supply is scarce, and brackish.
Chahsundan	20 $\frac{1}{2}$	...	A levy post. The new trade route diversion branches off west from here, the old route went north-west to Butak.
Tratoh	24	...	A levy post. Contains two wells; water in each about 15' from ground surface; quality not good, very salt. Firewood, and camel grazing scarce. Height about 2,800 feet. Prismatic Compass bearings to Mirui 309°, to Malik Gatt 83°.

* Further information about halting places between Quetta and Chahsundan will be found in my former report (1899). The distances now given have been measured by a cyclometer and are approximately correct.

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List of halting places on the trade route between Quetta and Koh-i-Malik
Seah—concl'd.

Names.	DISTANCES IN MILES.		REMARKS.
	Each stage.	From Quetta.	
Kondi ...	20 $\frac{1}{2}$	...	A levy post. Contains one well; water about 12' feet from ground surface, brackish. Camel grazing and firewood plenty from tagaz bushes growing on sand in vicinity. Height about 2,400 feet. Prismatic Compass bearings to Mirui 41°, to Koh-i-Taftan 259°.
Mushki Chah ...	23 $\frac{3}{4}$	...	Contains a levy thana. Water-supply from a spring, quality brackish, and not good. Camel grazing and firewood scarce. Height about 2,600 feet. Prismatic compass bearings to Mirui 67 $\frac{1}{2}$ °, to Koh-i-Taftan 248°.
Ware Chah ...	28 $\frac{1}{2}$	...	A levy post; water-supply from two wells; water in each about 12' from ground surface, quality brackish and not good. One well was being made in January 1901, 15 miles from Mushki Chah; a little water was met with about 50 or 60 feet below the ground surface, but its quality was brackish. Camel grazing at Ware Chah very scarce. Firewood <i>nil</i> . Height about 2,600 feet. Prismatic Compass bearings to Koh-i-Taftan 239°, to Koh-i-Gili 187°.
Makak ...	23 $\frac{3}{4}$	...	A levy post. Water from springs plenty, but slightly brackish. Camel grazing good. Firewood scarce. Height about 2,900 feet. Prismatic Compass bearings to Koh-i-Taftan 220°, to Koh-i-Gili 181°.
Saindak ...	13 $\frac{3}{4}$	...	A levy thana. The new diversion of the trade route south of the Koh-i-Sultan joins the old route at this place.
Kirtaka ...	18 $\frac{3}{4}$	...	A levy post. Water plenty from a spring. Camel grazing plenty. Firewood scarce. Height about 3,100 feet.
Chah Mahomed Raza	17	...	A levy post. Water from two wells about 10' from ground surface, quality slightly brackish and not good. Camel grazing plentiful from scrub. Firewood scarce. Height about 3,200 feet.
Robat ...	24 $\frac{3}{4}$	478	The last levy post on the trade route in British territory. Water plenty from a spring, quality good. Camel grazing and firewood very scarce. Height about 2,800 feet. A bungalow has been built here.

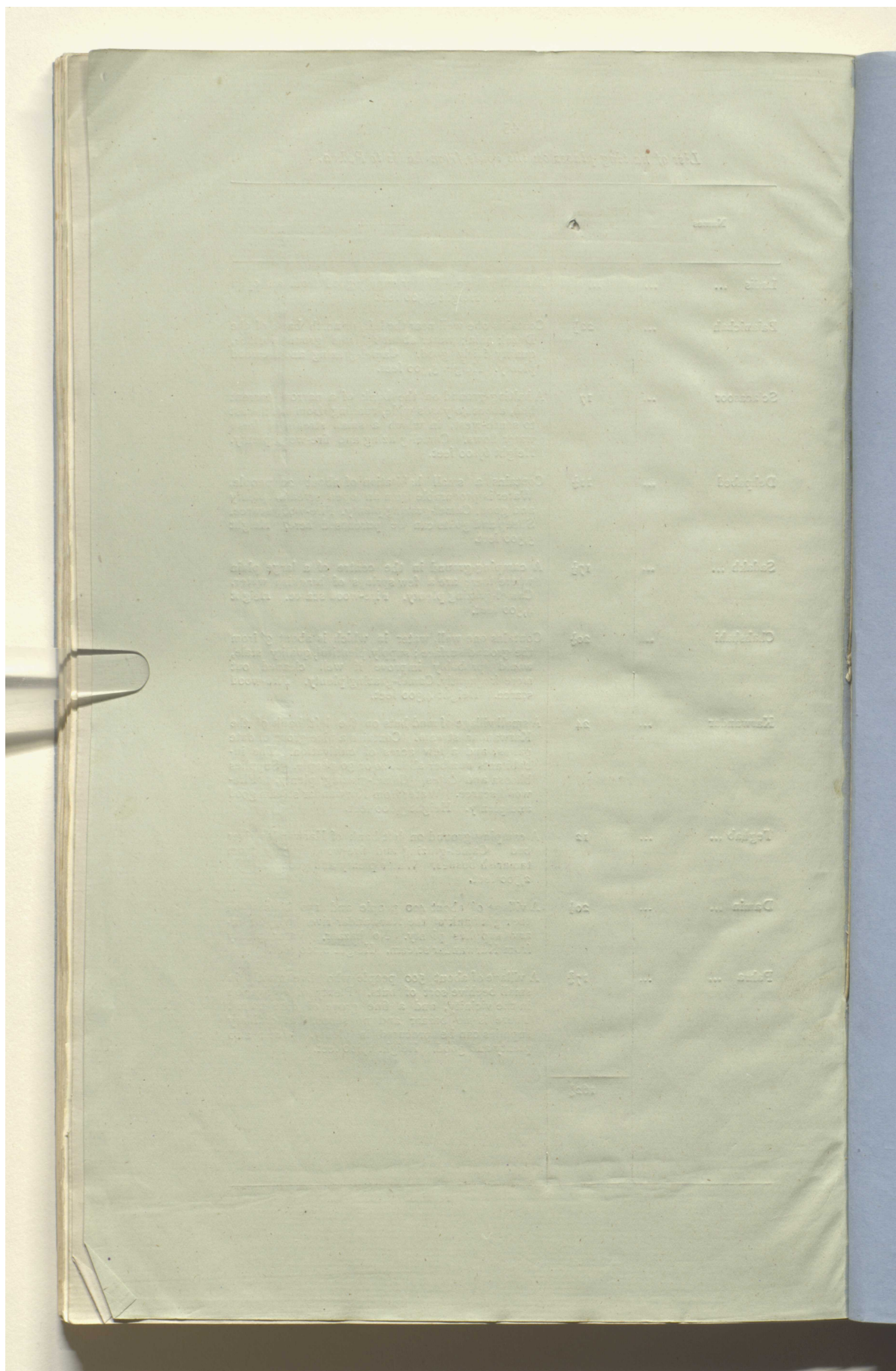
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List of halting places on the route from Ladis to Pahra.

Names	Distances apart in miles.	REMARKS.
Ladis ...	...	A small village. Water-supply good from an open stream. Height 3,500 feet.
Baianichah ...	22½	Contains one well near the left, or north bank of the Dezuk nala; water about 15' from ground surface, quality fairly good. Camel-grazing and firewood plenty. Height 5,300 feet.
Sciacasoor ...	17	A halting-ground on the bank of a narrow torrent bed, about 40 yards wide, running from north-east to south-west, in which a small stream of fresh water flows. Camel-grazing and fire-wood plenty. Height 6,200 feet.
Dehpabad ...	11½	Contains a small habitation of about 20 people. Water is procurable from an open stream, plenty and good. Camel-grazing plenty. Fire-wood scarce. Sheep and goats can be purchased here. Height 5,500 feet.
Sadakh ...	17½	A camping-ground in the centre of a large plain where there are a few springs of brackish water. Camel-grazing plenty. Fire-wood scarce. Height 4,500 feet.
Chahshahi ...	20½	Contains one well, water in which is about 3' from the ground surface; supply plentiful, quality stale, would probably improve if well cleaned out more frequently. Camel-grazing plenty. Fire-wood scarce. Height 4,300 feet.
Karwandar ...	24	A small village of mud huts on the left bank of the Karwandar stream. Contains a nice grove of date palms, and a few acres of cultivation. The inhabitants number about 20 or 30 people. Supplies bhoosa and dates. Camel-grazing plenty. Fire-wood scarce. Water from Karwandar stream good and plenty. Height 3,600 feet.
Teghab ...	12	A camping-ground on left bank of Karwandar river bed. Camel-grazing and fire-wood plenty from tamarish bushes. Water plenty and good. Height 2,900 feet.
Damin ...	20½	A village of about 400 people and 150 houses, on the right bank of the Karwandar river bed. Ordinary supplies plenty. No bazaar. Water plenty from Karwandar stream. Height 2,200 feet.
Pahra ...	17½	A village of about 500 people who live mostly in small beehive sort of huts. Plenty of cultivation in the vicinity, and a fine grove of date palms. There is no bazaar and no shops, but ordinary supplies can be procured in plenty. Water also plenty and good. Height 1,800 feet.
	162½	

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