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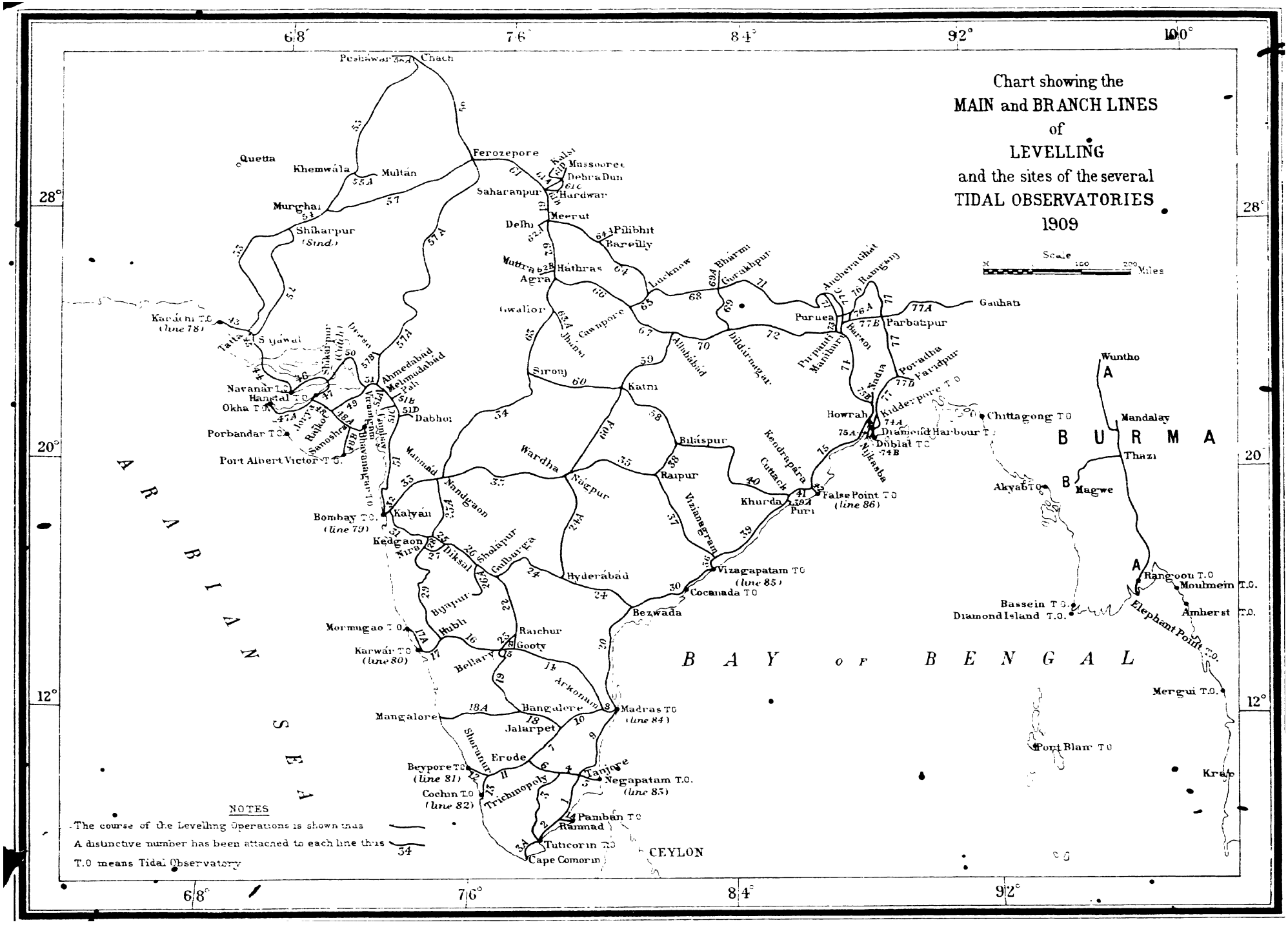
Chart showing the
MAIN and BRANCH LINES
of
LEVELLING
and the sites of the several
TIDAL OBSERVATORIES
1909
Scale
100
200 Miles
NOTES
The course of the Levelling Operations is shown thus
A distinctive number has been attached to each line thus 34
T.O means Tidal Observatory
ARABIAN SEA
BAY OF BENGAL
CEYLON
BURMA
Peshawar
Chach
Quetta
Khemwála
Multán
Ferozepore
Mussooree
Debra Dun
Hardwar
Saharanpur
Murchai
Shikarpur (Sind)
Delhi
Meerut
Pilibhit
Bareilly
Agra
Háthras
Lucknow
Bharmi
Goralpur
Gwalior
Cawnpore
Jhansi
Sironj
Katni
Allahábád
Dildárnagar
Purnea
Parbatipur
Gauhati
Karáchi T.O (line 78)
Tatta
Syánwal
Shikárpur (Sind)
Umarao
Ahmedabad
Mehmudabad
Pah
Viramgam
Dabhoi
Naranár L.
Hanstal T.O.
Okha T.O.
Porbandar T.O.
Rajkot
Jhirt
Samoshra
Bhavanagar T.O.
Port Albert Victor T.O.
Bombay T.O. (line 79)
Kalyán
Kedgaon
Mirá
Nandgaon
Mánmád
Wardha
Núgpur
Bilaspur
Raipur
Vizianagram
Vizagapatam T.O (line 85)
Cocanada T.O
Bezwada
Hyderábád
Sholápur
Gulburga
Bijápur
Hubli
Mormugao T.O
Karwár T.O (line 80)
Raichur
Gooty
Bellary
Arkonum
Madras T.O (line 84)
Mangalore
Bangalore
Jalarpet
Erode
Beypore T.O (line 81)
Cochin T.O (line 82)
Trichinopoly
Tanjore
Negapatam T.O. (line 83)
Pamban T.O
Ramnad
Tuticorin T.O
Cape Comorin
Howrah
Diamond Harbour T.O.
Dublat T.O
Kidderpore T.O
Chittagong T.O
Akyab T.O
Wuntho
Mandalay
Thazi
Magwe
Rangoon T.O
Moulmein T.O.
Bassein T.O.
Diamond Island T.O.
Amherst T.O.
Elephant Point T.O.
Mergui T.O.
Port Blair T.O
Kraio
Cuttack
Khurda Puri
False Point T.O (line 86)
Kendrapára
Rájkanika
Porvatha
Faridpur
Kadra
Harnai
Purpauli
Manikpur
Anchermathát
Hanuguy
Bhuj
Kaira
Ahmedabad
Mehmudabad
Pah
Viramgam
Dabhoi
Rajkot
Jhirt
Samoshra
Bhavanagar T.O.
Port Albert Victor T.O.
Bombay T.O. (line 79)
Kalyán
Kedgaon
Mirá
Nandgaon
Mánmád
Wardha
Núgpur
Bilaspur
Raipur
Vizianagram
Vizagapatam T.O (line 85)
Cocanada T.O
Bezwada
Hyderábád
Sholápur
Gulburga
Bijápur
Hubli
Mormugao T.O
Karwár T.O (line 80)
Raichur
Gooty
Bellary
Arkonum
Madras T.O (line 84)
Mangalore
Bangalore
Jalarpet
Erode
Beypore T.O (line 81)
Cochin T.O (line 82)
Trichinopoly
Tanjore
Negapatam T.O. (line 83)
Pamban T.O
Ramnad
Tuticorin T.O
Cape Comorin
Howrah
Diamond Harbour T.O.
Dublat T.O
Kidderpore T.O
Chittagong T.O
Akyab T.O
Wuntho
Mandalay
Thazi
Magwe
Rangoon T.O
Moulmein T.O.
Bassein T.O.
Diamond Island T.O.
Amherst T.O.
Elephant Point T.O.
Mergui T.O.
Port Blair T.O
Kraio
Cuttack
Khurda Puri
False Point T.O (line 86)
Kendrapára
Rájkanika
Porvatha
Faridpur
Kadra
Harnai
Purpauli
Manikpur
Anchermathát
Hanuguy
Bhuj
Kaira
68°
76°
84°
92°
100°
28°
20°
12°

ACCOUNT OF THE OPERATIONS OF

THE GREAT TRIGONOMETRICAL SURVEY OF INDIA

VOLUME XIXB.

DESCRIPTIONS AND HEIGHTS OF BENCH-MARKS

ON THE

NORTHERN LINES OF LEVELLING.

PREPARED UNDER THE DIRECTIONS OF

COLONEL S. G. BURRARD, R.E., F.R.S.,

SUPERINTENDENT TRIGONOMETRICAL SURVEYS.

PUBLISHED BY ORDER OF THE GOVERNMENT OF INDIA.

Dehra Dun:

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INTRODUCTION.

(1.) *The accuracy of the levelling results.*

The heights of bench-marks have been given in the tables to 1000th part of a foot, but they are not known to this degree of accuracy. The heights of those bench-marks that are situated in the vicinity of a tidal observatory, at which the determination of mean-sea-level has been adopted as a zero of reference, are known with greater accuracy than the heights of bench-marks, that are at long distances from the coast.

If a surveyor wishes to ascertain the probable error of any *absolute* value of height given in this volume, he should estimate from the frontispiece chart the distance in miles of the bench-mark in question from the nearest tidal base-station. The nine base-stations of the levelling are Karachi, Bombay (Apollo Bandar), Karwar, Beypore, Cochin, Negapatam, Madras, Vizagapatam and False Point. If the distance of a bench-mark in miles from the nearest tidal base-station, as measured along a line of levelling, is M, the probable error of the height of the bench-mark may be taken to be

$$\pm \sqrt{(0{\cdot}004)^2 M + (0{\cdot}00034)^2 M^2}.$$

Thus if we want to ascertain the probable error of the height of Chach, we see from the chart that the nearest tidal base-station is Karachi. We can ascertain the distance, M, along a level-line, of Chach from Karachi either from the chart or from the tables of this volume; M = 929 miles nearly.

$$\text{Probable error of height of Chach} = \pm \sqrt{(0{\cdot}004)^2 \times 929 + (0{\cdot}00034)^2 \times 929^2}$$
$$= \pm 0{\cdot}339 \text{ foot.}$$

The statement, that the probable error of the height of Chach (1014·063 feet) is ± 0·339 foot, means that if the levelling from Karachi to Chach were to be revised, it would be an even chance, that the revised height of Chach would be found to be between 1014·063 − 0·339 and 1014·063 + 0·339, *i.e.*, between 1013·724 and 1014·402 feet. The accuracy of the Indian levelling is such, that if the line from Karachi to Chach were to be revised ten times, five of these revisionary operations would give to Chach a value of height lying between 1013·724 and 1014·402 feet.

Surveyors generally require the absolute heights of bench-marks above sea-level; engineers on the other hand are more interested in the *difference* of height between two places than in the absolute height of either. If an engineer wishes to ascertain the probable accuracy of any difference of height between two bench-marks, as derived from this volume, he has only to take out from the volume the distance apart of the bench-marks, as measured along the levelling-line, and calling this distance M, to calculate the probable error in decimals of a foot from the same formula as before;—

$$\pm \sqrt{(0{\cdot}004)^2 M + (0{\cdot}00034)^2 M^2}.$$

(2). *Permanence of bench-marks.*

The possibility, that bench-marks may have been disturbed, is a question that should be considered by engineers making use of them. Some bench-marks will last for centuries, others will vary in height within 10 or 20 years. The most permanent and reliable form of bench-mark is an inscription on solid ground-rock. The standard monolithic bench-marks have been built with great care, and are as permanent as any marks can be, that are erected on unconsolidated ground. Embedded bench-marks, that have been buried out of sight, are generally very reliable, if they have not been placed near railways; but blocks embedded under railway platforms are liable to sink 3 to 6 inches in 20 or 30 years. Mile-stones are constantly being moved and are not suitable positions for bench-marks. It is greatly to be regretted, that in former years the levellers on certain lines placed so many marks upon mile-stones; the temporary character of mile-stones had probably not been fully realised then, and it may perhaps have been difficult to find suitable sites on flat soft ground in certain localities. In the early years of levelling in India, too many bench-marks were placed near railways; this was done to suit the convenience of engineers, but experience has shown that lines of railway are in constant vibration and do not furnish permanent sites.

Any person who discovers that a Survey bench-mark has been disturbed, or that a description given in this book is no longer correct, is requested to inform the Superintendent Trigonometrical Surveys, Dehra Dun.

(3.) *Points to which values of height refer.*

In this volume heights have been given in some instances for flanges of girders* and mile-stones, and rails, upon which no bench-mark has been inscribed. In these cases the height always refers to the top of the flange, to the top of the mile-stone, and to the top of the rail. In all cases where an arrow has been engraved, the height refers to the head of the arrow. In cases of inscribed circles the height refers to the interior of the circle. In the case of embedded bench-marks a hollow square has been cut in the upper surface of the stone block, and the height given refers to the interior of the square. All heights are measured above mean-sea-level. In Vol. XIX the method of determining mean-sea-level has been explained.

(4.) *The difference between dynamic and orthometric heights.*

Owing to the spheroidal form of the earth, the surface of a high-level lake is not parallel to the surface of the sea vertically below it. The two surfaces converge towards the north. The orthometric height of any point is the height above sea-level measured vertically by a tape or staff. The dynamic height is the height derived from the observation of water-flow. The dynamic height of every point of the surface of a high level lake is the same, if the water is in repose. The orthometric height of the northern end of such a lake is less than the orthometric height of the southern end, because its vertical distance above sea-level is less.† *Orthometric values of heights should be employed by surveyors and engineers.*

(5.) *Charts.*

The relative positions of the several level-lines are shown in the frontispiece chart. A separate chart has been included for each line of levels to illustrate the route. These charts were on too small a scale to admit of all bench-marks being shown, but standard bench-marks, embedded bench-marks, and stations of principal triangulation have been entered.

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* Vol. XIX B, page 59. The bench-marks described on page 59 and on page 111 cannot be regarded as permanent marks. A bridge girder is a very unsuitable site; so is a rail (page 80).

† The subject is discussed at length in chapter VII, Vol. XIX, *Account of the Operations of the G. T. Survey of India.* When we speak of the sea being "vertically below" a high-level lake, we imagine a tunnel under the lake, through which the sea flows.

(6.) *Numbering of bench-marks.*

Each bench-mark has two numbers, a geodetic and a topographic; the geodetic numbering shows the relative positions of marks on their levelling line; the topographic numbering shows the survey areas in which the marks fall. In previous publications bench-marks have been allotted a geodetic number only, and this has been found an insufficient guide for surveyors and engineers. The geodetic numbers indicate *lines of route*, which are doubtless of interest to levellers and computers. But what surveyors want is a list of all bench-marks situated *within any given area.*

When two or more lines of levelling intersect, each provides bench-marks for the same survey area; in some few cases a bench-mark may be common to two or more lines, but generally the bench-marks on the intersecting lines are different. If for instance we compare the Shikarpur terminals of line No. 52, Sujawal-Shikarpur (Sind) and line No. 53, Shikarpur (Sind)-Tatta, we see that all the bench-marks of page 108 Sujawal-Shikarpur (Sind) are all situated in Shikarpur (Sind), but that none of them appears on page 109 in line No. 53 Shikarpur (Sind)-Tatta. The system, under which line No. 52 and line No. 53 were published in different pamphlets led therefore to the separation of the Shikarpur bench-marks into two lists, neither of which was consequently complete. The index to degree sheets, given in this volume, indicates all the pages, on which bench-marks occur in any particular degree-sheet*. The topographic number for instance of the bench-mark 3 of main-line No. 46 is $\frac{\text{BM.2}}{41\,\text{F}}$; this denotes the 3rd mark within degree-sheet 41 F: the same topographic number will be found attached to bench-mark 3 of main-line No. 44, thus denoting that one and the same mark is common to both lines.

When a bench-mark is situated very close to the boundary of a degree sheet, it is often impossible to ascertain to which degree sheet the bench-mark really belongs. We seldom know the latitude or longitude of bench-marks, nearer than 5 or 10 feet, and in some cases, especially when the positions of marks have to be obtained from old maps, the uncertainty may extend to 50 or 100 feet. When therefore, for example, a bench-mark situated on the northern border of degree sheet 58B is given a topographic designation with 58B for the denominator, and is shown in the level chart in sheet 58B, we

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* *See* page 85 of Vol. XIX. The survey areas, by which bench-marks have been classified and numbered, are called degree sheets; they embrace one degree of latitude by one degree of longitude. Surveyors are well aware of the system followed in numbering survey sheets, but a few words of explanation may not be out of place here for the use of engineers.

The map of *India and Adjacent Countries* embraces the area bounded by 40° latitude on the north and by the ocean on the south, and situated between the meridians of 44° and 124°. The index map is published in General Reports of the Survey of India. This area of Asia is divided into 136 survey sheets, each of which comprises 4 degrees of latitude and 4 degrees of longitude. The longitudes are derived from the Greenwich-Teheran-Karachi observations of 1894-1896. The numbers of the sheets in India itself are as follows:—

Between the meridians of	Latitude boundaries of sheets
64° and 68°	Sheet 34 (*latitude 32° to 28°*) Sheet 35 (*lat. 28° to 24°*)
68° and 72°	Sheet 38 (*lat. 36° to 32°*), 39, 40, and 41 (*lat. 32° to 20°*)
72° and 76°	Sheets 43 to 49 (*from lat. 36° to 8°*)
76° and 80°	Sheets 53 to 58 (*from lat. 32° to 8°*)
80° and 84°	Sheets 62 to 66 (*from lat. 32° to 12°*)
84° and 88°	Sheets 72 to 74 (*from lat. 28° to 16°*)
88° and 92°	Sheets 78 and 79 (*from lat 28° to 20°*)
92° and 96°	Sheets 83 to 85 (*from lat. 28° to 16°*)

Each of these large sheets of 4 degrees square is sub-divided in 16 degree sheets, each of which is one degree square, thus:—

A	E	I	M
B	F	J	N
C	G	K	O
D	H	L	P

Survey sheet 58 covers the area between meridians 76° and 80° and between latitudes 12° and 8°: degree sheet 58A therefore embraces the sub-division between 76° and 77° and between 12° and 11°; degree sheet 58P embraces the sub-division between 79° and 80° and between 9° and 8°. With the aid of the tables given in this footnote, it is possible (*a*) to find the number of the degree sheet in which any town falls, if its latitude and longitude are known, (*b*) to find the region included within any named degree sheet. Separate lists of bench-marks are about to be published for each survey sheet of 4 square degrees.

cannot guarantee that the bench-mark may not eventually be located by surveyors in sheet 58A. Similarly, for example, a bench-mark on the border line between sheets 56H and 57E may be allotted with equal show of reason to either sheet. In these cases of uncertainty we might have given two topographic numbers to each border bench-mark, but this course seemed cumbersome, and we have preferred to allot every bench-mark to some particular sheet. When therefore engineers are seeking to ascertain the descriptions of all bench-marks situated in any particular sheet, they are advised to consult the index to degree sheets appended to this volume, and to examine the lists for neighbouring sheets.

A few words more are required to explain the system followed in allotting geodetic numbers to bench-marks.

A topographic number, such as $\frac{\text{B.M.51}}{\text{48 M}}$ is self-explanatory: it merely means the 51st bench-mark of the degree sheet 48M; but the geodetic numbering is not so simple.

The level-lines of India have been divided into (*a*) main-lines, (*b*) principal branch-lines and (*c*) minor branch-lines.

The main-lines are numbered consecutively from 1 to 86*; the principal branch-lines have been given the number of the main-line, from which they emanate, together with a letter attached†. Thus a number, such as 40, must imply a main-line, and a symbol, such as 48 A, must imply a branch-line emanating from main-line 48. Lines 61A, 61B, 61C, 61D are all principal branch-lines emanating from main-line 61.

Every main-line and every principal branch-line has been printed in this volume as a separate list. When a main-line of levelling is being observed, the levellers carry out numerous minor branches to towns and triangulation stations: it has not been found convenient to number these minor branches in the same way as principal branches have been numbered, or to separate them in publication from the main-lines to which they belong. The geodetic designation of bench-marks has therefore been divided into two columns in the lists of this volume; in the first column appear only the bench-marks on an actual main-line or an actual principal branch-line. The bench-marks of the minor branches will be found in the second column: thus on page 36 will be found a minor branch consisting of bench-marks $\frac{1}{14}$ and $\frac{2}{14}$. Numbers such as $\frac{1}{14}, \frac{2}{14}$ imply that a minor branch-line starts from bench-mark 14 of the main-line; the denominator shows the bench-mark of emanation, the numerator shows the position in the minor branch. In former years the levellers extended this system of numbering to minor branches that emanated *from* minor branches, but the designations became very complicated.

In this volume the geodetic numbering has been limited to four classes:—

(*a*) a simple number, such as 30, which denotes the number of the mark on the line.

(*b*) a number such as $\frac{3}{26}$, which denotes the 3rd mark on a minor branch emanating from the 26th mark of the line.

(*c*) a symbol, such as $\frac{a}{26}$, or $\frac{a}{119}$, or $\frac{b}{73}$, or $\frac{c}{48}$, which denotes an *extra bench-mark* close to the line. $\frac{a}{26}$ denotes not a minor branch, but an extra mark near bench-mark 26 of the line.

(*d*) a symbol, such as $\frac{3a}{26}$, (*see* page 62) which denotes an extra bench-mark, a, situated close to the 3rd bench-mark of the minor branch, which emanates from mark 26 of the line.

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* Volume XIX. G. T. Survey of India, page 5.
† Volume XIX, G. T. Survey of India, page 20.

The following table summarises the geodetic system of enumeration :—

Line or Bench-mark	Designated as
Main-line 8	Line No. 8
Principal branch-line 61A	Line No. 61A
Bench-mark 29 on main-line 8	29 of line 8
Bench-mark 31 on principal branch-line 61A	31 of line 61A
Bench-mark 5 on minor branch emanating from bench-mark 47	$\frac{5}{47}$
Extra bench-mark a, close to bench-mark 26 of main-line, or of principal branch-line	$\frac{a}{26}$
Extra bench-mark a, close to bench-mark 4, of the minor branch that starts from bench-mark 113 of main-line	$\frac{4a}{113}$

If a bench-mark on a main-line or on a principal branch-line has been reported as destroyed, it has been entered in the column for description as 'destroyed': if an extra bench-mark has been reported as destroyed, all mention of it has been omitted from the lists.

(7.) *Distances of bench-marks from a station of origin.*

Distances are measured along the lines of levelling, and not along the most direct roads. They are therefore apt to be misleading, especially in the case of bench-marks situated on minor branch-lines, and they should only be regarded as general guides. If a minor branch-line leaves its main-line (for example) at bench-mark No. 21, and winds about through a town for 4 miles connecting with bench-marks $\frac{1}{21}$, $\frac{2}{21}$, $\frac{3}{21}$ to $\frac{7}{21}$, it may happen that the last bench-mark of this minor branch-line is situated within a mile of the bench-mark of issue, No. 21 of the main-line; but the distances, shown in this volume, will be the distances measured *along the levelling route*, so that, if the distance of bench-mark 21 is n miles from the station of origin, the distance of bench-mark $\frac{7}{21}$ will be shown as $(n + 4)$. These distances, as derived from the levelling routes, are quite correct, although an engineer finding the actual distance apart of bench-marks 21 and $\frac{7}{21}$ to be less than a mile, might think that the published values were in error. Other methods of indicating distances were considered, but it was decided to adhere to the system of measurement *along levelling routes*.

Dehra Dun:
June 20th, 1910.

S. G. Burrard.

Main-Line 43. (Karachi to Tatta).

Designation of Bench-marks			Distance from Karachi	Description of Bench-marks	Corrected Elevation *	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.1 / 35 L	0·0	G.T.S. B.M. □A A.D. 1880 at Manora. This is the bench-mark of reference of Karachi Tidal Observatory. Consists of stone embedded flush with surrounding masonry and about a foot above ground, close to N.W. corner of building belonging to Harbour Works and known as Mestri Quarters, 140 yards S.W. of tidal observatory which is alongside Tipping Pier. The bench-mark is protected by wooden railing.	8·949	8·949
2		BM.2 / 35 L	0·7	○ On stone of embankment, close to S. side of Humby's pier, Manora.	8·897	8·896
3		BM 3 / 35 L	1·6	○ on Kiamari Groyne. On top of 1st pillar to S. of Harbour Survey pillar marked No. 10½.	9·342	9·341
4		BM.4 / 35 L	2·6	G.T.S. ○B.M. at Kiamari. On top surface of 2nd offset above ground, on N.E. corner of base of Hydraulic Works chimney adjoining Merewether clock tower.	12·290	12·289
	a / 4	BM.5 / 35 L	4·7	B.M. □ A bench-mark of Karachi Harbour Works, situated close to Port Trust Office. On stone coping of native jetty at E. end, immediately below an inscription tablet in W. face of W. pillar at N. end of bridge over Chinna Creek.	8·381	8·381
5		BM.6 / 35 L	5·2	G.T.S. ○ B.M. On raised stone pavement, close up to S.W. corner of Merewether clock tower at S. end of Karachi town.	12·065	12·064
6		BM.1 / 35 P	5·8	G.T.S. ○ B.M. at Karachi. On N. side of stone plinth of 2nd sentry box, eastwards from main entrance of city railway station (North-Western Railway). The sentry box is immediately in front of Messrs. Cockburn and Co's office, and top of its plinth is about 2 feet above ground.	10·792	10·791
	a / 6	BM.2 / 35 P	6·3	G.T.S. ○ B.M. On N. end of tread of 3rd step (counting from bottom) of flight at W. or main entrance to Telegraph Office, Karachi.	9·266	9·265

* Deduced from the most recent levelling revision up to B.M. No. 12.

Main-Line 43. (Karachi to Tatta).

Designation of Bench-marks		Distance from Karachi	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
b/6	BM.3 / 35 P	7·5	Standard Bench-Mark, Karachi. This is the bench-mark of reference for Karachi and was accepted by Lieut.-Colonel Laughton, S.C., of Bombay Revenue Survey, as defining the datum of his survey of Karachi made in 1874-75, and all levels in Karachi are referred to it. It is situated in S. corner of compound of Holy Trinity Church, and consists of a circular masonry pillar 2 feet 2 inches in diameter, rising 2 feet 9 inches above ground level and capped by a horizontal slate. An iron pin, 2 inches in diameter, fixed in the pillar, passes through a perforation at centre of slate, and projects slightly above its surface, the top of pin being the point of reference. The slate is inscribed as follows:— G T.S. Bench Mark ○ Accepted Height above Mean Sea Level 27·55 A.D. 1862 The pillar is protected by an iron railing.	27·550	27·548
1b/6	BM.4 / 35 P	7·7	G.T.S. ○ B.M. at Sind Club, Karachi. On top surface of right pedestal of two, between which steps lead from main entrance to Dining Hall.	24·783	24·782
2b/6	BM.5 / 35 P	7·9	G.T.S. ○ B.M. at Frere Hall, Karachi. On S. end of lowest tread of flight of stone steps at E. or main entrance.	27·360	27·358
7	BM.6 / 35 P	8·9	○ On E. parapet of culvert at gate of cemetery, Karachi, beyond European Infantry Barracks.	45·824	45·821
8	BM.7 / 35 P	9·5	○ On top of guard-stone at E. end of N. parapet of bridge, over which road to Tatta passes, at a point 500 yards beyond toll-house.	35·524	35·522
9	BM.8 / 35 P	13·5	G.T.S. ○ B.M. On E. end of stone coping of N. parapet of W. abutment of bridge, near telegraph post No. 10/22.	50·443	50·440
a/9	BM.9 / 35 P	13·5	↑ 55·70 Marked with black paint at W. end of stone coping of N. parapet of E. abutment of bridge, near telegraph post No. 10/22. (Railway bench-mark).	50·495	50·492
10	BM 10 / 35 P	14·1	G.T.S. ○ B.M. On stone pavement of verandah, immediately below sill of window E. of main entrance door of Thul Railway Station.	51·223	51·220
11	BM.11 / 35 P	16·1	B.M. ○G.T.S. at South End Tower of Karachi Base-Line. On N.W. corner of stone plinth of tower.	46·294	46·291
12	BM.12 / 35 P	16·2	On ground level mark-stone of Karachi Base-Line, South End, G. T. Survey Station, lat. 24° 52′ 59″·63, long. 67° 9′ 24″·77. A principal station of Karachi Base-Line Figure, Great Indus Series. (For full description *see* Synoptical Volume).	46·278	46·275

Main-Line 43. (Karachi to Tatta).

Designation of Bench-marks			Distance from Karachi	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
13		BM.13 / 35 P	17·1	Top of mile-stone No. 9, on road from Karachi to Tatta.	47·221	47·218
14		BM 14 / 35 P	18·1	Top of mile-stone No. 10, on road from Karachi to Tatta.	61·118	61·114
15		BM.15 / 35 P	19·1	Base of mile-stone No. 11, on road from Karachi to Tatta.	62·636	62·632
16		BM.16 / 35 P	20·1	Top of mile-stone No. 12, on road from Karachi to Tatta.	72·340	72·336
17		BM.17 / 35 P	21·1	Top of mile-stone No. 13, on road from Karachi to Tatta.	93·877	93·871
18		BM.18 / 35 P	22·1	Top of mile-stone No. 14, on road from Karachi to Tatta.	123·490	123·483
19		BM.19 / 35 P	23·1	Top of mile-stone No. 15, on road from Karachi to Tatta.	135·504	135·496
20		BM.20 / 35 P	24·5	Top of mile-stone No. 16, on road from Karachi to Tatta.	114·988	114·981
21		BM.21 / 35 P	25·5	Top of mile-stone No. 17, on road from Karachi to Tatta.	100·866	100·860
22		BM 22 / 35 P	26·6	Top of mile-stone No. 18, on road from Karachi to Tatta.	84·820	84·815
23		BM.23 / 35 P	27·1	Top of mile-stone No. 19, on road from Karachi to Tatta.	79·129	79·124
24		BM.24 / 35 P	29·2	Top of mile-stone No. 21, on road from Karachi to Tatta.	54·337	54·334
	a / 24	BM.25 / 35 P	29·2	G.T.S. Bench Mark bears 202°, and is 176 feet from mile-stone No. XXI, Karachi. Summit of B.M. about 6 inches above ground level.	52·284	52·281
25		BM.26 / 35 P	30·2	Top of mile-stone No. 22, on road from Karachi to Tatta.	33·339	33·337
26		BM.27 / 35 P	31·2	Top of mile-stone No. 23, on road from Karachi to Tatta.	17·344	17·343
27		BM.28 / 35 P	32·3	Top of mile-stone No. 24, on road from Karachi to Tatta.	43·820	43·818
28		BM 29 / 35 P	33·3	Top of mile-stone No. 25, on road from Karachi to Tatta.	7·637	7·637
29		BM.30 / 35 P	34·2	Base of mile-stone No. 26, on road from Karachi to Tatta.	11·587	11·586

Main-Line 43. (Karachi to Tatta).

Designation of Bench-marks			Distance from Karachi	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
30		BM.31 / 35 P	35·3	Top of mile-stone No. 27, on road from Karachi to Tatta.	9·587	9·586
31		BM.32 / 35 P	36·2	Top of mile-stone No. 28, on road from Karachi to Tatta.	7·424	7·424
32		BM.33 / 35 P	37·2	Top of mile-stone No. 29, on road from Karachi to Tatta.	7·894	7·894
33		BM.34 / 35 P	38·2	Top of mile-stone No. 30, on road from Karachi to Tatta.	9·140	9·139
34		BM.35 / 35 P	39·2	Top of mile-stone No. 31, on road from Karachi to Tatta.	12·880	12·879
35		BM.36 / 35 P	40·4	Top of mile-stone No. 32, on road from Karachi to Tatta.	9·010	9·010
36		BM.37 / 35 P	41·2	Top of mile-stone No. 33, on road from Karachi to Tatta.	9·975	9·974
37		BM.38 / 35 P	42·2	Top of mile-stone No. 34, on road from Karachi to Tatta.	18·503	18·502
38		BM 39 / 35 P	43·2	Top of mile-stone No. 35, on road from Karachi to Tatta.	9·542	9·541
39		BM.40 / 35 P	44·2	Top of mile-stone No. 36, on road from Karachi to Tatta.	13·053	13·052
40		BM 41 / 35 P	45·2	Top of mile-stone No. 37, on road from Karachi to Tatta.	13·518	13·517
	a / 40	BM.42 / 35 P	45·3	G.T.S. Bench Mark sunk S. of road, bears 197°, and is 224 feet from 37th mile-stone near village of Gharo, 2 feet below ground level.	7·951	7·951
41		BM.43 / 35 P	47·1	Top of mile-stone No. 11 from Guja and No. 1 from Gharo, on road from Karachi to Tatta.	15·685	15·684
42		BM.44 / 35 P	48·1	Top of mile-stone No. 10 from Guja and No. 2 from Gharo, on road from Karachi to Tatta.	15·086	15·085
43		BM.45 / 35 P	49·0	Top of mile-stone No. 9 from Guja and No. 3 from Gharo, on road from Karachi to Tatta.	14·749	14·748
44		BM.46 / 35 P	50·0	Top of mile-stone No. 8 from Guja and No. 4 from Gharo, on road from Karachi to Tatta.	16·628	16·627
45		BM.47 / 35 P	50·9	Top of mile-stone No. 7 from Guja and No. 5 from Gharo, on road from Karachi to Tatta.	17·916	17·915

Main-Line 43. (Karachi to Tatta).

Designation of Bench-marks		Distance from Karachi	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
46	BM.48 / 35 P	51·8	Summit of Canal bench-mark marked XII, about 50 yards N. of road and 120 yards S.E. of mile-stone No. 6 Guja / 6 Gharo.	15·628	15·627
47	BM.49 / 35 P	51·9	Top of mile-stone No. 6 from Guja and No. 6 from Gharo, on road from Karachi to Tatta.	19·261	19·260
48	BM.50 / 35 P	52·8	Top of mile-stone No. 5 from Guja and No. 7 from Gharo, on road from Karachi to Tatta.	18·779	18·778
49	BM.51 / 35 P	53·8	Top of mile-stone No. 4 from Guja and No. 8 from Gharo, on road from Karachi to Tatta.	20·173	20·172
50	BM.52 / 35 P	54·7	Top of mile-stone No. 3 from Guja and No. 9 from Gharo, on road from Karachi to Tatta.	21·613	21·612
51	BM.53 / 35 P	55·6	Top of mile-stone No. 2 from Guja and No. 10 from Gharo, on road from Karachi to Tatta.	23·583	23·582
52	BM.54 / 35 P	56·6	Top of mile-stone No. 1 from Guja and No. 11 from Gharo, on road from Karachi to Tatta.	23·820	23·819
53	BM.55 / 35 P	57·5	Top of mile-stone No. 0 from Guja and No. 12 from Gharo, on road from Karachi to Tatta.	21·331	21·330
54	BM.56 / 35 P	57·6	Top of mile-stone No. 9 from Tatta and No. 1 from Guja, on road from Karachi to Tatta.	22·365	22·364
55	BM.57 / 35 P	58·5	Top of mile-stone No. 8 from Tatta and No. 2 from Guja, on road from Karachi to Tatta.	24·909	24·908
56	BM.58 / 35 P	59·5	Top of mile-stone No. 7 from Tatta and No. 3 from Guja, on road from Karachi to Tatta.	24·557	24·556
57	BM.59 / 35 P	60·4	Top of mile-stone No. 6 from Tatta and No. 4 from Guja, on road from Karachi to Tatta.	24·135	24·134
58	BM.60 / 35 P	61·3	Top of mile-stone No. 5 from Tatta and No. 5 from Guja, on road from Karachi to Tatta.	25·179	25·178
59	BM.61 / 35 P	62·3	Top of mile-stone No. 4 from Tatta and No. 6 from Guja, on road from Karachi to Tatta.	26·204	26·203
60	BM.62 / 35 P	63·2	Top of mile-stone No. 3 from Tatta and No. 7 from Guja, on road from Karachi to Tatta.	27·803	27·802

Main-Line 43. (Karachi to Tatta).

Designation of Bench-marks		Distance from Karachi	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
61	BM.63 / 35 P	64·2	Top of mile-stone No. 2 from Tatta and No. 8 from Guja, on road from Karachi to Tatta.	26·978	26·977
62	BM.64 / 35 P	65·2	Top of mile-stone No. 1 from Tatta and No. 9 from Guja, on road from Karachi to Tatta.	71·328	71·324
63	BM.65 / 35 P	67·1	Top of mile-stone No. 0 from Tatta and No. 10 from Guja, on road from Karachi to Tatta.	30·344	30·342
64	BM.66 / 35 P	67·7	G.T.S. Bench Mark at Tatta. Embedded in mound on which Tatta Dak Bungalow is built, 158 feet from mile-stone No. XXXII Jerruck / 0 Tatta, 112 feet from N. angle of travellers' bungalow, 150 feet from S.E. angle of compound of Mukhtiarkari, and Sowars' lines, and 2 inches below ground level.	38·766	38·764

Main-Line 44. (Navanar to Sujawal).

Designation of Bench-marks		Distance from Navanar	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1		0·0	Destroyed	9·809	9·810
2	BM.1 / 41 F	5·6	G.T.S. □ B.M. Embedded 6 inches under ground, on E. side of cart-track from Mundra to Navanar creek, on a mound about 1 foot above ground level; ½ mile S. of a sand hillock called Tapaska Dhoi, about 4 miles S.S.W. of Mundra town, 2 miles W. of Mundra Bandar house and 3 miles S.E. of Dhrib village. A masonry pillar has been built 8 feet to E. of bench-mark.	11·097	11·098
3	BM.2 / 41 F	9·4	G.T.S. □ B.M. Embedded 149 feet from northern tower of E. gateway of town, called Borika Naka and 105 feet to N.W. of Ibji Sai's dharmshala at Mundra. A masonry pillar has been built 8 feet to S. of bench-mark.	34·753	34·756
4	BM.3 / 41 F	9·6	G.T.S. ○ B.M. On stone on top platform of steps on S. side of Jairam Shivji's Tank at Mundra, 95 feet from base of highest tower of Mundra wall on which the trigonometrical station is built and 5 feet from N.W. corner of platform of tank.	40·712	40·715
5	BM.4 / 41 F	11·2	G.T.S. ○ B.M. On N.E. corner of masonry platform, or resting place for travellers, between 2 large *barh* trees on W. side of cart-track from Mundra to Kapaia Mota, 140 feet S.E. of Pajtan Pir, on a low hillock, 32 feet E. of small well, and 2 miles from Mundra.	65·282	65·287
6	BM.5 / 41 F	12·7	○ G.T.S. B.M. On S. end of S. platform seat at entrance to Devji Khoja's house, 255 feet S. of Mitha Baoli at N. end of Kapaia Mota village.	84·080	84·086
7	BM.6 / 41 F	15·5	G.T.S. ○ B.M. at Baraia Mota Dharmshala. On S.W. corner of platform of Thakur Jiaji Jam's Dheri (tomb), 60 feet W. of entrance to Ladak Khoja's dharmshala.	127·678	127·687
8	BM.7 / 41 F	17·7	G.T.S. ○ B.M. On S.W. corner of well in bed of Khara Nala which lies about 1 mile S. of Kalaghogha, on E. side of cart-track from Baraia Mota.	134·783	134·793
9	BM.8 / 41 F	18·5	G.T.S. □ B.M. Embedded in platform of Kemji Jairam's well, on N. margin of cart-track from Kalaghogha to Beraja, 200 feet S.W. of tank and 17 chains W. of Kalaghogha village, 14 feet from S.E. corner of platform flush with its surface, and 2 and 7 feet respectively from N.E. and S.E. corners of upper trough or cistern.	179·892	179·905
a / 9	BM.9 / 41 F	18·5	G.T.S. ○ B.M. On stone coping of S. wall of topmost channel of Kemji Jairam's well at Kalaghogha.	181·937	181·950

Main-Line 44. (Navanar to Sujawal).

Designation of Bench-marks		Distance from Navanar	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
10	BM.10 / 41 F	21·1	G.T.S. ○ B.M. On a flag-stone of Ganpati temple platform in front of door, 5 feet from N.E. and N.W. corners. The temple is on S. bank of a tank band, 104 feet E. of cart-track from Kalaghogha to Beraja, and 2 miles S.E. of latter village.	205·348	205·362
11	BM.11 / 41 F	21·1	G.T.S. ○ B.M. On plinth of Ganpati temple well on W. side, 3 feet S. of W. corner, in tank, 39 feet N.E. of B.M. No. 10.	198·058	198·072
12	BM.12 / 41 F	23·0	G.T.S. ○ B.M. On flag-stone on upper surface of block of masonry called Jakhshadev, 1 mile N.E. of Beraja and 132 feet S. of crossing of cart-tracks from Kalaghogha to Kera, and from Beraja to Tapar.	229·331	229·347
13	BM.13 / 41 F	24·3	G.T.S. B.○M. On N. margin of circular well at Bhuj Vali Bai Navav, in line with flight of steps and immediately above lowest step, 5 chains N. of junction of cart-tracks from Beraja and Kalaghogha to Kera.	248·863	248·880
14	BM.1 / 41 E	29·3	G.T.S. □ B.M. Embedded in N. platform (flush with its surface) close to gate of enclosure of Ghulam Ali Shah's Dargah, on a hill at S.W. end of town of Kera, 8 feet N.E. of N. edge of gate, 2 feet from enclosure wall, and 4 feet above ground.	469·037	469·066
15	BM.2 / 41 E	29·4	G.T.S. ○ B.M. at Kera. On topmost step of flight leading to top of hill on which Ghulam Ali Shah's Dargah stands, 20 feet N.E. of B.M. No. 14.	465·268	465·297
16	BM.3 / 41 E	29·4	G.T.S. ○ B.M. at Kera. On top step of southern flight, at foot of hill on which Ghulam Ali Shah's Dargah stands.	442·992	443·019
17	BM.4 / 41 E	30·7	G.T.S. ○ B.M. On stone coping at centre of E. parapet of culvert, about 9 chains N. of bridge over Nag river on road from Kera to Narayanpur, and about 1 mile N. of Kera.	421·170	421·196
18	BM.5 / 41 E	31·4	G.T.S. ○ B.M. On stone coping, 4 feet from S. end of E. parapet of culvert, on road from Kera to Narayanpur, about a mile S. of latter village.	439·518	439·545
19	BM.6 / 41 E	32·8	G.T.S. ○ B.M. On rock *in situ*, ½ mile N. of Narayanpur, on W. margin of road from Narayanpur to its junction with main road from Mandvi to Bhuj.	522·368	522·400
20	BM.7 / 41 E	33·5	G.T.S. ○ B.M. On stone coping of W. parapet of culvert, 3 feet from its S. end, 9 chains S. of bridge over stream running into Nag river, and 1 mile S. of junction of road with main road from Mandvi to Bhuj.	508·887	508·919

Main-Line 44. (Navanar to Sujawal).

Designation of Bench-marks			Distance from Navanar	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
21		BM.8 / 41 E	34·6	G.T.S. ○ B.M. On top of mile-stone No. 9 from Bhuj, near junction of roads from Kera and Mandvi to Bhuj.	573·715	573·751
22		BM.9 / 41 E	35·6	G.T.S. ○ B.M. On top of mile-stone No. 8 from Bhuj.	619·865	619·902
23		BM.10 / 41 E	36·6	G.T.S. ○ B.M. On top of mile-stone No. 7 from Bhuj.	517·043	517·073
24		BM.11 / 41 E	37·0	G.T.S. ○ B.M. On stone coping of N. parapet of bridge over a stream running into Khari river, 35 feet from E. end of parapet, and 38 chains N. of mile-stone No. 7 from Bhuj.	473·473	473·499
25		BM.12 / 41 E	37·6	G.T.S. ○ B.M. On top of mile-stone No. 6 from Bhuj.	510·289	510·317
26		BM.13 / 41 E	38·3	G.T.S. ○ B.M. On stone coping of W. parapet, 14 feet from S. end and ¼ mile S.W. of mile-stone No. 5 from Bhuj.	423·090	423·113
27		BM.14 / 41 E	38·6	G.T.S. ○ B.M. On top of mile-stone No. 5 from Bhuj.	413·129	413·151
28		BM.15 / 41 E	39·6	G.T.S. ○ B.M. On top of mile-stone No. 4 from Bhuj.	389·540	389·561
29		BM.16 / 41 E	40·0	○ B.M. On top of masonry pillar at S. side of junction of road from Mankuva, and 32 chains N.E. of mile-stone No. 4 from Bhuj.	391·717	391·738
	1/29	BM.17 / 41 E	40·6	G.T.S. ○ B.M. On top of mile-stone No. 3 from Bhuj.	371·793	371·813
	2/29	BM.18 / 41 E	41·6	G.T.S. ○ B.M. On top of mile-stone No. 2 from Bhuj.	383·701	383·721
	3/29	BM.19 / 41 E	42·6	G.T.S. ○ B.M. On top of mile-stone No. 1 from Bhuj.	354·227	354·246
	4/29	BM.20 / 41 E	43·1	G.T.S. □ B.M. at Bhuj. Embedded in floor of front or W. verandah of pleaders' waiting room, in compound of Political Agent's residence, 200° and 159 feet from B.M. No. 5/29, 62° and 143 feet from N.E. corner of guard room, and 265 feet S.S.E. of S.E. corner of Agency building.	340·023	340·041
	5/29	BM.21 / 41 E	43·1	G.T.S. ○ B.M. On S.W. corner of lowest step of pedestal supporting Political Agent's flag-staff, 127 feet S.E. of Agency building, Bhuj.	339·241	339·259

Main-Line 44. (Navanar to Sujawal).

Designation of Bench-marks			Distance from Navanar	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
30		BM.22 / 41 E	40·8	G.T.S. ○ B.M. On stone coping at E. end of N. parapet of culvert, on road from Bhuj to Mankuva, and about ¼ mile S.E. of village of Sukhpur.	371·404	371·424
31		BM.23 / 41 E	42·1	G.T.S. ○ B.M. On stone coping at W. end of N. parapet of road culvert, about 2 miles E. of Mankuva.	386·634	386·654
32		BM.24 / 41 E	43·5	G.T.S. ○ B.M. On stone coping at E. end of N. parapet of road culvert, ¼ mile E. of Mankuva.	411·964	411·986
	a / 32	BM 25 / 41 E	43·7	G.T.S. □ B.M. Embedded in platform in front of Khanbai Sati Dehri, about ¼ mile N.E. of village of Mankuva, and 10 chains N. of road. The letters B.M. are engraved on S. edge of stone coping of platform which is 3 feet above ground. The bench-mark is flush with level of platform, 9 and 7 feet respectively from N.E. and S.E. corners, and 3 feet from front wall of Dehri.	414·008	414·030
33		BM.26 / 41 E	43·9	G.T.S. ○ B.M. On stone coping at E. end of N. parapet of road culvert, at Mankuva village.	418·467	418·489
34		BM.27 / 41 E	45·5	G.T.S. B ○ M. On rock *in situ*, 3 feet above road level, on N. side of road cutting, 2 miles S.W. from Mankuva on road to Samatra village.	462·676	462·701
35		BM.28 / 41 E	47·5	○ B.M. On stone coping, 2 feet from E. end, of S parapet of road culvert, about 1 mile E. of Samatra village.	528·987	529·016
36		BM.29 / 41 E	48·4	○ G.T.S. B.M. On rock *in situ*, on N. margin of road, and at foot of a rocky knoll about 10 chains N. of Samatra village.	578·288	578·320
37		BM.30 / 41 E	51·8	○ G.T.S. B.M. On rock *in situ*, on N. margin of cart-track from Samatra to Desalpur, and 27 chains S.E. of latter village.	592·392	592·425
38		BM.31 / 41 E	55·6	G.T.S. □ B.M. Embedded on S. side of Menbai Loani Sati Dehri, the southern one of two, on top of Majal hill, about 300 feet N.W. of village of Majal, and 163 feet from N.E. corner of dharmshala enclosure wall; 6 feet from S.E. and S.W. corners of Dehri, and 4 feet S. of stone pillar of same on which letters B.M. are engraved.	577·306	577·336
39		BM 32 / 41 E	57·5	○ G.T.S. B.M. On upright stone, on S.W. side of cart-track from Majal to Devpur, and 153 feet E. of Puaranogad temple ruins.	483·460	483·485
40		BM.33 / 41 E	59·6	G.T.S. ○ B.M. On S W. end of 2nd step from bottom (or 6th step from top) of first flight of steps leading from foot of Kakadbhit hill to Jakh temple on its summit.	483·302	483·326
41		BM.34 / 41 E	61·6	G.T.S. ○ B.M. On stone about centre of wall of trough at S.E. corner of Devpur Mahadeo temple enclosure.	502·244	502·269

Main-Line 44. (Navanar to Sujawal).

Designation of Bench-marks		Distance from Navanar	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
42	BM.35 / 41 E	63·3	G.T.S. B.○M. On rock *in situ*, on S.W. margin of cart-track from Devpur to Anjia Mota, 5 chains W. of Hardas Kunbi's well, and ½ mile S.E. of Dauda Mota village.	447·963	447·984
43	BM.36 / 41 E	65·1	G.T.S. ○ B.M. On stone coping of Mali-ki-Masjid platform, on right bank of Bukhi river, ¼ mile W. of Anjia Mota, 4 feet S. of N.E. corner of platform, and 9 feet from N.E. corner of Masjid.	403·056	403·075
44	BM 37 / 41 E	68·3	G.T.S. □ B.M. at Nakhtrana Mota. Embedded in compound of building used as Post Office and School, on E. side or front of building, immediately below window of school room, 10 feet from N.E. and S.E. corners, and 2 feet from wall on which letters B.M. are cut.	408·563	408·581
45	BM.38 / 41 E	68·3	G.T.S. ○ B.M. On N. end of 2nd step from bottom leading into Post Office and School building at Nakhtrana Mota.	409·588	409·606
46	BM.39 / 41 E	71·7	G.T.S. ○ B.M. On stone coping of platform at N.W. side of Trikamdas-ka-Dehri, on a low hill about a mile S.E. of Kotada, and 20 feet S. of cart-track from Nakhtrana to Kotada.	480·944	480·965
47	BM.40 / 41 E	75·6	G.T.S. □ B.M. Embedded at N. face of Dhanbai Sati Dehri in Kunbi's burial ground, close to S.W. end of village of Mathal, 6 feet from N.W. and N.E. corners of Dehri, and 4 feet from N. wall on which letters B.M. are cut.	305·022	305·035
48	BM.41 / 41 E	80·7	G.T.S. ○ B.M. On stone coping at N.W. corner of Mahadev temple platform, to left of flight of steps. The temple is on W. side of Ugardi village.	276·686	276·697
49	BM.42 / 41 E	84·9	G.T.S. □ B.M. Engraved on rock *in situ*, at N. side of steps of Mahadev temple platform, 2 feet below ground level, 6 feet below top of platform and 2 feet from W. face. The temple is in centre of village of Vigodi, and letters B.M. are cut on edge of stone coping near N.W. corner of platform.	274·635	274·645
50	BM.43 / 41 E	85·0	G.T.S. □ B.M. Embedded at N. face of Harchandpuri Bava's tomb at Vigodi, 3 feet from N.E. and N.W. corners and 1 foot from N. face on which letters B.M. are cut. The tomb is situated on cart-track from Vigodi to Chadani, 8 chains N.W. by N. of Vigodi temple.	268·442	268·451
1/50	BM.44 / 41 E	89·5	On upper surface of circular pillar of Hathria G. T. Survey Station, lat. 23° 27′ 14″·85, long. 69° 2′ 45″·83. A principal station of Cutch Coast Series. (For full description *see* Synoptical Volume).	695·902	695·926
51	BM 45 / 41 E	86·8	○ G.T.S. B.M. On rock *in situ* on right bank of stream, nearly 2 miles W. of Vigodi, and 9 feet S. of cart-track from Vigodi to Nagviri	246·452	246·460

Main-Line 44. (Navanar to Sujawal).

Designation of Bench-marks			Distance from Navanar	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
52		BM 46 / 41 E	89·7	G.T.S. ○ B.M. On rock *in situ* on rise of ground about centre of ruins of Bocha village, 3 chains N. of Kamil Pir and 2 chains S. of old cart-track from Nagviri to Lefri.	362·268	362·280
	a / 52	BM.47 / 41 E	95·6	G.T.S. ○ B.M. On S. end of 7th step from bottom or 6th step from top of N. ghat, or flight of steps, of Mundra tank, on W. side of cart-track to Matanomadh about a mile to north.	292·460	292·470
53		BM.1 / 41 A	96·8	G.T.S. □ B.M. at Matanomadh Temple. Embedded at N.E. angle of Asapuri Devi temple, at right side of entrance, 2 feet below floor level, 1 foot E. of E. wall of temple and 2 feet N. of N. wall on which the letters B.M. are cut.	299·775	299·784
54		BM.2 / 41 A	96·8	G.T.S. ○ B.M. On stone plinth at N.E. corner of Asapuri Devi temple at Matanomadh.	302·044	302·053
55		BM.3 / 41 A	96·9	G.T.S. ○ B.M. On S. end of topmost step at entrance to Krishna Khoja's shop at Matanomadh.	303·551	303·560
56		BM.4 / 41 A	97·2	G.T.S. ○ B.M. at Kangi Raja's Talav. On stone coping of circular pillar at N. end of tank, 2 chains S. of dharmshala and 33 chains N. of Asapuri Devi temple at Matanomadh.	341·035	341·046
57		BM.5 / 41 A	97·7	G.T.S. ○ B.M. On W. end of topmost step of Mithan Shah Pir's dargah, about a mile N.W. of Asapuri Devi temple at Matanomadh, and on S. side of cart-track to Kora.	397·235	397·247
58		BM.6 / 41 A	105·1	G.T.S. ○ B.M. at Bhatiano Sati. On stone coping at S.E. corner of platform, ½ mile S. of Kora village and 2 chains W. of cart-track from Matanomadh to Kora.	306·401	306·409
59		BM.7 / 41 A	109·9	G.T.S. □ B.M. Embedded at N.E. end of Masjid, 2 chains W. of Dharesi village, 14 feet from N.W. and 2 feet from N.E. corners, 2 feet from N. wall of Masjid, 23 feet from N.E corner of enclosure at front, and 5 feet below letters B.M. cut on N. wall of Masjid.	217·918	217·923
60		BM.8 / 41 A	118·7	G.T.S. ○ B.M. On top step (E. flight) of Katevala tank, about 2 miles S.S.E. of Lakhpat on cart-track from Umarsar to Lakhpat.	142·138	142·140
61		BM.9 / 41 A	120·4	G.T.S. ○ B.M. On E. end of 2nd step from top (southern flight) of Akhbani tank, nearly ½ mile S. of Lakhpat.	50·228	50·229
62		BM.10 / 41 A	120·7	G.T.S. □ B.M. at Lakhpat. Embedded at N. face of Hanuman temple, 6 feet from N.W. and 5 feet from N.E. corners, 2 feet from wall on which the letters B.M. are cut, and 610 feet S.W. of Bhuj gate of fort. The temple is on N. *band* of Jamsar tank.	47·881	47·882

Main-Line 44. (Navanar to Sujawal).

Designation of Bench-marks		Distance from Navanar	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
a/62	BM.11/41 A	121·2	On mark-stone on top of circular pillar of Lakhpat G. T. Survey Station, lat. 23° 49′ 19″·89, long. 68° 47′ 6″·09. A principal station of Cutch Coast Series. (For full description *see* Synoptical Volume).	131·828	131·830
63	BM.12/41 A	124·5	G.T.S. ○ B.M. On S.W. corner of Saiyid Sharif Pir, at N. end of ruins of Lakhasar village.	36·809	36·809
64	BM.13/41 A	142·0	G.T.S. ○ B.M. On stone coping at S.W. corner of Kotri platform.	8·981	8·981
65	BM.14/41 A	142·0	G.T.S. □ B.M. Embedded in centre of verandah, 1 foot from wall, flush with floor of Cutch Kotri rest house and beacon, on right bank of Khori creek, 6 miles N.W. of taluka town of Lakhpat.	9·230	9·230
a/65	BM.15/41 A	146·5	On upper surface of circular pillar of Saiyid Ali G. T. Survey Tower Station, lat. 23° 56′ 25″·77, long. 68° 40′ 15″·16. A principal station of Cutch Coast Series. (For full description *see* Synoptical Volume).	30·075	30·075
b/65	BM.1/40 D	156·7	On upper surface of circular pillar of Guni G. T. Survey Tower Station, lat. 24° 2′ 9″·30, long. 68° 33′ 2″·82. A principal station of Cutch Coast Series. (For full description *see* Synoptical Volume).	29·905	29·905
1b/65	BM.16/41 A	168·4	On upper surface of circular pillar of Sugandia G. T. Survey Tower Station, lat. 23° 52′ 28″·99, long. 68° 29′ 42″·54. A principal station of Cutch Coast Series. (For full description *see* Synoptical Volume).	30·975	30·975
66	BM.2/40 D	163·9	G.T.S. □ B.M. Embedded a few inches below ground level at Vehr, in centre of E. side of dharmshala, about 2 feet from wall and 5 chains from tank. The dharmshala is situated in the Ran, 21 miles S.E. of Moghul Bhin.	5·606	5·606
1/66	BM.3/40 D	168·4	On upper surface of circular pillar of Mod G. T. Survey Tower Station, lat. 24° 11′ 46″·92, long. 68° 31′ 11″·48. A principal station of Cutch Coast Series. (For full description *see* Synoptical Volume).	35·049	35·049
67	BM.4/40 D	176·3	G.T.S. □ B.M. Embedded a few inches below ground level, on boundary of village lands of Pahachari and Karund, 47 feet E. of boundary stone marking limits of villages of Buhar, Pahachari, Karund and Ghat, which lie in the Ran, and 13 chains W. of road from Lakhpat to Moghul Bhin.	8·213	8·213
68	BM.5/40 D	183·9	G.T.S. ○ B.M. On stone coping at E. end of S. parapet of Gadapwah bridge, 3 miles S.E. by E. of Moghul Bhin.	22·310	22·309

Main-Line 44. (Navanar to Sujawal).

Designation of Bench-marks		Distance from Navanar	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
$\frac{a}{68}$	BM.6 / 40 D	185·4	On upper surface of circular pillar of Moghul Bhin G.T. Survey Tower Station, lat. 24° 21′ 7″·66, long. 68° 17′ 7″·49. A principal station of Cutch Coast Series. (For full description *see* Synoptical Volume).	44·335	44·334
69	BM.7 / 40 D	186·5	G.T.S. □ B.M. at Moghul Bhin. Embedded in front or S.W. verandah of Mukhtyarkar's kachahri, flush with floor; close to door on left side, and 2 feet from wall.	18·358	18·358
70	BM.8 / 40 D	188·1	G.T.S. ○ B.M. On stone coping, 10 feet from S. end of E. parapet of road culvert over Chhandan Nawabwah, and 36 chains S. of mile-stone No. 2 from Moghul Bhin.	21·103	21·102
71	BM.9 / 40 D	188·6	G.T.S. ○ B.M. On top of mile-stone No. 2 from Moghul Bhin and No. 24 from Mirpur Batoro.	17·186	17·186
72	BM.10 / 40 D	189·5	G.T.S. ○ B.M. On top of mile-stone No. 3 from Moghul Bhin and No. 23 from Mirpur Batoro.	17·583	17·583
73	BM 11 / 40 D	189·6	G.T.S. ○ B.M. On centre of E. parapet of road culvert, 9 chains N. of mile-stone No. 3 from Moghul Bhin.	21·005	21·004
74	BM.12 / 40 D	192·5	G.T.S. ○ B.M. On top of mile-stone No. 6 from Moghul Bhin and No. 20 from Mirpur Batoro.	19·876	19·875
75	BM.13 / 40 D	193·3	G.T.S. ○ B.M. On top of a canal bench-mark stone, distant 250 feet and bears 58° from E. corner of S.E. abutment of Satardino wooden bridge over Gungrowah.	20·361	20·360
$\frac{a}{75}$	BM.14 / 40 D	193·3	B.O.M. On S.E. end of beam supporting N.E. railing of Salardino wooden bridge (also called Mori Satarana Shah) over Gungrowah.	27·177	27·176
76	BM.15 / 40 D	196·0	G.T.S. ○ B.M. On cut-water at up stream side of Chhah Hathowah sluice bridge.	20·792	20·791
77	BM.16 / 40 D	196·0	G.T.S. □ B.M. at Chhah Hathowah Sluice Bridge. Embedded 2 inches below ground level, close to boundary, between talukas, Sujawal and Moghul Bhin, and 31 feet N.E. of centre of road. It bears 327° and is 211 feet from B.M. No. 76, and from B.M. No. $\frac{a}{77}$ it bears 324° and is 209 feet.	21·583	21·582
$\frac{a}{77}$	BM.17 / 40 D	196·0	○ B.M. On top of centre post of S.W. railing of Chhah Hathowah sluice bridge.	24·239	24·238
$\frac{1}{77}$	BM.18 / 40 D	199·0	On upper surface of circular pillar of Gada G. T. Survey Tower Station, lat. 24° 26′ 21″·25, long. 68° 10′ 55″·48. A principal station of Cutch Coast Series. (For full description *see* Synoptical Volume).	44·958	44·957

Main-Line 44. (Navanar to Sujawal).

Designation of Bench-marks		Distance from Navanar	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
78	BM.19 / 40 D	197·4	G.T.S. ○ B.M. On top of mile-stone No. 11 from Sujawal and No. 4 from Ghulam Ali.	20·942	20·941
79	BM.20 / 40 D	198·4	G.T.S. ○ B.M. On top of mile-stone No. 10 from Sujawal and No. 5 from Ghulam Ali.	22·405	22·404
80	BM.21 / 40 D	200·5	G.T.S. ○ B.M. On top of mile-stone No. 8 from Sujawal.	25·715	25·714
81	BM.22 / 40 D	201·6	G.T.S. ○ B.M. On top of mile-stone No. 7 from Sujawal.	23·782	23·781
82	BM.23 / 40 D	202·5	G.T.S. ○ B.M. On stone coping of bridge over Dhoro Nagin, ¼ mile N.W. of Mirza Laghari, at S. recess of E. parapet, 4 feet from S. end.	30·823	30·822
83	BM.24 / 40 D	203·8	G.T.S. ○ B.M. On top of mile-stone No. 5 from Sujawal and No. 10 from Ghulam Ali.	27·653	27·652
84	BM 25 / 40 D	205·3	G.T.S. ○ B.M. On stone coping of bridge over Hajiawah, 3 miles S.E. of Sujawal, at S. recess angle of E. parapet, 5 feet from S. end.	33·374	33·373
85	BM.26 / 40 D	206·0	G.T.S. ○ B.M. On stone coping, 31 feet from S. end of E. parapet of bridge over Dhoro, near Kharar, 3 miles S.E. of Sujawal.	33·604	33·603
86	BM 27 / 40 D	206·8	G.T.S. ○ B.M. On stone coping at centre of W. parapet of culvert over Paiwarigah, 2 miles S.E. of Sujawal.	31·898	31·897
87	BM.28 / 40 D	207·0	G.T.S. ○ B.M. On top of mile-stone No. 1 from Sujawal and No. 14 from Ghulam Ali.	25·822	25·821
88	BM.29 / 40 D	208·5	G.T.S. □ B.M. at Sujawal. Embedded in front verandah of Mukhtyarkar's kachahri, flush with floor, opposite to gateway, and to left of court room door, immediately below window, 2 feet from wall, and 36 feet from S.E. corner of verandah.	28·733	28·732

Main-Line 45. (Tatta to Sujawal).

Designation of Bench-marks			Distance from Tatta	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.66 / 35 P	0·0	G.T.S. Bench Mark at Tatta. Embedded in mound on which Tatta Dak Bungalow is built, 158 feet from mile-stone No. XXXII Jerruck / 0 Tatta, 112 feet from N. angle of travellers' bungalow, 150 feet from S.E. angle of compound of Mukhtiarkari, and Sowars' lines, and 2 inches below ground level.	38·766	38·764
2		BM.65 / 35 P	0·6	Top of mile-stone No. 0 from Tatta and No. 10 from Guja, on road from Karachi to Tatta.	30·344	30·342
3		BM.64 / 35 P	2·5	G.T.S. □ B.M. On top of mile-stone No. 1 from Tatta and 9 from Guja.	71·328	71·324
	a / 3	BM.67 / 35 P	9·2	On ground level mark-stone of Domani G. T. Survey Hill Station, lat. 24° 39′ 47″·63, long. 67° 51′ 19″·62. A principal station of Cutch Coast Series. (For full description *see* Synoptical Volume).	190·908	190·898
4		BM.68 / 35 P	3·2	G.T.S. □ B.M. at Tatta Travellers' Bungalow. Embedded in front or S. verandah of building, flush with floor, in centre of verandah, midway between doors of two rooms, and 2 feet from wall of building. The travellers' bungalow is 2 miles W. of Tatta town, and at angle formed by road to Jungshahi Railway Station and branch road to Karachi.	65·931	65·928
5		BM.69 / 35 P	3·4	G.T.S. ○ B.M. On stone coping at centre of N. parapet of bridge at foot of Makli hills on road to Jungshahi Railway Station, 14 chains E. of Makli travellers' bungalow and 2 miles W. of Tatta.	37·680	37·678
6		BM.70 / 35 P	5·0	G.T.S. ○ B.M. On S. end of top stone step at front or W. entrance to Municipal Office, Tatta.	40·423	40·421
7		BM.71 / 35 P	5·1	G.T.S. □ B.M. On top of mile-stone No. 0 from Tatta and 32 from Jerruck.	33·804	33·802
	a / 7	BM.72 / 35 P	7·0	G.T.S. ○ B.M. at Tatta Travellers' Bungalow. On W. end of lowest step at right entrance to S. verandah of Makli bungalow on hill.	64·212	64·209
	b / 7	BM.73 / 35 P	5·1	G.T.S. ○ B.M. at Canal Bench-Mark No. 3. On top surface of a block of stone, embedded in floor of W. (enclosed) verandah of Jamna Bai's Dispensary at Tatta, on left side of door leading into female ward, 2 inches below floor level, 3 feet from left side of door and 1 foot from wall.	36·945	36·943
	1 / 7	BM.74 / 35 P	5·7	G.T.S. ○ B.M. On a canal bench-mark which is a stone embedded in centre of E. parapet of culvert over Allahkhahi wah (small), 24 chains S.W. of mile-stone No. 1 from Tatta and 31 from Jerruck.	38·132	38·130

Main-Line 45. (Tatta to Sujawal).

Designation of Bench-marks		Distance from Tatta	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
2/7	BM.75 35 P	6·0	G.T.S. □ B.M. On top of mile-stone No. 1 from Tatta and 31 from Jerruck.	33·051	33·049
3/7	BM.76 35 P	6·3	G.T.S. ○ B.M. On a canal bench-mark which is a stone embedded in centre of S.E parapet of bridge over Allahkhahi wah (large), 25 chains N.E. of mile-stone No. 1 from Tatta and 31 from Jerruck.	37·165	37·163
4/7	BM.77 35 P	7·9	G.T.S. ○ B.M. On a canal bench-mark which is a stone embedded in S.E. parapet of culvert over Sada Bahar wah, 4 feet from S. end of parapet, and 3 chains N.E. of mile-stone No. 3 from Tatta and 29 from Jerruck.	35·326	35·324
5/7	BM.78 35 P	8·5	G.T.S. ○ B.M. On stone coping at centre of N. parapet of Chatichand bridge over Kalri wah, 24 chains S W. of mile-stone No. 4 from Tatta and 28 from Jerruck.	42·468	42·466
5a/7	BM.79 35 P	8·6	G.T.S. ○ B.M. at Canal Bench Mark No. 4. On top surface of a block of stone embedded a few inches below ground level, 167 feet and 323° from N. extremity of N. wing of Chatichand bridge, and 36 feet N.E. of right bank of canal from a point 164 feet from N. abutment, marked by 3 mounds of earth around it and the whole enclosed by a rough stake fence.	33·839	33·837
6/7	BM 80 35 P	10·2	G T.S. ○ B.M. On stone coping at centre of S.E. parapet of Khatian wah sluice bridge, midway between mile-stones Nos. 5 and 6 from Tatta, on road to Jerruck.	35·627	35·625
7/7	BM.81 35 P	11·2	G.T.S. ○ B.M. On stone coping of S.E. parapet of culvert, 5 feet from end of S. wing, 33 chains S.W. of mile-stone No. 7 from Tatta and 25 from Jerruck.	32·293	32·291
8/7	BM 82 35 P	12·1	G.T.S. ○ B.M. On top of stone 3 inches above ground level, near Chilia dharmshala, at 10 paces E. of road and 43 paces from N.W. angle of dharmshala.	41·780	41·778
8	BM.83 35 P	6·8	G.T.S. ○ B.M. On a canal bench-mark which is a stone embedded in centre of E. parapet of bridge over Ghar wah Masan at junction of roads from Tanka and Pir Pithora to Tatta, 2 miles S.S.E. of Tatta.	35·895	35·893
9	BM.84 35 P	7·0	G.T.S. ○ B.M. at Canal Bench Mark No. 2. On top surface of a block of stone, embedded a few inches below ground level, 50 feet E. of centre of road from Tanka to Tatta, 19 chains S.E. of bridge over Ghar wah Masan, and marked by 3 mounds of earth around it, the whole being enclosed by a rough stake fence.	31·248	31·246

Main-Line 45. (Tatta to Sujawal).

Designation of Bench-marks		Distance from Tatta	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
10	BM.85 / 35 P	7·3	G.T.S. ○ B.M. On a canal bench-mark which is a stone embedded in centre of E. parapet of bridge over Ghar wah (Machi).	36·077	36·075
11	BM.86 / 35 P	10·6	G.T.S. □ B.M. On a canal bench-mark which is a block of stone, embedded in N. wing of W. parapet of Aghimani river sluice bridge, on road from Tanka to Tatta, connecting the Bijora and Baghiar *bands*, 3 feet N. of N. end of parapet, and 8 feet from N. extremity of wing.	36·422	36·420
a / 11	BM.87 / 35 P	11·0	Aghimani Bridge Canal Bench-Mark. Upper plinth at E. side of N. extremity of E. parapet of Aghimani sluice bridge.	36·728	36·726
12	BM.88 / 35 P	11·7	B.○M. On E. end of top front wall of an old disused sluice in right embankment of Baghiar wah on upstream side, about 8 chains E. of road from Tanka to Tatta	33·610	33·608
13	BM.89 / 35 P	12·3	G.T.S. ○ B.M. 1 at Canal Bench Mark No. 1. On top surface of a block of stone, embedded a few inches below ground level, 300 feet S.E. of centre line of left embankment of Baghiar wah, 49 feet E. of centre of road from Tanka to Tatta, and marked by 3 mounds of earth around it, the whole being enclosed by a rough stake fence.	33·793	33·791
14	BM.90 / 35 P	13·0	G.T.S. ○ B.M. On a canal bench-mark stone, embedded in centre of N. parapet of bridge over Mir wah (old), on road to Tatta, ¼ mile N.W. of Tanka: its top surface is 0·2 foot below surface of parapet.	39·703	39·701
a / 14	BM.91 / 35 P	13·0	Tanka Bridge Canal Bench Mark. Upper plinth at N. side of W. end of N. parapet of bridge over Mir wah (old), on road to Tatta, ¼ mile N.W. of Tanka.	38·988	38·986
15	BM.80 / 40 D	16·9	G.T.S. ○ B.M. On top of stone embedded upright and projecting 2 feet above ground, on road from Saidpur to Indus river. From Saidpur village flag-staff it bears 275°, and is distant 579 feet.	28·439	28·438
16	BM.31 / 40 D	21·1	B.○M. On N. end of 2nd or middle step of S.W. or front entrance to Mukhtyarkar's kachahri, Sujawal.	28·286	28·285
1 / 16		21·2	Destroyed.	32·751	32·750
2 / 16		21·2	Destroyed.	21·550	21·549
3 / 16	BM.32 / 40 D	21·9	G.T.S. ○ B.M. On top of mile-stone No. 1 from Sujawal and No. 9 from Belo.	30·504	30·503

Main-Line 45. (Tatta to Sujawal).

Designation of Bench-marks		Distance from Tatta	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
4/16	BM.33/40 D	22·8	G.T.S. ○ B.M. On top of mile-stone No. 2 from Sujawal and No. 8 from Belo.	28·691	28·690
5/16	BM.34/40 D	24·0	G.T.S. ○ B.M. On coping at S. end of W. parapet of bridge over Mir wah Nawab, 3 miles N.N.W. of Sujawal, on road to Belo.	36·279	36·277
6/16	BM.35/40 D	26·1	G.T.S. ○ B.M. On top of mile-stone No. 5 from Sujawal and No. 5 from Belo.	28·186	28·185
7/16	BM.36/40 D	28·4	On upper surface of circular pillar of Vikia G. T. Survey Tower Station, lat. 24° 41′ 52″·60, long. 68° 3′ 39″·48. A principal station of Cutch Coast Series. (For full description *see* Synoptical Volume).	46·819	46·817
17	BM.29/40 D	21·1	G.T.S. □ B.M. at Sujawal. Embedded in front verandah of Mukhtyarkar's kachahri, flush with floor, opposite to gateway, and to left of court room door, immediately below window, 2 feet from wall, and 36 feet from S.E. corner of verandah.	28·733	28·732

Main-Line 46. (Navanar to Shikarpur (Cutch)).

Designation of Bench-marks			Distance from Navanar	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1			0·0	Destroyed.	9·809	9·810
2		BM.1 / 41 F	5·6	G.T.S. □ B.M. Embedded 6 inches under ground on E. side of cart-track from Mundra to Navanar creek, on a mound, about 1 foot above ground level, ½ mile S. of a sand hillock called Tapaska Dhoi, about 4 miles S.S.W. of Mundra town, 2 miles W. of Mundra Bandar house and 3 miles S.E. of Dhrib village. A masonry pillar has been built 8 feet to E. of bench-mark.	11·097	11·098
3		BM.2 / 41 F	9·4	G.T.S. □ B.M. Embedded 149 feet from northern tower of E. gateway of town, called Borika Naka and 105 feet to N.W. of Ibji Sai's dharmshala at Mundra. A masonry pillar has been built 8 feet to S. of bench-mark.	34·753	34·756
	a / 3	BM.14 / 41 F	9·4	On upper surface of perforated pillar of Mundra G.T. Survey Tower Station, lat. 22° 50′ 32″·04, long. 69° 43′ 24″·77. A secondary station of Cutch Coast Series. (For full description *see* Synoptical Volume).	78·908	78·914
4		BM.3 / 41 F	9·6	G.T.S. ○ B.M. On stone on top platform of steps on S. side of Jairam Shivji's tank at Mundra, 95 feet from base of highest tower of Mundra wall on which the trigonometrical station is built and 5 feet from N.W. corner of platform of tank	40·712	40·715
5		BM.15 / 41 F	14·5	G.T.S. ○ B.M. On S.E. corner of Vijpur Patel's pakka well, about ¼ mile N. of Gondara village and about 20 feet W. of road from Mundra to Anjar.	93·937	93·944
6		BM.16 / 41 F	19·5	G.T.S. ○ B.M. On top of platform of pakka well, a little to E. of Chesra village, close to a dharmshala and a small temple.	134·337	134·347
7		BM.17 / 41 F	24·4	G.T.S. □ B.M. Embedded about 3 inches below ground, 3 feet N. of a small temple at N.W. end of Chandrana village, pargana Bhur Chaobisi. A masonry pillar stands 8 feet to N. of bench-mark.	205·267	205·281
8		BM.18 / 41 F	27·6	G.T.S. ○ B.M. On S.E. corner of Ahir's paliad (tomb), N. of Bhur village.	197·794	197·808
9		BM.48 / 41 E	30·4	G.T.S. ○ B.M. On S.W. corner of platform of Bathesar Mahadeo's temple, on E. side of cart-track from Bhur to Anjar, in lands of Kheri village.	196·074	196·087
	a / 9	BM.1 / 41 I	36·1	G.T.S. ○ B.M. On upper step of Mochi Mata's temple, on S. bank of Song Nadi, about 2 miles W. of Anjar, on E. side of road from Mundra to Anjar.	213·509	213·523

Main-Line 46. (Navanar to Shikarpur (Cutch)).

Designation of Bench-marks		Distance from Navanar	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
10	BM.2 / 41 I	38·7	G.T.S. ○ B.M. On S. wall of Sudisar's tank at Anjar, 56 feet from S.E. corner, a little to N. of Anjar.	203·449	203·461
11	BM.3 / 41 I	38·8	G.T.S. □ B.M. at Anjar. Embedded about ground level, 2 feet to N.N.W. of town wall and to N. of gateway called Ganga Naka. A masonry pillar stands 8 feet N.N.W. of bench-mark.	204·955	204·967
1/11	BM 49 / 41 E	42·5	On upper surface of circular pillar of Charakda G. T. Survey Hill Station, lat. 23° 9′ 3″·84, long. 69° 59′ 28″·34. A principal station of Cutch Coast Series. (For full description *see* Synoptical Volume).	417·933	417·958
12	BM.4 / 41 I	42·0	G.T.S. ○ B.M. On N.E. corner of curb of Walu Bhattia's well, on N. side of road from Anjar to Warsameri village.	130·738	130·746
13	BM.5 / 41 I	43·9	G.T.S. ○ B.M. On N.E. corner of upper platform of Sadashio's temple to N. of Warsameri village.	111·608	111·615
14	BM.6 / 41 I	46·8	G.T.S. ○ B.M. On N.E. corner of curb of Jadalohana's well, midway between Warsameri and Bhimasar villages.	89·544	89·549
15	BM.7 / 41 I	52·9	G.T.S. □ B.M. Embedded level with ground, just outside and opposite W entrance to Pasura village, 136 feet to N.W. of old pakka tower in village, 251 feet to N.N.E. of a small temple called Ramji-ki-Dehri and about 3 miles to S.E. of B.M. No. 1/15. A masonry pillar stands 8 feet N. of bench-mark.	80·235	80·239
1/15	BM.8 / 41 I	56·7	On upper surface of circular pillar of Sukhpur G. T. Survey Hill Station, lat. 23° 16′ 49″·77, long. 70° 9′ 51″·99. A principal station of Cutch Coast Series. (For full description *see* Synoptical Volume).	356·617	356·636
16	BM.9 / 41 I	64·5	G.T.S. □ B.M. Embedded level with ground, in compound of Dolpat Sonar's temple at Bhachau, 49 feet S.E. of temple, 94 feet W. of gateway, called Cheriwala Naka, and 152 feet E. of pakka well called Piau-ki-Baoli. A masonry pillar stands 8 feet W. of bench-mark.	138·888	138·895
1/16	BM.10 / 41 I	65·5	On mark-stone on top of circular pillar of Bhachau G. T. Survey Hill Station, lat. 23° 17′ 58″·16, long. 70° 20′ 47″·93. A principal station of Cutch Coast Series. (For full description *see* Synoptical Volume).	303·133	303·148
17	BM.11 / 41 I	72·4	G.T.S. ○ B.M. On S.W. corner of platform of Bhima Patel's Dehri, on S. side of Chadwara village.	68·581	68·584
18	BM.12 / 41 I	75·7	G.T.S. □ B.M. Embedded 3 inches below ground level, 15 feet from N.E. corner of tomb called Ahir-ki-Dehri, 26 feet S.W. by W. from another tomb called Brahmin-ki-Dehri and 219 feet S.S.E. of pakka well in large kacha tank at Amalyara village, in pargana Katha of Cutch. A masonry pillar stands 8 feet E. of bench-mark.	60·692	60·695

Main-Line 46. (Navanar to Shikarpur (Cutch)).

Designation of Bench-marks			Distance from Navanar	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
19		BM.13 / 41 I	79·5	G.T.S. ○ B.M. On S. side of Sati-ka-kua, N.E. of Luliana village.	115·315	115·321
20		BM.14 / 41 I	83·7	G.T.S. ○ B.M. On platform of well called Sakria-ka-kua, 150 yards W. of tower at N.W. corner of Wandia village.	83·249	83·253
	1/20	BM.15 / 41 I	84·0	On upper surface of circular pillar of Vandhia G. T. Survey Station, lat. 23° 14′ 44″·22, long. 70° 36′ 51″·41. A principal station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	115·840	115·846
21		BM.16 / 41 I	87·5	G.T.S. □ B.M. at Shikarpur (Cutch). Embedded a few inches below surface of ground, at E. end, close to base of bank of tank, which runs N. and S. to within 50 yards of town wall, 75 feet N. of Mahadeo's temple, about 600 feet S.E. of S.E. tower of fort and W. of cart-track from Shikarpur to Malia. A masonry pillar stands 8 feet N. of bench-mark.	53·909	53·912

Main-Line 47. (Shikarpur (Cutch) to Jorya).

Designation of Bench-marks			Distance from Shikarpur	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.16 / 41 I	0·0	G.T.S. □ B.M. at Shikarpur (Cutch). Embedded a few inches below surface of ground, at E. end, close to base of bank of tank, which runs N. and S. to within 50 yards of town wall, 75 feet N. of Mahadeo's temple and about 600 feet S.E. of S.E. tower of fort and W. of cart-track from Shikarpur to Malia. A masonry pillar stands 8 feet N. of bench-mark.	53·909	53·912
2		BM.17 / 41 I	3·7	G.T.S. □ B.M. Embedded about level with surface of ground, on S. of cart-track from Shikarpur to Malia, at N.E. end of hillock on Cutch Coast called Pathiwala Dhoi, 4 miles S.E. of Shikarpur town. A masonry pillar has been built 8 feet S. of bench-mark.	17·863	17·864
3		BM.18 / 41 I	5·7	G.T.S. □ B.M. Embedded about 4 feet above level of the Rann, nearer the coast of Cutch than that of Kathiawar, and 2 miles S.E. of B.M. No. 2, on road from Shikarpur to Malia.	9·085	9·085
4		BM.19 / 41 I	7·7	G.T.S. □ B.M. Embedded about 3 feet above level of Rann, nearer the Kathiawar coast than that of Cutch, and 2 miles S. of B.M. No. 3, 2 miles N. of Kathiawar coast, and 3 miles from B.M. No. 5, on road from Malia to Shikarpur.	9·323	9·324
5		BM.20 / 41 I	10·5	G.T.S. □ B.M. at Malia No. 2. Embedded about level with surface of ground, and on straight road between Malia and Shikarpur, on N. bank of Machhu river, about 3 miles S. of B.M. No. 4, and about 2 miles N. of Malia town in Kathiawar. A masonry pillar stands 8 feet to E. of bench-mark.	14·249	14·250
6		BM.21 / 41 I	12·9	G.T.S. □ B.M. at Malia No. 1. Embedded about 3 inches below surface of ground, 432 feet E. of N.E. corner of platform of Multana Pir's tomb and 157 feet S.W. by W. of S.W. corner of Police lines at Malia at N.E. end of town. A masonry pillar stands 8 feet W. of bench-mark.	31·375	31·377
	1/6	BM.22 / 41 I	14·0	On upper surface of circular pillar of Malia G. T. Survey Tower Station, lat. 23° 5′ 4″·94, long. 70° 44′ 34″·59. A principal station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	53·034	53·037
7		BM.23 / 41 I	20·9	G.T.S. □ B.M. at Bhela. Embedded about level with surface of ground, about 100 feet N.W. of pakka well called Bhamaria Kua and about 467 feet N.N.E. of old pakka tower at N.E. end of village. A masonry pillar stands 8 feet to E. of bench-mark.	44·386	44·389
8		BM.1 / 41 J	26·0	G.T.S. ○ B.M. On top of E. end of N. parapet wall of culvert, on main road between Morvi and Wawanya, about ½ mile S. of Daisra village.	38·767	38·770
9		BM.2 / 41 J	30·9	G.T.S. □ B.M. at Jinjura. Embedded about 3 inches below surface of ground, 301 feet N.N.W. of N.N.W. corner of Kanargir Baba's dharmshala in pargana Balambha, taluka Navanagar. A masonry pillar stands 8 feet to N. of bench-mark.	17·406	17·407

Main-Line 47. (Shikarpur (Cutch) to Jorya).

Designation of Bench-mark			Distance from Shikarpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	1/9	BM.8 / 41 J	32·7	On upper surface of rectangular protecting pillar of Jinjura G. T. Survey Hill Station, lat. 22° 55′ 43″·17, long. 70° 32′ 6″·95. A secondary station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	43·345	43·348
10		BM.4 / 41 J	40·2	G.T.S. □ B.M. at Dudhai. Embedded about 3 inches below surface of ground, on top of *band* on N. side of kacha tank, 4 feet to W. of Mahadeo's pakka platform and 585 feet to S.E. of pakka well, called Nawa Kua. A masonry pillar stands 8 feet S. of bench-mark.	54·184	54·188
	a/10	BM.5 / 41 J	40·2	On upper surface of circular pillar of Dudhai G. T. Survey Station, lat. 22° 47′ 20″·68, long. 76° 30′ 6″·87. A secondary station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	58·636	58·640
11		BM.6 / 41 J	44·8	G.T.S. ○ B.M. On S.E corner of platform of Mura Chutlia kumhar's temple of Mahadeo in open field about 2 miles N.E. of Balambha village.	29·081	29·083
12		BM.7 / 41 J	46·4	G.T.S. □ B.M. Embedded about 3 inches below surface of ground, 127 feet N.W. of centre of gateway called Gadhwala or Jorya-ka-Naka at Balambha town. A masonry pillar stands 8 feet to N. of bench-mark.	26·124	26·126
	1/12	BM 8 / 41 J	46·6	On upper surface of circular pillar of Balambha G. T. Survey Tower Station, lat. 22° 44′ 19″·13, long. 70° 25′ 36″·41. A secondary station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	86·150	86·157
13			59·2	Destroyed	9·289	9·290
14			59·2	Destroyed	9·686	9·687
15			59·6	Destroyed.	9·163	9·164
16		BM.9 / 41 J	63·9	On surface of upper mark-stone of Hada-ka-Chauki Station. A trigonometrical station of Kathiawar Minor Series in the Rann, about 5 miles S. of Hanstal tidal station and on the direct line from Jorya.	14·549	14·550
17		BM.10 / 41 J	67·2	On upper surface of circular pillar of Rau G. T. Survey Station, lat. 23° 36′ 54″·54, long. 70° 16′ 10″·17. A principal station of Cutch Coast Series. (For full description *see* Synoptical Volume).	13·657	13·658
18		BM.11 / 41 J	70·8	G.T.S. □ B.M. at Somarthal. Embedded about 6 inches below surface of ground, about 4 miles N. of Jorya and about 9 miles W. of Balambha, on W. side of cart-track from Jorya to Hanstal tidal station. A masonry pillar stands 8 feet W. of bench-mark on border of Rann.	14·374	14·375
19		BM.12 / 41 J	74·8	G.T.S. □ B.M. at Jorya. Embedded about 3 inches below surface of ground, 145 feet W of N.W. tower of town wall of Jorya (on top of which is the G. T. Survey station) and 393 feet N.W. of centre of Navanagar gateway. A masonry pillar stands 8 feet to S. of bench-mark.	19·250	19·252

Main-Line 47. (Sikarpur (Cutch) to Jorya).

Designation of Bench-marks		Distance from Sikarpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1/19	BM.13 / 41 J	76·5	G.T.S. ○ B.M. at Wasram Kumbhar's Well. On S. side of platform of pakka well on N. side of road, and 1 mile E. of Jorya village.	34·295	34·298
2/19	BM.14 / 41 J	78·1	Bokali-ka-Bao. About ¼ mile E. of Gajauan Baba's tomb, on road between Kesia and Jorya.	24·674	24·676
3/19	BM.15 / 41 J	80·8	G.T.S. ○ B.M. On N.E. corner of platform of Baman-ki-sati-ka-Dehri, about ¼ mile W. of Kesia village and 150 feet S.E. of Mahadeo's temple.	47·978	47·982
4/19	BM.16 / 41 J	84·2	On upper surface of rectangular protecting pillar of Hadatoda G. T. Survey Hill Station, lat. 22° 38′ 28″·02, long. 70° 25′ 46″·09. A secondary station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	163·173	163·187
a/19	BM 17 / 41 J	74·9	On mark-stone on roof of tower of Jorya G. T. Survey Tower Station, lat. 22° 41′ 47″·42, long. 70° 18′ 4″·12. A secondary station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	57·668	57·673

Branch-Line 47A. (Jorya to Okha).

Designation of Bench-marks		Distance from Jorya	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1	BM.12 / 41 J	0·0	G.T.S. □ B.M. at Jorya. Embedded about 3 inches below surface of ground, 145 feet W. of N.W. tower of town wall of Jorya (on top of which is the G.T. Survey station) and 393 feet N.W. of centre of Navanagar gateway. A masonry pillar stands 8 feet S. of bench-mark.	19·250	19·252
2		0·7	Destroyed	22·098	22·100
3		7·3	Destroyed	31·738	31·741
4	BM.18 / 41 J	10·4	G.T.S. ○ B.M. On S. side of platform on top of steps leading down to Desu Bhagat-ka-Bao on W. side of road between Hariana and Navanagar and about ½ mile E. of Kheri village.	32·010	32·013
5	BM.19 / 41 J	10·7	G.T.S. □ B.M. at Kheri. Embedded about level with surface of ground, on W. side of cart-track from Jorya to Navanagar, 492 feet to S.E. of well, called Navi Wari-ka-kua; 1450 feet S W. of Desu Bhagat-ka-Bao and ½ mile S.E. of village. A masonry pillar stands 8 feet to W. of bench-mark.	39·823	39·827
a / 5	BM.20 / 41 J	15·7	G.T.S. ○ B.M. On stone to S.E. of Miru Khavas-ka-Baoli, close to raised portion of masonry to which water wheel is attached, about 100 feet to W. of road from Dhau to Jambora, and about 2 miles from latter.	29·206	29·209
6		18·4	Destroyed	26·041	26·044
7	BM.21 / 41 J	21·2	G.T.S. ○ B.M. On inner side of platform of drinking trough on N. side of Mahadeo-ka-Mandir at Navanagar, about 8 feet N.E. of N.E. pillar. The *mandir* is about 2 miles from E. gate of Navanagar, and 150 feet S. of main road.	42·006	42·010
8		22·4	Destroyed	37·797	37·801
9	BM.22 / 41 J	23·4	G.T S. ○ B.M. On outside of gate, on 1st plinth of columns, about 3 feet above ground, 20 feet to N. of centre of gateway called Khambhalia-ka-Naka at Navanagar.	59·606	59·612
a / 9	BM.23 / 41 J	23·5	On upper surface of circular pillar of Navanagar G. T. Survey Tower Station (new), lat. 22° 27′ 41″·13, long. 70° 4′ 14″·46. A secondary station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	156·022	156·038
b / 9	BM 24 / 41 J	23·5	On upper surface of circular pillar of Navanagar G. T. Survey Tower Station, (old), lat. 22° 27′ 41″·13, long. 70° 4′ 14″·46. A secondary station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	158·302	158·318

Branch-Line 47A. (Jorya to Okha).

Designation of Bench-marks		Distance from Jorya	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
10	BM.25 / 41 J	26·8	G.T.S. ○ B.M. On E. side of platform of Mangalgir Gosain's well at Konsumra on W. side of Dwarka road, which runs close to E. side of Konsumra village.	73·390	73·398
a / 10	BM 26 / 41 J	27·8	On upper mark-stone of Konsumra Hill Station. On top of a small hillock about 100 feet N. of road from Navanagar to Dwarka and midway between villages of Konsumra and Lakhabor. The station consists of a rectangular masonry pillar, and is of Kathiawar Minor triangulation.	109·105	109·117
11	BM.27 / 41 J	29·3	G.T.S. □ B.M. Embedded about 3 inches below ground level, 3 feet N.N.W. of an old temple, 467 feet S.W. of a tomb called Bania-ka Sati-ka-Dheri and 501 feet S. from Matchu-ki-Dheri, about ¼ mile N. of Lakhabor village, in pargana and taluka Navanagar. A masonry pillar stands 8 feet to N.N.W. of bench-mark.	57·234	57·240
12	BM.19 / 41 F	31·1	G.T.S. ○ B.M. On E. side of top step of Rup Sing Baba's well, on E. side of road from Navanagar to Dwarka, about 2 miles W. of Lakhabor and 3 miles E. of Chikauri village.	84·622	84·631
13	BM 20 / 41 F	32·5	G.T.S. ○ B.M. On S. side of platform of Hanuman's temple at Jayapur, about ¼ mile S. of road from Navanagar to Dwarka and ½ mile N. of village.	45·903	45·908
14	BM.21 / 41 F	35·2	G.T.S. ○ B.M. On S. side of platform of Gobardhan Bhattia's temple, about 50 feet N. of Dwarka road at Chikauri and 300 feet S.W. of temple on top of hill called Kalianji-ka-Dehra.	51·611	51·617
15	BM.22 / 41 F	37·0	G.T.S. ○ B.M. On platform on E. side of steps of Narain Das-ka-Baoli, 10 feet S. of E. pillar of *baoli* on S. side of Dwarka road and about 2 miles W. of Chikauri village.	72·579	72·587
16	BM.23 / 41 F	41·3	G.T.S. □ B.M. Embedded 6 inches below surface of ground, 3 feet to N.E. of N.E. pillar of Kanji Thakur's *baoli* and 33½ feet to S.S.E. of S.E. corner of Kamdar's kachahri and Police Station of Padana village, in taluka Navanagar. A masonry pillar stands 8 feet N.E. of bench-mark.	95·436	95·447
17	BM.24 / 41 F	41·4	G.T.S. ○ B.M. On S.W. corner of platform of Jiwa Lohana's Temple at Padana, about 10 chains from gate of Padana, amongst a group of large trees.	97·762	97·773
18	BM.25 / 41 F	46·7	G.T.S. ○ B.M. On S.W. corner of platform of Bhagwanji Dada-ka-Dehri, about 1 mile S. of Rusingpur village, 5 chains E. of Dwarka road and 12 chains N. of well amongst a group of trees.	122·976	122·990
1 / 18	BM.26 / 41 F	55·3	G.T.S. ○ B.M. On top of N. plinth and about 10 feet E. of N. pillar at top of steps of Ram Joshi Pokana's well near Danta, on E. side of road leading from Danta village to Khambhalia, and about 1 mile E. of B.M. No. $\frac{2}{18}$.	122·486	122·500

Branch-Line 47A. (Jorya to Okha).

Designation of Bench-marks		Distance from Jorya	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
$\frac{2}{18}$	BM.27 / 41 F	56·4	On upper surface of circular pillar of Danta G. T. Survey Hill Station, lat. 22° 15′ 46″·96, long. 69° 39′ 35″·17. A secondary station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	217·245	217·270
19	BM.28 / 41 F	55·5	G.T.S. ○ B.M. On platform above steps, 3 feet S. of W. pillar of Dayar carpenter's well on E. side of road to Dwarka and about 1 mile N. of Navanagar gate at Khambhalia village.	136·184	136·200
20	BM.29 / 41 F	56·1	G.T.S. □ B.M. Embedded 6 inches below surface of ground, 6 feet N. of pakka platform round a large *pipal* tree, 170 feet S.W. of upper step of western steps of Morar Narain Seth's large pakka tank, 169 feet N. of Post Office and 140 feet N.E. of Navanagar gate at Khambhalia village. A masonry pillar stands 8 feet N. of bench-mark.	125·664	125·679
21	BM.30 / 41 F	60·8	G.T.S. ○ B.M. On S. plinth of Nadiwala Bao and 10 feet to W. of S. pillar at entrance to same; 50 feet N. of Dwarka road and about 5 miles from Khambhalia and Warthara villages.	134·806	134·822
22	BM.31 / 41 F	63·3	G.T.S. ○ B.M. On S.E. corner of platform to entrance to Gangjiwala's well, on S. side of Dwarka road, 3 miles E. of Warthara, and about 10 feet N. of eastern pillar at top of steps.	166·624	166·644
23	BM.32 / 41 F	64·8	G.T.S. ○ B.M. at Nanjiwala's well. On N.E. corner of platform, 6 feet N.E. from N. pillar and same distance from S.E. corner of Mahadeo's temple; on S. side of Dwarka road and about 1 mile E. of Warthara village.	166·194	166·214
$\frac{a}{23}$	BM.33 / 41 F	65·9	G.T.S. ○ B.M. at Grasia-ka-Dehri at Warthara. On S.E. corner of platform of temple, 5 feet N. of B.M. No. 24.	146·567	146·585
24	BM.34 / 41 F	65·9	G.T.S. □ B.M. Embedded 6 inches below surface of ground, 5 feet to S. of pakka tomb called Grasia-ka-Dehri and 123 feet S.S.E. of Gala Brahmin's pakka well at Warthara village, in pargana Khambhalia and taluka Navanagar. A masonry pillar stands 8 feet S. of bench-mark.	140·807	140·824
25	BM.35 / 41 F	71·7	G.T.S. ○ B.M. On S.E. corner of platform of Rajput-ka-Dehri, 10 chains E. of Datrana village and 5 chains S. of Dwarka road.	142·354	142·371
$\frac{1}{25}$	BM.36 / 41 F	74·8	On mark-stone 1·025 feet below upper surface of circular pillar of Jhakasia G. T. Survey Hill Station, lat. 22° 14′ 11″·02, long. 69° 25′ 53″·28. A secondary station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	117·362	117·376

Branch-Line 47A. (Jorya to Okha).

Designation of Bench-marks			Distance from Jorya	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
26		BM.37 / 41 F	74·0	G.T.S. ○ B.M. On a stone of W. plinth, midway between W. pillar at N. end and circular part at S. end of Doka Modi's well, on S. side of Dwarka road, about 3 miles W. of Datrana.	152·362	152·380
27		BM.38 / 41 F	76·6	G.T.S. ○ B.M. On N.E. corner of platform at entrance to Kisenji's well and close to N. pillar, on N. side of Dwarka road and about 1 mile E. of Ran village.	100·514	100·526
28		BM.39 / 41 F	77·4	G.T.S. □ B.M. at Ran. Embedded 6 inches below surface of ground, 335 feet E. of pakka tomb called Charan-ki-Sati, 471 feet N. of N. wall of Maha Prabuji-ki-Baithak, 371 feet N. of northern bank of Ranka nadi, S. of cart-track leading from Dwarka to Khambhalia. A masonry pillar stands 8 feet N. of bench-mark.	87·093	87·104
	1/28	BM.40 / 41 F	81·4	On surface of rock 4·385 feet below surface of circular pillar of Mevasa G.T. Survey Hill Station, lat. 22° 13′ 41″·21, long. 69° 18′ 32″·79. A secondary station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	156·957	156·976
29		BM.41 / 41 F	80·4	G.T.S. ○ B.M. On N. plinth of well, about 6 feet W. of N. pillar at entrance to Jethu Bhattia's well, on N. side of Dwarka road, about 3 miles W. of Ran village.	111·765	111·779
30		BM.42 / 41 F	85·3	G.T.S. ○ B.M. On entrance platform of N. side, about 5 feet E. of N. pillar of Bhaiwala's well, about 100 yards S. of Dwarka road and 2 miles E. of Gurgat.	50·417	50·423
31		BM.43 / 41 F	86·7	G.T.S. □ B.M. at Gurgat Embedded about 8 inches below ground level, 38 feet S.W. of pakka well called Jhampiwali-ki-Baoli, 235 feet S. of S. wall of large pakka tank, 159 feet E of pakka well in compound of a dharmshala and on S. side of cart-track, Dwarka to Khambhalia, near Gurgat village, in pargana Khambhalia and taluka Navanagar. A masonry pillar stands 8 feet N. of bench-mark.	67·833	67·841
32		BM.44 / 41 F	91·2	G.T.S. □ B.M. at Tupni. Embedded 6 inches below ground level, 16 feet N. of Mahadeo's platform and 200 feet S.E. of Police chauki at Naraiupur (Tupni village). A masonry pillar stands 8 feet W. of bench-mark.	44·931	44·936
33		BM.45 / 41 F	101·4	G.T.S. □ B.M. at Ghadechi. Embedded 6 inches below ground level, 9 feet E. of Baba Lakshman Das's pakka tomb and 45 feet N.N.E. of N.E. corner of dharmshala of Ghadechi village. A masonry pillar stands 8 feet E. of bench-mark.	59·885	59·892
	a/33	BM.46 / 41 F	102·3	On surface of rock at base of pillar of Ghadechi G.T. Survey Hill Station, lat. 22° 22′ 4″·56, long. 69° 2′ 31″·83. A secondary station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	88·570	88·580

Branch-Line 47A. (Jorya to Okha).

Designation of Bench-marks		Distance from Jorya	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
34	BM.47 / 41 F	102·3	G.T.S. ○ B.M. On rock bearing 229° and distant 29 feet from rock in centre of platform of B.M. No. a/33.	88·977	88·987
35	BM.48 / 41 F	106·7	G.T.S. ○ B.M. On E. side of plinth of Jairam Sarwali's well, 200 yards S.W. of Dwarka gate of Aramda village and about 100 yards S.E. of Wangosia tank.	9·522	9·523
1/35	BM.49 / 41 F	108·5	On lower mark-stone of Aramda G. T. Survey Hill Station, lat. 22° 25′ 48″·21, long. 69° 0′ 11″·71. A secondary station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	51·828	51·833
36	BM.50 / 41 F	111·6	G.T.S. □ B.M. C. at Okha Tidal Station. Situated 202 feet and bears 262° from iron cylinder of the tidal observatory.*	6·966	6·967
37	BM.51 / 41 F	111·7	G.T.S. □ B.M. B. at Okha Tidal Station. Situated 36 feet and bears 275° from iron cylinder of the tidal observatory.*	9·263	9·264
38	BM.52 / 41 F	111·7	G.T.S. □ B.M. A. at Okha Tidal Station. Situated 100 feet and bears 11° from iron cylinder of the tidal observatory.*	9·819	9·820

* The observatory no longer exists.

Main-Line 48. (Jorya to Rajkot).

Designation of Bench-marks			Distance from Jorya	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.12 / 41 J	0·0	G.T.S. □ B.M. at Jorya. Embedded about 3 inches below surface of ground, 145 feet W. of N.W. tower of town wall of Jorya (on top of which is the G. T. Survey station), and 393 feet N. W. of centre of Navanagar gateway. A masonry pillar stands 8 feet to S. of bench-mark.	19·250	19·252
2		BM.28 / 41 J	1·9	G.T.S. ○ B.M. On platform at entrance to Walji Jiwani's well, close to S. pillar, about 33 feet N. of road leading from Jorya to Badra village, and about 2 miles from Jorya.	30·484	30·487
3		BM.29 / 41 J	3·8	G.T.S. ○ B.M. On S.W. corner of Poujaji Grasia's temple which is about 8 chains N. of road from Jorya to Dhrol, and about 8 chains W. of W.side of Badra village.	43·937	43·941
4		BM.30 / 41 J	6·3	G.T.S. □ B.M. Embedded about 1 foot below ground level, about 8 feet S. of S. pillar at entrance to Talu Memon's well which is close to road leading from Dhrol to Jorya and about ½ mile to E. of Lagtar village.	48·520	48·525
5		BM.31 / 41 J	11·9	G.T.S. □ B.M. at Dhrol. Embedded about 1 foot below ground level, in corner of compound of dharmshala contiguous to town, a little to W. of Navanagar gate, 1 chain W. of round tower at S.W. corner, and 2 chains W. of point where dharmshala touches the wall. The letters G.T.S. B.M. are inscribed on wall, 8 feet from bench-mark.	79·472	79·480
	a / 5	BM.32 / 41 J	16·7	On upper surface of pillar of Liala Hill Station. This is a trigonometrical station of Kathiawar network triangulation, about 1 mile N.W. of Liala village between Dhrol and Pardari. It is an ordinary small masonry pillar 3 feet high and about 3 chains S. of main road from Rajkot to Dhrol.	189·282	189·300
6		BM.33 / 41 J	18·2	G.T.S. □ B.M. at Liala Village. About 1 foot below ground level, about 7 feet S. of S. corner of temple called Barwar-ka-Dehri which is 5 chains N. of N. side of village, between Dhrol and Pardari. The general level of platform of Dehri is 3·545 feet above bench-mark. The letters G.T.S. B.M. are inscribed on side of platform and on one side of temple.	193·926	193·945
7		BM.34 / 41 J	22·0	On upper surface of old circular pillar of Lamdar Hill Station. A station of Kathiawar minor triangulation, 3 miles E. of Liala village.	274·564	274·592
8		BM.35 / 41 J	27·2	G.T.S. □ B.M. at Pardhari. Embedded about 6 inches below surface of ground and about 12 feet N. of gateway of town called Rajkot-ka-Naka. The letters G.T.S. B.M. are cut on wall 9 feet from bench-mark.	204·404	204·425

Main-Line 48. (Jorya to Rajkot).

Designation of Bench-marks			Distance from Jorya	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
9		BM.36 41 J	30·1	G.T.S. ○ B.M. On N. side of platform of Dia Barwar-ka-Dehri close to and on N. side of Rampur village near Pardari, and about 6 chains E. of Neri river.	241·135	241·161
10		BM.37 41 J	32·5	G.T.S. □ B.M. at Targari village. Embedded about 6 inches below ground level, 20 feet to N. of main road Dhrol to Rajkot and about 1 chain from S.W. corner of hedge round "Bori-ka-Bari" (a piece of highly cultivated ground), about 20 chains E. of village. There is a bridge or culvert about to be built at 2 chains to E. of bench-mark. A masonry pillar stands 8 feet N. of bench-mark.	263·899	263·928
11		BM.38 41 J	35·0	G.T.S. ○ B.M. On top of platform round circular portion at S.E. end of well built by Bhagwanji, Dewan of Navanagar, and is on N. side of main road from Navanagar to Rajkot, on top of hill about 3 miles E. of Targari village. There is a dharmshala attached to well.	337·144	337·181
12		BM.39 41 J	35·7	G.T.S. ○ B.M. On N. parapet of 2nd bridge on main road from Bhagwanji's well towards Rajkot, about 3 miles from Gantesar village.	338·413	338·450
13			42·9	Destroyed	409·509	409·555
14			43·4	Destroyed	404·915	404·961
	1/14	BM.40 41 J	43·8	G.T.S. ○ B.M. On W. side of verandah pavement opposite 2nd doorway from N. of High School, Rajkot.	413·645	413·692
	2/14	BM.41 41 J	44·2	G.T.S. ○ B.M. On S. end of 5th step from ground on E. side of steps of room to S. of main entrance to Rajkumar College, Rajkot.	425·590	425·638

Branch-Line 48A. (Rajkot to Bhavnagar).

Designation of Bench-marks			Distance from Rajkot	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1			0·0	Destroyed.	404·915	404·961
	a/1	BM.42/41 J	0·3	G.T.S. ○ B.M. On flag-stone at entrance to clock-tower, Rajkot, erected by Jamshrivibhaji, Jam of Navanagar.	416·407	416·454
2		BM.43/41 J	0·4	G.T.S. B.○M. On N.W. corner of base of lion's figure at W. end of S. parapet of Kaisar-i-Hind bridge, Rajkot, over Aji river.	411·066	411·112
3		BM.44/41 J	1·6	G.T.S. ○ B.M. On stone coping at N.W. end of N.E. parapet of culvert on high road to Bhavnagar, about ½ mile S.E. of E. gate of fort at Rajkot.	415·654	415·701
4		BM.45/41 J	2·3	G.T.○S.B.M. On top of mile-stone No. 2 from Rajkot and No. 105 from Bhavnagar, 3 feet above ground level.	436·116	436·166
5		BM.46/41 J	3·3	G.T.S.B.M. ○ On top of mile-stone No. 3 from Rajkot and No. 104 from Bhavnagar, 3 feet above ground level.	483·448	483·504
6		BM.47/41 J	4·3	G.T.S.B M. ○ On top of mile-stone No. 4 from Rajkot and No. 103 from Bhavnagar, 3 feet above ground.	471·895	471·950
7		BM.48/41 J	5·3	G.T.S.B.M. ○ On top of mile-stone No. 5 from Rajkot and No. 102 from Bhavnagar.	480·734	480·790
8		BM.49/41 J	5·9	G.T.S. ○ B.M. On S.W. end of stone platform at entrance to well called Vithalvav, on S. or right side of high road from Rajkot to Bhavnagar, 32 chains N.W. of mile-stone No. 6 from Rajkot, and about 50 feet W. of bridge, about a mile E. of Thorala village.	490·875	490·932
9		BM.50/41 J	6·3	G.T.S.B.M. ○ On top of mile-stone No. 6 from Rajkot and No. 101 from Bhavnagar.	507·654	507·713
10		BM.51/41 J	7·3	G.T.S.B.M. ○ On top of mile-stone No. 7 from Rajkot and No. 100 from Bhavnagar.	534·475	534·537
11		BM.52/41 J	8·3	G.T.S.B.M. ○ On top of mile-stone No. 8 from Rajkot and No. 99 from Bhavnagar.	574·557	574·625
12		BM.53/41 J	9·3	G.T.S.B.M. ○ On top of mile-stone No. 9 from Rajkot and No. 98 from Bhavnagar.	562·179	562·245
13		BM.54/41 J	9·3	G.T.S. □ B.M. Embedded a few inches below ground level, 20 feet N.E. of centre of high road from Rajkot to Bhavnagar and 5 feet S.E. of B.M. No. 12.	558·793	558·859

Branch-Line 48A. (Rajkot to Bhavnagar).

Designation of Bench-marks		Distance from Rajkot	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
14	BM 55 / 41 J	9·5	G.T.S. ○ B.M. On stone coping of S. parapet of bridge over Bandia stream, about 400 yards N.E. of Tramba village, and ¼ mile S.E. of mile-stone No. 9 from Rajkot.	556·437	556·503
15	BM.56 / 41 J	10·3	G.T.S.B.M. ○ On top of mile-stone No. 10 from Rajkot and No. 97 from Bhavnagar.	573·676	573·744
16	BM 57 / 41 J	11·3	G.T.S.B.M. ○ On top of mile-stone No. 11 from Rajkot and No. 96 from Bhavnagar.	584·071	584·140
17	BM.58 / 41 J	11·8	G.T.S. ○ B.M. On stone coping at N.W. end of N.E. parapet of culvert, 32 chains N.W. of mile-stone No. 12 from Rajkot.	602·530	602·602
18	BM.59 / 41 J	12·2	G.T.S.B.M. ○ On top of mile-stone No. 12 from Rajkot and No. 95 from Bhavnagar.	608·810	608·883
19	BM.60 / 41 J	13·2	G.T.S.B.M. ○ On top of mile-stone No. 13 from Rajkot and No. 94 from Bhavnagar.	639·115	639·192
20	BM.61 / 41 J	14·2	G.T.S.B.M. ○ On top of mile-stone No. 14 from Rajkot and No. 93 from Bhavnagar.	660·397	660·478
21	BM.62 / 41 J	15·2	G.T.S.B.M. ○ On top of mile-stone No. 15 from Rajkot and No. 92 from Bhavnagar.	700·576	700·662
22	BM.63 / 41 J	16·2	G.T.S.B.M. ○ On top of mile-stone No. 16 from Rajkot and No. 91 from Bhavnagar.	704·638	704·725
23	BM.64 / 41 J	17·2	G.T.S.B.M. ○ On top of mile-stone No. 17 from Rajkot and No. 90 from Bhavnagar.	677·630	677·714
24	BM.65 / 41 J	17·4	G.T.S. □ B.M. at Sardhar Travellers' Bungalow. Embedded in N. or front verandah of building, flush with floor, midway between two doors, and 2 feet from wall.	674·074	674·158
25	BM.1 / 41 N	19·4	G.T.S.B.M. ○ On top of mile-stone No. 19 from Rajkot and No. 88 from Bhavnagar.	647·450	647·531
26	BM 2 / 41 N	19·5	G.T.S. ○ B.M. On flag-stone at edge of Karmal causeway on S.W. side, 60 feet from N.W. corner of pavement, and 10 chains S.E. of B.M. No. 25.	631·116	631·195

Branch-Line 48A. (Rajkot to Bhavnagar).

Designation of Bench-marks		Distance from Rajkot	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
27	BM.3 / 41 N	20·4	G.T.S.B.M. ○ On top of mile-stone No. 20 from Rajkot and No. 87 from Bhavnagar.	661·327	661·410
28	BM.4 / 41 N	21·3	G.T.S.B.M. ○ On top of mile-stone No. 21 from Rajkot and No. 86 from Bhavnagar.	668·134	668·218
29	BM.5 / 41 N	22·3	G.T.S.B.M. ○ On top of mile-stone No. 22 from Rajkot and No. 85 from Bhavnagar.	669·562	669·647
30	BM.6 / 41 N	23·4	G.T.S. ○ B.M. at Jiva Bhora's baoli. On S.W. corner of platform of well opposite entrance to Halenda town, and 3 chains S.E. of mile-stone No. 23 from Rajkot.	658·668	658·752
31	BM.7 / 41 N	25·3	G.T.S.B.M. ○ On top of mile-stone No. 25 from Rajkot and No. 82 from Bhavnagar.	658·950	659·035
32	BM.8 / 41 N	26·4	G.T.S.B.M. ○ On top of mile-stone No. 26 from Rajkot and No. 81 from Bhavnagar.	685·978	686·067
33	BM.9 / 41 N	27·4	G.T.S.B.M. ○ On top of mile-stone No. 27 from Rajkot and No. 80 from Bhavnagar.	655·886	655·971
34	BM.10 / 41 N	28·3	G.T.S.B.M. ○ On top of mile-stone No. 28 from Rajkot and No. 79 from Bhavnagar.	621·573	621·654
35	BM.11 / 41 N	29·4	G.T.S. ○ B.M. On stone coping at N.W. end of S.W. parapet of culvert, 2 chains S. of mile-stone No. 29 from Rajkot and No. 78 from Bhavnagar.	597·125	597·204
36	BM.12 / 41 N	30·2	G.T.S. ○ B.M. On stone coping at S.E. end of N.E. parapet of bridge, 13 chains N.W. of mile-stone No. 30 from Rajkot and No. 77 from Bhavnagar.	582·790	582·867
37	BM.13 / 41 N	31·1	G.T.S. ○ B.M. On stone coping at centre of N.E. parapet of culvert, 21 chains N. of mile-stone No. 31 from Rajkot and No. 76 from Bhavnagar.	582·298	582·375
38	BM.14 / 41 N	31·7	G.T.S. ○ B.M. On stone coping of N.E. parapet of culvert, 5 feet from N.W. end, and 30 chains S.E. of mile-stone No. 31 from Rajkot.	580·171	580·248
1/38	BM.15 / 41 N	34·2	On upper surface of rectangular protecting pillar of Chitalia G. T. Survey Station, lat. 22° 2′ 30″·38, long. 71° 9′ 39″·54. A principal station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	835·558	835·668

Branch-Line 48A. (Rajkot to Bhavnagar).

Designation of Bench-marks		Distance from Rajkot	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
39	BM.16 / 41 N	32·1	G.T.S. □ B.M. at Atkot Travellers' Bungalow. Embedded in N. or front verandah of building, flush with floor, midway between two doors, and 2 feet from wall. The bungalow is on left bank of Bhadar river.	574·453	574·529
40	BM.17 / 41 N	32·4	G.T.S.B.M. ○ On top of mile-stone No. 32 from Rajkot and No. 75 from Bhavnagar.	580·479	580·556
41	BM.1 / 41 O	33·3	G.T.S.B.M. ○ On top of mile-stone No. 33 from Rajkot and No. 74 from Bhavnagar.	599·833	599·913
42	BM.2 / 41 O	34·1	G.T.S. ○ B.M. On stone coping at E. end of S parapet of culvert, ¼ mile W. of mile-stone No. 34 from Rajkot.	615·811	615·894
43	BM.3 / 41 O	34·9	G.T.S. ○ B.M. On stone coping at S.E. end of N.E. parapet of culvert, 31 chains N.W. of mile-stone No. 35 from Rajkot.	630·386	630·471
44	BM.4 / 41 O	35·3	G.T.S.B.M. ○ On top of mile-stone No. 35 from Rajkot and No. 72 from Bhavnagar.	638·156	638·242
45	BM.5 / 41 O	35·9	G.T.S. ○ B.M. On stone coping at N.W. end of S.W. parapet of culvert, 33 chains N.W. of mile-stone No. 36 from Rajkot.	671·191	671·282
46	BM.6 / 41 O	36·3	G.T.S.B.M. ○ On top of mile-stone No. 36 from Rajkot and No. 71 from Bhavnagar.	663·425	663·515
47	BM.7 / 41 O	37·3	G.T.S. □ B.M. at Kotrapitha Dharmshala. Embedded at front side of dharmshala, 8 feet from S.E. corner, a few inches below ground level, below window of S.E. room, 18 feet from E. side of gateway, and 2 feet from wall on which letters B.M. are cut.	659·713	659·803
48	BM.8 / 41 O	38·4	G.T.S.B.M. ○ On top of mile-stone No. 38 from Rajkot and No. 69 from Bhavnagar.	658·090	658·180
49	BM 9 / 41 O	39·4	G.T.S.○B.M. On top of mile-stone No. 39 from Rajkot and No. 68 from Bhavnagar.	621·533	621·619
50	BM.10 / 41 O	40·4	G.T.S.B.M. ○ On top of mile-stone No. 40 from Rajkot and No. 67 from Bhavnagar.	629·459	629·546
51	BM.11 / 41 O	42·4	G.T.S.B.M. ○ On top of mile-stone No. 42 from Rajkot and No. 65 from Bhavnagar.	670·185	670·279
52	BM.12 / 41 O	44·4	G.T.S.B.M. ○ On top of mile-stone No. 44 from Rajkot and No. 63 from Bhavnagar.	617·835	617·923

Branch-Line 48A. (Rajkot to Bhavnagar).

Designation of Bench-marks			Distance from Rajkot	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
53		BM.13 / 41 O	45·4	G.T.S.B.M. ○ On top of mile-stone No. 45 from Rajkot and No. 62 from Bhavnagar.	587·978	588·061
54		BM.14 / 41 O	46·4	G.T.S.B.M. ○ On top of mile-stone No. 46 from Rajkot and No. 61 from Bhavnagar.	566·132	566·213
55		BM 15 / 41 O	47·4	G.T.S.B.M. ○ On top of mile-stone No. 47 from Rajkot and No. 60 from Bhavnagar.	544·367	544·445
56		BM.16 / 41 O	47·4	G.T.S. □ B.M. at Babra Agency Bungalow. Embedded in N. or back verandah of building, flush with floor, midway between two doors and 2 feet from wall.	542·131	542·209
	a / 56	BM.17 / 41 O	47·9	G.T.S. ○ B.M. at Mahadeo's Temple, Babra. On S. end of bottom step at entrance to temple, on S. side of high road from Rajkot to Bhavnagar, about 8 chains E. of dharmshala.	522·059	522·134
57		BM.18 / 41 O	48·1	G.T.S. ○ B.M. On flag-stone at W. edge of Babra causeway over Kalubhar river, 30 feet from N.W. corner of pavement, and 25 chains N.W. of mile-stone No. 48 from Rajkot.	507·200	507·273
58		BM.19 / 41 O	48·4	G.T.S. ○ B.M. On S.W. corner of base of mile-stone No. 48 from Rajkot and No. 59 from Bhavnagar. The mile-stone is broken. The base of mile-stone consists of a block of masonry about 1 foot above ground level.	527·013	527·088
59		BM.20 / 41 O	49·4	G.T.S. ○ B.M. On N.E. corner of base of mile-stone No. 49 from Rajkot. The mile-stone is broken. The base of mile-stone consists of a block of masonry about 1 foot above ground level.	503·849	503·921
60		BM.21 / 41 O	50·4	G.T.S. ○ B.M. On S.W. corner of base of mile-stone No. 50 from Rajkot. The mile-stone is broken. The base of mile-stone consists of a block of masonry about 1 foot above ground level.	484·528	484·598
61		BM.22 / 41 O	51·4	G.T.S. ○ B.M. On S.W. corner of base of mile-stone No. 51 from Rajkot. The mile-stone is broken. The base of mile-stone consists of a block of masonry about 1 foot above ground level.	462·052	462·119
62		BM.23 / 41 O	52·4	G.T.S.○B.M. On top of mile-stone No. 52 from Rajkot and No. 55 from Bhavnagar.	448·083	448·148
63		BM.24 / 41 O	53·4	G.T.S.○B.M. On top of mile-stone No. 53 from Rajkot and No. 54 from Bhavnagar.	437·391	437·454

Branch-Line 48A. (Rajkot to Bhavnagar).

Designation of Bench-marks			Distance from Rajkot	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
64		BM.25 / 41 O	54·4	G.T.S.○B.M. On top of mile-stone No. 54 from Rajkot and No. 53 from Bhavnagar.	410·718	410·778
65		BM.26 / 41 O	54·6	G.T.S. □ B.M. at Chavand Post Office and School. Embedded at W. side of building, about 6 inches below ground level, 15 feet from N.W. and S.W. corners, and 5 feet from wall of building. The Post Office and School is a pakka building, at centre of N. side of village, and letters B.M. are cut on its W. face.	407·490	407·549
66		BM.27 / 41 O	55·4	G.T.S.B.M. ○ On top of mile-stone No. 55 from Rajkot and No. 52 from Bhavnagar.	412·212	412·272
67		BM.28 / 41 O	56·4	G.T.S.B.M. ○ On top of mile-stone No. 56 from Rajkot and No. 51 from Bhavnagar.	382·454	382·509
68		BM.29 / 41 O	57·4	G.T.S.B.M. ○ On top of mile-stone No. 57 from Rajkot and No. 50 from Bhavnagar.	360·059	360·111
	1/68	BM.30 / 41 O	58·7	On upper mark-stone of circular pillar of Panch Tobra G.T. Survey Tower Station, lat. 21° 47′ 57″·58, long. 71° 25′ 59″·81. A secondary station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	477·882	477·951
69		BM.31 / 41 O	58·3	G.T.S.B.M. ○ On top of mile-stone No. 58 from Rajkot and No. 49 from Bhavnagar.	351·155	351·206
70		BM.32 / 41 O	59·3	G.T.S.B.M. ○ On top of mile-stone No. 59 from Rajkot and No. 48 from Bhavnagar.	326·788	326·835
71		BM.33 / 41 O	60·3	G.T.S.B.M. ○ On top of mile-stone, 47 miles from Bhavnagar. Adjoining this stone on W. side is old mile-stone No. 60 from Rajkot and No. 47 from Bhavnagar.	322·365	322·412
72		BM.34 / 41 O	62·3	G.T.S. □ B.M. At Dhasa. Embedded a few inches below ground level, near S.W. corner of dharmshala, 34 feet from S. pillar of W. entrance, 13 feet from S.W. corner and 5 feet from wall on which letters B.M. are cut.	290·627	290·669
73		BM.35 / 41 O	64·5	G.T.S. ○ B.M. On S. pilaster cap of E. abutment of bridge, near telegraph post No. 44/16.	287·267	287·309
74		BM.36 / 41 O	67·2	G.T.S. ○ B.M. On S. pilaster cap of W. abutment of bridge at telegraph post No. 42/3.	249·221	249·257

Branch-Line 48A. (Rajkot to Bhavnagar).

Designation of Bench-marks			Distance from Rajkot	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
75		BM.37 / 41 O	70·1	G.T.S. ○ B.M. On N.E. corner of base of home semaphore at Jalia Railway Station.	227·869	227·902
76		BM.38 / 41 O	70·1	G.T.S. □ B.M. at Jalia Railway Station. Embedded in N. verandah of station, facing railway line, flush with floor level, 7 feet S.E. of N.W. corner pillar, 6 feet from N.W. corner of building and 15 feet from centre of booking office doorway.	227·899	227·932
77		BM.39 / 41 O	76·6	G.T.S. B.⩚M. at Dhola Bridge. On S.E. end of E. pilaster cap of flood opening on up line to Wadhwan, about ½ mile N.W. of Dhola Railway Station. (Railway bench-mark).	119·588	119·605
78		BM.40 / 41 O	77·2	G.T.S. ○ B.M. On N. corner of 1st step of home semaphore base at Dhola Railway Station.	115·307	115·324
79		BM.41 / 41 O	77·2	G.T.S. □ B.M. at Dhola Railway Station. Embedded at S.W. corner of station building, 8 inches below platform level, in front of window of 3rd class waiting room, on sill of which letters B.M. are cut. The bench-mark is 8 feet from N. corner of stone base of timber column at W. end of S. verandah, 6 feet from S.W. corner of 3rd class waiting room and 4 feet from wall.	114·140	114·157
80		BM.42 / 41 O	79·0	G.T.S. ○ B.M. ↑ On E. pilaster cap of S. abutment of Nalia bridge at telegraph post No. $\frac{30}{8}$. (↑ Railway bench-mark on same level).	111·591	111·607
81		BM.43 / 41 O	80·1	G.T.S. ○ B.M. On E. pilaster cap of S. abutment of Ranghola bridge at telegraph post No. $\frac{29}{6}$.	116·915	116·932
	a / 81	BM.44 / 41 O	80·1	↑ On S. end of E. pilaster cap of S. abutment of Ranghola bridge at telegraph post No. $\frac{29}{6}$. (Railway bench-mark).	116·906	116·923
82		BM.45 / 41 O	81·7	G.T.S. ○ B.M. On E. pilaster cap of S. abutment of bridge, near telegraph post No. $\frac{27}{14}$ and 2 miles W.N.W. of Sanoshra Railway Station.	121·559	121·577
83		BM.46 / 41 O	82·4	G.T.S. ○ B.M. On N. pilaster cap of E. abutment of bridge at mile-post No. 27.	122·451	122·469
84		BM.47 / 41 O	84·0	G.T.S. □ B.M. at Sanoshra Railway Station. Embedded in S. verandah of station, flush with floor, in front of E. window, 1 foot from wall, 5 feet from S.E. corner of station and 4 feet from E. side of door of booking office.	114·488	114·505

Branch-Line 48A. (Rajkot to Bhavnagar).

Designation of Bench-marks		Distance from Rajkot	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
a 84	BM.48 41 O	84·0	↑ at Sanoshra Railway Station. On S.E. corner of base of home semaphore. (Railway bench-mark).	113·939	113·956
85	BM 49 41 O	84·0	G.T.S. ○ B.M. at Sanoshra Railway Station. On S.W. corner of base of home semaphore.	113·924	113·941
86	BM 50 41 O	84·7	G.T.S. B.⌒M. On E. edge of N. pilaster cap of E. abutment of Iswaria bridge, between telegraph posts Nos. $\frac{24}{12}$ and $\frac{24}{13}$. (Railway bench-mark).	114·018	114·035
87	BM.51 41 O	87·1	G.T.S. B.⌒M. On E. edge of N. pilaster cap of E. abutment of bridge at telegraph post No. $\frac{22}{5}$. (Railway bench-mark).	111·928	111·945
88	BM 52 41 O	88·3	G.T.S. B.⌒M. On E. edge of N. pilaster cap of E. abutment of bridge at mile-post No. 21 from Bhavnagar. (Railway bench-mark).	111·672	111·689
89	BM.53 41 O	89·5	G.T.S. B.⌒M. On E. edge of N. pilaster cap of E. abutment of Jithri bridge at telegraph post No. $\frac{19}{16}$. (Railway bench-mark).	100·775	100·790
90	BM.54 41 O	90·5	G.T.S. B.⌒M. at Songad Railway Station. On N.W. corner of base of home semaphore. (Railway bench-mark).	115·148	115·165
91	BM.55 41 O	90·8	G.T.S. B.⌒M. On E. edge of N. pilaster cap of E. abutment of Songad bridge, 23 chains E. of Songad Railway Station. (Railway bench-mark).	114·504	114·521
92	BM.56 41 O	91·0	G.T.S. B.⌒M. at Songad Railway Station. On S.E. corner of base of up distant semaphore. (Railway bench-mark).	114·105	114·122
93	BM.57 41 O	92·5	G.T.S. B.⌒M. On E. edge of N. pilaster cap of E. abutment of Surka bridge, near telegraph post No. $\frac{16}{18}$. (Railway bench-mark).	116·379	116·397
94	BM.58 41 O	94·6	G.T.S. B.⌒M. at Sihor Railway Station, On N. corner of base of down distant semaphore. (Railway bench-mark).	128·910	128·929
95	BM 59 41 O	94·9	G.T.S. B.⌒M. On N.E. edge of N. pilaster cap of Sihor bridge, ¼ mile S.W. of Sihor Railway Station. (Railway bench-mark).	126·731	126·750
96	BM.60 41 O	95·1	G.T.S. □ B.M. at Sihor Railway Station. Embedded at S.W. side of station building, 6 inches below ground level, to right of window of telegraph office, between it and the door of store room, 13 feet from S. corner of station building, 15 feet from W. corner and 2 feet from wall on which letters B.M. are cut.	126·829	126·848

Branch-Line 48A. (Rajkot to Bhavnagar).

Designation of Bench-marks			Distance from Rajkot	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
97		BM 61 / 41 O	95·1	G.T.S. B.⩓M. at Sihor Railway Station. On N. corner of base of home semaphore. (Railway bench-mark).	127·520	127·539
98		BM 62 / 41 O	95·7	G.T.S. B.⩓M. at Sihor Railway Station. On E. corner of base of up distant semaphore. (Railway bench-mark).	122·869	122·888
99		BM.63 / 41 O	95·8	G.T.S. B.⩓M. On N. pilaster cap of bridge at telegraph post No. 13/11, and 54 chains N.E. of Sihor Railway Station. (Railway bench-mark).	124·333	124·352
100		BM 64 / 41 O	97·1	G.T.S. ○ B.M. On N. pilaster cap of E. abutment of bridge near telegraph post No. 12/5.	95·752	95·766
101		BM.1 / 46 O	97·9	G.T.S. B.⩓M. On E. edge of N. pilaster cap of E. abutment of bridge over Rajpura stream, near telegraph post No. 11/9. (Railway bench-mark).	94·964	94·978
102		BM.2 / 46 O	99·3	G.T.S. ○ B.M. On S. pilaster cap of E. abutment of bridge, between telegraph posts Nos. 10/1 and 10/2.	87·444	87·457
103		BM.3 / 46 O	100·2	G.T.S. B.⩓M. On E. edge of N. pilaster cap of E. abutment of bridge at telegraph post No. 9/4. (Railway bench-mark).	77·966	77·978
104		BM.4 / 46 O	101·4	G.T.S. B.⩓M. On E. edge of N. pilaster cap of E. abutment of Maleshari bridge, between Vartej Railway Station and down distant semaphore. (Railway bench-mark).	77·060	77·071
	a/104	BM.5 / 46 O	101·7	G.T.S. □ B.M. corners are cut. at Vartej Railway Station. Embedded at E. side of station, a few inches below ground level and 2 feet below plinth or basement of building, 8 feet from N.E. and S.E. of station, and 5 feet from wall on which letters B.M.	76·899	76·910
105		BM.6 / 46 O	101·7	G.T.S. ○ B.M. On N.E. corner of base of home semaphore at Vartej Railway Station.	78·340	78·352
106		BM.7 / 46 O	104·1	G.T.S. ○ B.M. On E. pilaster cap of Dhandalia bridge, between telegraph posts Nos. 5/6 and 5/7.	55·363	55·371
107		BM.8 / 46 O	105·9	G.T.S. B.⩓M. On E. edge of N. pilaster cap of E. abutment of Ghadechi bridge, 23 chains W.S.W. of Ghadechi Railway Station. (Railway bench-mark).	41·120	41·126

Branch-Line 48A. (Rajkot to Bhavnagar).

Designation of Bench-marks			Distance from Rajkot	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
108		BM.9 / 46 C	106·1	G.T.S. B.M. at Ghadechi Railway Station. On S.E. corner of base of home semaphore. (Railway bench-mark).	40·370	40·376
109		BM 10 / 46 C	106·3	G.T.S. B.M. at Ghadechi Railway Station. On N. end of W. parapet of culvert at E. entrance to engine shed and workshop. (Railway bench-mark).	40·184	40·190
110		BM.11 / 46 C	106·6	G.T.S. B.M. On N. pilaster cap of W. abutment of Ghadechi bridge at railway crossing, between Ghadechi Railway Station and up distant semaphore. (Railway bench-mark).	41·404	41·410
111		BM.12 / 46 C	107·6	G.T.S. B.M. On N. pilaster cap of W. abutment of Bhavnagar bridge, 16 chains S.W. of Bhavnagar Railway Station. (Railway bench-mark).	21·197	21·200
112		BM.13 / 46 C	107·8	G.T.S. O B.M. On platform coping opposite telegraph office at Bhavnagar Railway Station.	20·640	20·643
	a / 112	BM 14 / 46 C	108·4	G.T.S. O B.M. On basement or plinth at right side of N.E. entrance, 8 feet from N. corner of Samaldas College, Bhavnagar.	53·983	53·991
	b / 112	BM.15 / 46 C	109·2	G.T.S. O B.M. On stone coping of N. parapet of Gol Khari bridge, Bhavnagar, between the sewer and boat basins, at foot of E. lamp pillar on parapet.	20·954	20·957
	c / 112	BM.16 / 46 C	109·6	B.M. M S. 1885 On W. face of N.W. corner of Hydraulic Tower, Bhavnagar from which light is exhibited on *bunder*. (Marine Survey bench-mark).	20·937	20·940
	1 / 112	BM.17 / 46 C	109·0	G.T.S. O B.M. at Sir Takhata Singji's Hospital, Bhavnagar. On plinth at N.W. corner of E. pillar of N. gate.	68·957	68·967
	2 / 112	BM.18 / 46 C	109·1	G.T.S. O B.M. at Sir Takhata Singji's Hospital, Bhavnagar. On plinth at N. corner of building.	84·129	84·141
	3 / 112	BM.19 / 46 C	109·4	On top of protecting pillar of Bhavnagar G. T. Survey Hill Station, lat. 21° 45′ 54″·79, long. 72° 8′ 46″·14. A secondary station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	175·550	175·576
113		BM 20 / 46 C	108·8	G.T.S. O B.M. On S. end of W. abutment, 5 feet E. of W. timber pillar of Tambaria bridge, Bhavnagar, on road to steam ferry.	22·889	22·892
114		BM.21 / 46 C	109·5	G.T.S. O B.M. at Bhavnagar Tidal Observatory. On block of dressed stone close to incline plane of Steam Ferry, 154 yards S.W. of Tidal Observatory. This is the bench-mark of reference of Bhavnagar Tidal Observatory.	20·217	20·220

Branch-Line 48B. (Sanoshra to Port Albert Victor).

Designation of Bench-marks		Distance from Sanoshra	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1	BM 47 / 41 O	0·0	G.T.S. □ B.M. at Sanoshra Railway Station. Embedded in S. verandah of station, flush with floor, in front of E. window, 1 foot from wall, 5 feet from S.E. corner of station, and 4 feet from E. side of door of booking office.	114·488	114·505
2	BM.46 / 41 O	1·6	G.T.S. ○ B.M. On N. pilaster cap of E. abutment of bridge at mile-post No. 27.	122·451	122·469
3	BM.45 / 41 O	2·3	G.T.S. ○ B.M. On E. pilaster cap of S. abutment of bridge, near telegraph post No. $\frac{27}{14}$, and 2 miles W.N.W. of Sanoshra Railway Station.	121·559	121·577
4	BM.65 / 41 O	4·0	G.T.S. □ B.M. Embedded at foot of Tibidhar hillock on S.E. side, a few inches below ground level, 49 feet N. of centre of high road from Rajkot to Bhavnagar, 46 feet due S. of Patabhai's well and 24 feet S.S.E. of Khevabhai's well. The bearings and distances of adjacent villages are:—Sanoshra 115°, about 2 miles; Panchtalav 26°, about 1 mile; and Gadhula 287°, about 1 mile.	153·819	153·842
5	BM.66 / 41 O	11·5	G.T.S. □ B.M. at Noghanvadar. Embedded 6 inches below ground level, 64 feet W. of embankment of proposed railway line to Port Albert Victor. It bears 349° and is 18 chains from B.M. No. 6 and also bears 157° and is 299 feet from S.E. corner of Engineer's rest house.	306·047	306·095
6	BM.67 / 41 O	11·8	G.T.S. ○ B.M. On N.W. corner of Surdhan platform at S.W. end of Noghanvadar village.	307·613	307·661
7	BM 68 / 41 O	14·5	G.T.S. ○ B.M. On top of Hanuman's platform, 3 feet S. of N.W. corner, on E. side of cart-track from Noghanvadar to Sandhkhakhra, 2 miles N. of latter village.	335·418	335·471
8	BM.69 / 41 O	16·6	G.T.S. ○ B.M. at Sandhkhakhra Well. On lower wall of trough, 5 feet S.W. of N. corner, on N.E. side of Sandhkhakhra village, close to cart-track from Noghanvadar.	291·982	292·029
9	BM.70 / 41 O	18·8	G.T.S. □ B.M. at Chonda. Embedded at N.E. end of village, 4 inches below ground level, 11 feet N. of N.W. corner of Bhagakoli's platform, 252 feet E. of S.E. corner of dharmshala and 216 feet S. of crossing of cart-track from Sandhkhakhra to Dudhala and high road from Gariadhar to Palitana.	259·273	259·315
10	BM.71 / 41 O	18·9	G.T.S. ○ B.M. On coping at N. side of Lila Pir, about 8 chains S.E. of Chonda village.	278·111	278·156
11	BM.72 / 41 O	20·5	G.T.S. ○ B.M. On N.E. end of well at Dudhala village.	271·465	271·509

Branch-Line 48B. (Sanoshra to Port Albert Victor).

Designation of Bench-marks			Distance from Sanoshra	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
12		BM.73 / 41 O	22·5	G.T.S. □ B.M. at Dedorda. Embedded 3 inches below ground level, at W. end of *band* extending from low hill on which village is situated to about ¼ mile W. of it. The cart-track from Dedorda to Damrala lies 55 feet to S.	263·478	263·522
13		BM.74 / 41 O	25·5	G.T.S. ○ B.M. On door sill of Mahadeo's temple at N.E. end of Satapura village and on left bank of stream.	189·733	189·765
14		BM.75 / 41 O	27·3	G.T.S. □ B.M. at Sangam. Embedded at confluence of Khari and Shetrunji rivers, level with ground, 163 feet S. of S. bank, 228 feet W. of right bank where cart-track from Ranparda crosses the river, 2 miles S. of Satapura village and N.N.W. of Ranparda. An upright stone slab with letters G.T.S. / B.M. cut on its E. face and projecting about 1 foot above ground has been fixed in masonry 1 foot W. of bench-mark.	173·319	173·348
15		BM.76 / 41 O	28·9	G.T.S. ○ B.M. On E. side of circular platform of well, at E. side of Ranparda village.	183·419	183·450
	a / 15	BM.77 / 41 O	32·0	G.T.S. ○ B.M. at Bugabhai's Surdhan. On coping at S. side of platform, 4 feet from S.E. corner, at N. side of Jesar village.	295·725	295·776
16		BM.78 / 41 O	32·2	G.T.S. □ B.M. at Jesar. Embedded on a mound at S.E. end of village, level with ground, 225 feet E. of Lila Pir (tomb). An upright stone slab with letters G.T.S. / B.M. cut on its E. face and projecting about 1 foot above ground has been fixed in masonry 1 foot W. of bench-mark.	314·608	314·662
17		BM.79 / 41 O	34·5	○ G.T.S. B.M. On centre of parapet wall, N.E. of Surnala causeway on cart-track from Jesar to Chapriala, 2 miles from former, and 1½ miles from latter.	466·426	466·508
18		BM.80 / 41 O	34·9	G.T.S. ○ B.M. On rock *in situ* on E. margin of cart-track from Jesar to Chapriala, about 8 chains N.E. of Ranigala Police Chauki.	502·268	502·356
19		BM.81 / 41 O	35·9	G.T.S. ○ B.M. at Chapriala. On N.E. corner of Modikhana platform.	580·285	580·387
20		BM.82 / 41 O	36·1	G.T.S. □ B.M. at Chapriala. Embedded at S.E. end of Dhedvada, 180 feet N. of right bank of stream, 3 inches below ground level. From S.E. corner of cattle enclosure, it bears 70° and is 542 feet, and from S. end of W. face of Ranshorbhai Seth's well, it bears 232° and is 420 feet. An upright stone slab with letters B.M. cut on its W. face has been fixed in masonry 1 foot E. of bench-mark.	568·935	569·036
21		BM.83 / 41 O	38·8	G.T.S. ○ B.M. On top of boulder at N.E. foot of a rugged hill on opposite side of Jhaldikia stream, about 6 chains due N. of Tantania village and 63 feet from right bank of stream.	416·840	416·915

Branch-Line 48B. (Sanoshra to Port Albert Victor).

Designation of Bench-marks			Distance from Sanoshra	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
22		BM.84 / 41 O	45·2	G.T.S. □ B.M. at Khuntavada. Embedded on right bank of Malan river, 4 inches below ground level, 306 feet E. of B.M. No. 23, and about 6 chains E. of village. An upright stone slab with letters B.M. cut on its W. face has been fixed in masonry 2 feet E. of bench-mark.	236·945	236·989
23		BM.85 / 41 O	45·3	G.T.S. ○ B.M. at Nanji Lila Khoja's Tomb. On N.E. corner of tomb near E. end of Khuntavada village.	236·563	236·607
24		BM.86 / 41 O	48·0	G.T.S. ○ B.M. On top of boulder, at S.E. extremity of low hill, 1 mile N.E. of Mota Asrana village.	301·648	301·704
25		BM.87 / 41 O	48·5	G.T.S. ○ B.M. On S. parapet of culvert, 5 feet from E. end, on high road from Kundla to Mahuva, about ¾ mile N.E. of Mota Asrana.	289·719	289·773
26		BM.88 / 41 O	49·4	G.T.S. ○ B.M. On rock *in situ* at E. end of Mota Asrana hill, 72 feet W. of cart-track to Morangi, and 16 chains S.E. of Mota Asrana.	293·819	293·874
27		BM.89 / 41 O	51·7	G.T.S. ○ B.M. at Khodia-ni-Mata. On rock *in situ* at E. side of hill, 47 feet W. of cart-track from Mota Asrana to Mandal, and 2 miles N.E. of latter village.	230·846	230·890
	a / 27	BM.90 / 41 O	53·5	G.T.S. ○ B.M. On platform coping of Saiyid Nathu Mian and Bara Mian's dargah, 4 feet W. of S.E. corner, about 4 chains N.W. of Mandal village.	168·421	168·453
	b / 27	BM.91 / 41 O	53·6	G.T.S. ○ B.M. at Mandal village. On S.E. end of lowest step at entrance to the Chavdi.	166·964	166·996
28		BM.92 / 41 O	55·9	G.T.S. □ B.M. at Dungar. Embedded 4 inches below ground level, about ¼ mile E. of Dungar and 50 feet E. of embankment. From S.E. corner of cotton press building it bears 53° and is 19 chains. An upright stone slab with letters B.M. cut on its W. face has been fixed in masonry, 2 feet E. of bench-mark.	101·248	101·267
29		BM.93 / 41 O	56·3	G.T.S. ○ B.M. On stone slab at E. end of N. wall of Dealtrikam's well, 16 chains S.E. of Dungar.	99·753	99·772
30		BM.94 / 41 O	60·1	G.T.S. □ B.M. at Potatalav. Embedded 4 inches below ground level, 50 feet E. of embankment, 516 feet W. of N.W. corner of Engineer's rest house, and 118 feet S.E. of N.E. corner of Potatalav *band*. An upright stone with letters G.T.S. B.M. cut on its W. face has been fixed in masonry 1 foot E. of bench-mark. It is about 1 mile S.W. of Majadar village and 1 mile E. of Pipavav.	18·847	18·851

Branch-Line 48B. (Sanoshra to Port Albert Victor).

Designation of Bench-marks			Distance from Sanoshra	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	1/30	BM 1 / 41 P	63·2	○ G.T.S. B.M. On top of an upright stone slab about 2 feet high on N. side of cart-track from Mahuva to Bherai, close to salt pans and 2 miles N.N.E. of latter village.	9·958	9·960
	2/30	BM.2 / 41 P	65·3	G.T.S. ○ B.M. at Bherai village. On S. side of N. trough of well to W. of Nava Utara.	18·070	18·074
	3/30	BM.3 / 41 P	70·0	G.T.S. ○ B.M. On rock *in situ*, on right bank of Dhatarvari river: it bears 310° and is 730 feet from N.W corner of Chachuda temple. A pile of stones 3 feet high has been raised over mark.	17·334	17·337
	4/30	BM 4 / 41 P	70·1	G.T.S. □ B.M. at Chachuda Temple. Embedded 3 inches below ground level, on hillock near temple, 95 feet S.W. of S.W. corner and 104 feet from N.W. corner. An upright stone slab with letters B.M. cut on its W. face has been fixed in masonry 1 foot E. of bench-mark.	54·217	54·228
	a/30	BM 95 / 41 O	60·1	○ On top surface of a block of stone fixed in masonry at S.E. corner of Potatalav. (P.W.D. bench-mark).	19·018	19·022
31		BM.5 / 41 P	63·0	G.T.S. □ B.M. at Port Albert Victor. Embedded about 4 inches below ground level, 40 feet N. of N.W. corner of E. store shed and 47 feet N.W. of N.E. corner. An upright stone slab with letters G.T.S. / B.M. cut on its W. face has been fixed in masonry 1 foot E. of bench-mark.	8·851	8·853
32		BM 6 / 41 P	63·1	G.T.S. ○ B.M. at Port Albert Victor. On top surface of an upright block of stone fixed in masonry, 85 feet from face-wall of *bundar*. It is the bench-mark of reference of Port Albert Victor Tidal Station. (P.W.D. bench-mark).	10·163	10·165
	a/32	BM.7 / 41 P	63·1	G.T.S. ○ B.M. at Port Albert Victor. On top surface of foundation stone.	8·932	8·934

Main-Line 49. (Rajkot to Viramgam).

Designation of Bench-marks			Distance from Rajkot	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1			0·0	Destroyed.	404·915	404·961
2		BM.66 / 41 J	0·4	West Pillar on N. side of W. end of *band* across Aji river at Rajkot; the last chain of fencing of *band* is attached to this pillar.	379·452	379·495
3			0·5	Destroyed.	379·669	379·712
4			4·3	Destroyed.	460·539	460·590
5		BM.67 / 41 J	5·1	G.T.S. ○ B.M. On N. parapet of culvert on main road, about ½ mile W. of Maliason village between Rajkot and Chotila.	474·946	474·999
6		BM.68 / 41 J	10·0	G.T.S. □ B.M. at Kuarwa. Embedded about 6 inches below ground in compound of new dharmshala on S. side of main road, 2 chains N.E. of centre of gateway of dharmshala and 7 chains E. of centre of bridge.	536·949	537·008
7		BM.69 / 41 J	10·9	G.T.S. ○ B.M. On parapet of bridge over nala on main road, about 1 mile E. of Kuarwa and just below road cutting.	527·112	527·169
	1/7	BM.70 / 41 J	15·2	On upper surface of circular pillar of Khakhana G. T. Survey Hill Station, lat. 22° 25′ 28″·91, long. 70° 56′ 28″·45. A principal station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	544·956	545·015
8		BM.18 / 41 N	14·9	G.T.S. ○ B.M. On W. parapet at N. end, just above crown of last arch of bridge over Beti river, on main road between Rajkot and Wadhwan.	481·122	481·173
9		BM.19 / 41 N	18·3	G.T.S. □ B.M. at Bamanpur. Embedded about 1 foot below ground level on N. side of main road and 49 feet W. of S.W. corner of dharmshala. A masonry pillar stands 8 feet N. of bench-mark.	546·373	546·431
10		BM.20 / 41 N	21·3	G.T.S. ○ B.M. On centre of S. parapet of bridge over nala, on main road about 3 miles E. of Bamanpur and close to last hillock between Bamanpur and Molri villages.	607·349	607·413
11		BM.21 / 41 N	24·2	G.T.S. ○ B.M. On E. end of N. parapet of bridge over Wogli stream, on W. side of Molri-Nana village.	656·016	656·086
12		BM.22 / 41 N	28·8	G.T.S. ○ B.M. On N. parapet of bridge, about ¾ mile W. of Chotila. This is the first bridge (not culvert) from Chotila, on main road towards Rajkot.	643·264	643·332
13		BM.23 / 41 N	29·5	G.T.S. □ B.M. at Chotila. Embedded about 1 foot below surface of ground on S. side of main road, about 150 yards N.E. of travellers' bungalow, and about 20 yards N.E. of present entrance gate of bungalow. There is a small conical hill near bench-mark. A masonry pillar stands 8 feet S. of bench-mark.	667·482	667·553

Main-Line 49. (Rajkot to Viramgam).

Designation of Bench-marks			Distance from Rajkot	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	1/13	BM 24 / 41 N	34·4	On upper surface of circular pillar of Tarkia G. T. Survey Hill Station, lat. 22° 28′ 51″·10, long. 71° 9′ 54″·84. A principal station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	876·880	876·973
14		BM 25 / 41 N	31·6	G.T.S. ○ B.M. On S. parapet of bridge over nala on main road from Chotila to Wadhwan, and about 1 mile E. of Sangani village.	603·942	604·005
15		BM.26 / 41 N	33·5	G.T.S. ○ B.M. On S. parapet of bridge, about 4 miles from Chotila towards Dolia, on main road to Wadhwan, about 1 mile N.N.W. of Kandasar village, about 2 miles due W. of a conical hill, and 2 miles S.S.W. of Mogrikara village.	603·782	603·844
16		BM.27 / 41 N	33·6	G.T.S. ○ B.M. On S. parapet of culvert, 10 chains nearer Dolia than B.M. No. 15.	599·231	599·293
17		BM.28 / 41 N	37·9	G.T.S. ○ B.M. On N. parapet of culvert, about 10 chains E. of Shahpur village, on main road between Rajkot and Wadhwan.	516·144	516·196
18		BM 29 / 41 N	42·1	G.T.S. □ B.M. at Dolia. Embedded about 1 foot below ground level, 1 chain to N. of main road and about ¼ mile W. of Dolia village on main road from Rajkot to Wadhwan. The travellers' bungalow is 16 chains due N. of bench-mark. The bearing of S W. corner of dharmshala is 47°, the distance being 11 chains from bench-mark. A masonry pillar stands 8 feet E. of bench-mark.	455·542	455·587
19		BM.30 / 41 N	50·3	G.T.S. ○ B.M. On S. parapet of culvert, about 2 miles E. of Samachar and same distance W. of Muli, on main road between Rajkot and Wadhwan. There are 2 culverts close together, the bench-mark is cut on the more westerly one.	369·749	369·783
20		BM.31 / 41 N	52·1	G.T.S. □ B.M. at Muli. Embedded 1 chain E. of E. end of verandah of travellers' bungalow on top of hillock on N. side of main road about ¼ mile E. of Muli village, 40 feet N.E. of door of cook room attached to travellers' bungalow. A masonry pillar stands 8 feet E. of bench-mark.	360·141	360·174
	a/20	BM 32 / 41 N	52·2	The floor of verandah of travellers' bungalow at Muli.	372·217	372·251
21		BM.33 / 41 N	56·3	On top of pillar of Kukarda Hill Station. This trigonometrical station is situated on top of a small hillock on S. side of a tank directly S. of Kukarda village. The station consists of an ordinary rectangular pillar of Kathiawar minor triangulation.	329·430	329·460
22		BM.34 / 41 N	62·1	G.T.S. ○ B.M. On E. parapet of culvert, about 4 miles along main road from Wadhwan towards Rajkot.	265·272	265·295

Main-Line 49. (Rajkot to Viramgam).

Designation of Bench-marks		Distance from Rajkot	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1/22	BM.35/41 N	64·2	On top of circular pillar of Samarad Hill Station. This trigonometrical station is situated on top of highest point of a low lying range of hills, 2 miles N.N.W. of above culvert on main road from Wadhwan to Rajkot, about 2 miles S. of Samarad village. The station consists of usual circular pillar on top of which has been built a rectangular pillar of Kathiawar minor triangulation, the whole is surrounded by a platform of loose stones.	331·072	331·101
23	BM.36/41 N	65·7	G.T.S. □ B.M. at Wadhwan. Embedded abqut 6 inches below ground level, 2 chains W. of westerly rail opposite centre of platform used for entraining horses, and 2 chains S. of S.W. corner of railway station. A pillar stands 8 feet W. of bench-mark.	230·285	230·305
24	BM.37/41 N	65·8	The westerly rail opposite centre of door of booking office at Wadhwan Railway Station.	232·619	232·639
25	BM.38/41 N	68·5	G.T.S. ○ B.M. On top of N. side of centre pier of bridge No. 134, about 2 miles from Wadhwan towards Ahmedabad.	219·008	219·026
26	BM.39/41 N	73·0	G.T.S. ○ B.M. On coping of S. side of E. abutment of culvert No. 129.	192·703	192·718
27	BM.40/41 N	74·7	G.T.S. ○ B.M. On coping on S. side of E. abutment of culvert No. 127.	175·211	175·225
28	BM.41/41 N	76·5	G.T.S. ○ B.M. On coping of S. side of E. abutment of bridge No. 125.	162·821	162·834
29	BM.42/41 N	79·3	The more easterly rail opposite centre of booking office at Lakhtar Station.	140·037	140·048
30	BM.43/41 N	79·3	G.T.S. □ B.M. at Lakhtar Railway Station. Embedded 10 feet S.E. of S.E. corner of porter's house, 1 foot under ground.	136·308	136·318
31	BM 44/41 N	81·4	The coping of S. side of eastern abutment of bridge No. 121.	122·856	122·865
32	BM.45/41 N	84·1	G.T.S. ○ B.M. On S. side of centre pier of bridge No. 118.	101·263	101·270
1/32	BM.46/41 N	84·5	G.T.S. ○ B.M. On S.W. side of platform of pakka well known as Patel's well, about 10 chains S. of S. side of Lilapur village.	98·974	98·981
2/32	BM.47/41 N	86·7	On upper mark-stone on top of tower of Ingrodi G.T. Survey Tower Station, lat. 22° 57′ 7″·58, long. 71° 48′ 34″·12. A principal station of Gujarat Longitudinal Series. (For full description *see* Synoptical Volume).	151·007	151·018

Main-Line 49. (Rajkot to Viramgam).

Designation of Bench-marks			Distance from Rajkot	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
33		BM.48 / 41 N	86·7	G.T.S. □ B.M. at Lilapur Railway Station. Embedded about 6 inches below ground level, 11 feet N.E. of N. side of masonry tower for iron tank for supplying engines with water, and 3 chains S.W. of railway station. The letters G.T.S. B.M. are cut on wall of tower.	75·086	75·091
	1 / 33	BM.49 / 41 N	88·5	On lower mark-stone of Olak Station. This trigonometrical station is one of the Kathiawar minor triangulation and situated on top of a plot of rising ground about ½ mile N.W. of Olak village. The lower mark-stone was intact, and a rectangular pillar was built over it.	80·035	80·041
	2 / 33	BM.50 / 41 N	92·2	On upper surface of pillar of Darwala Station. This trigonometrical station consists of a circular masonry pillar, about 6 feet high and surrounded by a large mound of earth, about ¾ mile N. of Darwala village. The upper mark-stone had disappeared but the point from which measurements were made was considered to be on level with former mark-stone.	75·532	75·537
	3 / 33		96·6	Destroyed.	61·422	61·426
	4 / 33	BM.51 / 41 N	99·4	G.T.S. □ B.M. Embedded on E. bank of tank, near Nani Katechi village, 16 feet E. of a Mahabir, and 4 chains from dharmshala, which bears 65° from bench-mark.	44·493	44·496
	5 / 33	BM.52 / 41 N	100·3	On top surface of pillar of Nani Katechi Station. This trigonometrical station is one of Gujarat minor triangulation. It consists of a rectangular pillar and is situated on top of a small plot of rising ground about 1 mile due S. of Nani Katechi village.	38·876	38·879
34		BM.53 / 41 N	86·8	The northerly rail opposite centre of booking office at Lilapur Road Railway Station.	77·719	77·725
35		BM.54 / 41 N	87·8	G.T.S. □ B.M. On coping of S. side of W. abutment of bridge No. 115.	70·306	70·311
	a / 35	BM.55 / 41 N	90·5	On lower mark-stone of Limbard Station. This trigonometrical station is one of the Kathiawar minor triangulation and situated on a rising ground about 15 chains S. of railway line and about 1 mile N.E. of Limbard village.	68·746	68·751

Main-Line 49. (Rajkot to Viramgam).

Designation of Bench-marks		Distance from Rajkot	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
36	BM.66 / 41 N	91·7	G.T.S. O B.M. On coping of N. side of E. abutment of bridge No. 112.	52·933	52·937
37		95·3	Destroyed	67·934	67·938
38	BM.1 / 41 M	95·3	The rail nearest to and immediately opposite centre of booking office at Sabli Road Railway Station.	68·243	68·247
39	BM.2 / 41 M	98·9	G.T.S. O B.M. On E. side of N. abutment of bridge No. 103.	79·862	79·867
40	BM.1 / 46 A	105·2	G.T.S. □ B.M. at Viramgam. Embedded in ground on foot-path close to wall of town, 10 feet N. of wall and 1 chain W. of W. side of doorway of Gulwadi gate, from which there is a pakka road to railway station. The letters G.T.S. B.M. are cut on wall opposite bench-mark.	89·537	89·542

Main-Line 50. (Shikarpur (Cutch) to Viramgam).

Designation of Bench-marks		Distance from Shikarpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1	BM.16 / 41 I	0·0	G.T.S. □ B.M. at Shikarpur (Cutch). Embedded a few inches below surface of ground, at E. end, close to base of bank of tank, which runs N. and S. to within 50 yards of town wall, 75 feet N. of Mahadeo's temple and about 600 feet S.E. of S.E. tower of fort and W. of cart-track from Shikarpur to Malia. A masonry pillar stands 8 feet N. of bench-mark.	53·909	53·912
a/1	BM.24 / 41 I	4·4	G.T.S. ○ B.M. On S.E. corner of Dewal Bahi's temple, about 100 yards E. of Raitari village. A cart-track from Raitari to Bhimdeoka passes about 33 feet N. of temple and there are several "pahlias" 33 feet S. of temple.	76·173	76·177
1/1	BM.25 / 41 I	12·5	On upper surface of circular pillar of Manaba G.T. Survey Hill Station, lat. 23° 16′ 35″·86, long. 70° 48′ 44″·57. A principal station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	56·147	56·150
2	BM.26 / 41 I	13·0	G.T.S. □ B.M. at Bari. Embedded about 6 inches below ground level, 200 yards S. of ruined village of Bari and about 3 miles S. of Gagudhar village. The cart road from Bhimdeoka to Kanmer passes about 50 yards S. of bench-mark. The following bearings were taken at bench-mark:—B. M. No. ½ 61°; Gagudhar H. Fort 340°; Gorasar Talao 314°. A masonry pillar 5 feet high stands 8 feet E. of bench-mark.	77·464	77·467
1/2	BM.27 / 41 I	17·6	On upper surface of circular pillar of Kanmer G.T. Survey Hill Station, lat. 23° 23′ 51″·36, long. 70° 52′ 40″·42. A principal station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	303·936	303·948
a/2	BM.28 / 41 I	16·8	G.T.S. ○ B.M. On N.E. corner of entrance to Apashra Mahajan's temple within a few feet of huts, on N. out-skirts of Kanmer village in Cutch state.	107·864	107·868
3	BM.29 / 41 I	22·0	G.T.S. □ B.M. at Palanswa. Embedded flush with surface of ground near W. out-skirts of village, about 13 feet N. of road from Palanswa to Kanmer. A temple called Chandaji's Dehri is 200 feet W. and another called Jewa Maharaj is 150 feet to E. of bench-mark. A masonry pillar 5 feet high stands 8 feet N. of bench-mark.	89·905	89·908
4	BM 30 / 41 I	22·1	G.T.S. ○ B.M. On a large stone on S.W. platform of a pakka well, known as Brahmin's well, in bed of a large tank, about 200 feet from W. corner of Palanswa village. A temple called Chandaji-ka-Dehri is about 198 feet from it.	88·908	88·911
5	BM.31 / 41 I	25·4	G.T.S. ○ B.M. On S.E. corner of platform of temple called Sati-ka-Dehri, about 300 yards W. of Makel village in a group of 3 other temples and some "p hlias". A large tank called Rakiahar is about ¼ mile S. of bench-mark.	120·994	120·998

Main-Line 50. (Shikarpur (Cutch) to Viramgam).

Designation of Bench-marks			Distance from Shikarpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
6		BM.32 / 41 I	29·4	G.T.S. B.M. On W. plinth of Mahadeo's temple, about 250 feet E. of E. gate of town of Adesir on bank of a tank called Karari. There is a dharmshala attached to temple due N. of it.	111·504	111·507
	1/6	BM.33 / 41 I	32·3	On upper surface of circular pilllar of Pata-i-Shah G. T. Survey Hill Station, lat. 23° 33′ 24″·78, long. 70° 56 41″·54. A principal station of Kathiawar Meridional Series. (For full description *see* Synoptical Volume).	283·394	283·402
7		BM.3 / 41 M	31·6	G.T.S. B.M. at Adesir. Embedded about 100 yards S.E. of Bhamansir Talao, about 2 miles E. of town. The cart road from Adesir to Piprala passes about 60 yards N. of bench-mark on grazing ground. The following bearings were taken at bench-mark:—Town of Adesir 213°; Nanda village 103°; Mora village 337°; Piprala village 47°. A pakka pillar 5 feet high stands about 8 feet S.E. of bench-mark.	72·236	72·238
8		BM.4 / 41 M	34·3	Peg on W. end of Rann flush with ground between Adesir and Piprala. From peg the following bearings were taken:—Nanda village tower 122°; B.M. No. 1/6 242°; Upright stone on small hill about 2 miles off 236°; Perpendicular bank on opposite edge of Rann 20°.	14·496	14·496
9		BM.5 / 41 M	36·3	Peg on E. end of Rann flush with ground between Adesir and Piprala. The following bearings were taken at it: Nanda village tower 145°; Adesir Town 227°; B.M. No. 1/6 238°; Hill Mark on flat-topped hill jutting out into Rann 283°.	18·038	18·038
10		BM.6 / 41 M	39·1	G.T.S. B.M. 1874 at Piprala. Embedded about 9 inches below surface of ground, about 100 yards W of Piprala village on bank of Kanahar Talao. A dilapidated temple is about 15 feet E. of bench-mark. A masonry pillar 5 feet high stands 8 feet E. of bench-mark. The village of Piprala is in Chorar Taluka, Palanpur State.	57·018	57·019
11		BM.7 / 41 M	48·8	G.T.S. B.M. at Santalpur. Embedded about 6 inches below high ground level, about ½ mile E. of Santalpur village and about 200 yards S. of small village of Kalianpur. A large conspicuous temple called Morji-ka-Dehri is 8 feet E. of bench-mark. The letters G.T.S. B.M. are stamped on wall of temple.	69·011	69·012
	a/11	BM.8 / 41 M	48·8	G.T.S. B.M. On a smooth stone in middle of Morji-ka-Dehri, about 200 yards S. of Kalianpur and about ½ mile E. of Santalpur.	72·273	72·274
12		BM.9 / 41 M	62·4	G.T.S. B.M. at Gokatar. Embedded 6 inches below surface of ground, about 100 yards N.W. of village and N.E. of Kandodi Talao. A masonry pillar about 5 feet high stands about 8 feet W. of bench-mark. The village of Gokatar is in Waori Taluka, Palanpur State.	35·999	36·000

Main-Line 50. (Shikarpur (Cutch) to Viramgam).

Designation of Bench-marks		Distance from Shikarpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
13	BM.10 / 41 M	73·3	G.T.S. □ B.M. at Vehar. Embedded about 6 inches below surface of ground, about 100 yards E. of village and about 20 yards W. of Hanuman's temple. The cart road from Vehar to Budhra passes a few feet N. of bench-mark. A masonry pillar 5 feet high stands 8 feet E. of bench-mark. The village of Vehar is in Radhanpur Taluka, Palanpur State.	64·067	64·069
a / 13	BM.11 / 41 M	73·6	G.T.S. ○ B.M. On S.W. corner of platform at entrance to Bhamaria's pakka well in bed of Nabisar Talao, about ¼ mile E. of Vehar village. On bank of Nabisar Talao is an ancient minaret. It consists of a masonry pillar about 30 feet high having a circumference of 30 feet at base and about 15 feet at summit.	54·688	54·690
14	BM.12 / 41 M	86·8	G.T.S. □ B.M. at Surel. Embedded about 6 inches below surface of ground within enclosure of Hanuman's temple, 8 feet S. of bench-mark and about 100 yards E. of village of Surel. The letters G.T.S. B.M. are cut on N. wall of temple. Surel village is in Jhinjhuwara Taluka, Jhalawad District.	68·000	68·002
a / 14	BM.13 / 41 M	86·8	G.T.S. ○ B.M. On N. part of platform of Hanuman's temple, about 100 yards E. of village of Surel. Surel village is in Jhinjhuwara Taluka, Jhalawad District.	71·380	71·383
b / 14	BM.14 / 41 M	87·9	On upper surface of pillar of Surel Station. This trigonometrical station is situated on bank of Katsar Talao, about ¾ mile S. of village of Surel. This is a secondary station consisting of a rectangular pillar 3½ feet high of Kathiawar net-work triangulation.	79·245	79·248
15	BM.15 / 41 M	98·8	G.T.S. □ B.M. at Nagwara. Embedded about 6 inches below surface of ground, about 100 yards E. of village and 50 feet W. of a pakka well called Selarno-Kua. About 50 feet S. of bench-mark are two masonry pillars about 12 feet long, 6 feet broad and 12 feet high. Nagwara village is in Jhinjhuwara Taluka, Jhalawad District. A masonry pillar about 5 feet high stands about 8 feet E. of bench-mark.	64·333	64·336
16	BM.16 / 41 M	109·9	G.T.S. □ B.M. at Patri. Embedded about 6 inches below ground level within enclosure of railway station, between Viramgam and Kharaghoda, about 200 feet N.E. of station. A masonry pillar 5 feet high stands 8 feet E. of bench-mark.	44·525	44·528
1 / 16	BM.17 / 41 M	109·9	Rail opposite booking office of Patri Railway Station.	42·671	42·673
2 / 16	BM.18 / 41 M	111·2	Upper flange of girder of bridge No. 32 of B.B. and C.I. Railway between Patri and Kharaghoda.	33·685	33·687

Main-Line 50. (Shikarpur (Cutch) to Viramgam).

Designation of Bench-marks		Distance from Shikarpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
3/16	BM.19/41 M	111·4	Upper flange of girder of bridge No. 33 of B.B. and C.I. Railway between Patri and Kharaghoda	33·282	33·284
4/16	BM.20/41 M	112·8	Upper flange of girder of bridge No. 34 of B.B. and C.I. Railway between Patri and Kharaghoda.	29·804	29·806
5/16	BM.21/41 M	113·3	Upper flange of girder of bridge No. 35 of B.B. and C.I. Railway between Patri and Kharaghoda.	35·714	35·716
6/16	BM.22/41 M	113·7	Upper flange of girder of bridge No. 36 of B.B. and C.I. Railway between Patri and Kharaghoda.	31·391	31·393
7/16	BM.23/41 M	113·9	Upper flange of girder of bridge No. 37 of B.B. and C.I. Railway between Patri and Kharaghoda.	30·866	30·868
8/16	BM.24/41 M	114·9	G.T.S. □ B.M. at Kharaghoda. Embedded a few inches below ground, about 200 yards S E. of salt shed and about 200 feet E. of railway station. A masonry pillar 5 feet high stands 8 feet N. of bench-mark.	35·280	35·282
17	BM.25/41 M	110·4	Upper flange of girder of bridge No. 29 of B.B. and C.I. Railway between Patri and Viramgam.	42·420	42·422
18	BM.26/41 M	110·6	Upper flange of girder of bridge No. 28 of B.B. and C.I. Railway between Patri and Viramgam.	43·398	43·400
19	BM.27/41 M	110·9	Upper flange of girder of bridge No. 27 of B.B. and C.I. Railway between Patri and Viramgam.	44·133	44·135
20	BM.28/41 M	111·3	Upper flange of girder of bridge No. 26 of B.B. and C.I. Railway between Patri and Viramgam.	45·836	45·839
21	BM.29/41 M	111·6	Upper flange of girder of bridge No. 25 of B.B. and C.I. Railway between Patri and Viramgam.	46·933	46·936
22	BM.30/41 M	112·8	Upper flange of girder of bridge No. 22 of B.B. and C.I. Railway between Patri and Viramgam.	49·468	49·471
23	BM.31/41 M	114·2	Upper flange of girder of bridge No. 19 of B.B. and C.I. Railway between Patri and Viramgam.	53·901	53·904
24	BM.32/41 M	115·5	Upper flange of girder of bridge No. 17 of B.B. and C.I. Railway between Patri and Viramgam.	57·463	57·466
25	BM.33/41 M	115·7	Upper flange of girder of bridge No. 16 of B.B. and C.I. Railway between Patri and Viramgam.	58·432	58·435
26	BM.34/41 M	117·5	Upper flange of girder of bridge No. 13 of B.B. and C.I. Railway between Patri and Viramgam.	71·912	71·916

Main-Line 50. (Shikarpur (Cutch) to Viramgam).

Designation of Bench-marks		Distance from Shikarpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
27	BM.35 / 41 M	119·3	G.T.S. □ B.M. at Jhund Railway Station. Embedded about 6 inches below surface of ground within railway enclosure, about 50 feet S.E. of station and 15 feet S.W. of gate-keeper's house. A wooden railing running E. and W., dividing railway station from outer enclosure, is immediately N. of bench-mark. A masonry pillar about 5 feet high stands at 8 feet E. of bench-mark.	73·923	73·927
28	BM.36 / 41 M	119·3	Rail opposite booking office of Jhund railway station, B.B. and C.I. Railway, between Patri and Viramgam.	78·006	78·010
29	BM.37 / 41 M	120·1	Upper flange of girder of bridge No. 11 of B.B. and C.I. Railway between Patri and Viramgam.	77·989	77·993
30	BM.38 / 41 M	120·7	Upper flange of girder of bridge No. 10 of B.B. and C.I. Railway between Patri and Viramgam.	79·649	79·654
31	BM.39 / 41 M	121·7	Upper flange of girder of bridge No. 8 of B. B. and C.I. Railway between Patri and Viramgam.	82·434	82·439
32	BM.40 / 41 M	122·1	Upper flange of girder of bridge No. 7 of B. B. and C.I. Railway between Patri and Viramgam.	83·885	83·890
33	BM.41 / 41 M	122·8	Upper flange of girder of bridge No. 6 of B. B. and C.I. Railway between Patri and Viramgam.	87·073	87·078
34	BM.42 / 41 M	123·3	Upper flange of girder of bridge No. 4 A of B.B. and C.I. Railway between Patri and Viramgam.	87·935	87·940
35	BM.2 / 46 A	123·8	Upper flange of girder of bridge No. 4 of B. B. and C.I. Railway between Patri and Viramgam.	88·401	88·406
36	BM.3 / 46 A	124·8	Upper flange of girder of bridge No. 3 of B. B. and C.I. Railway between Patri and Viramgam.	90·491	90·496
37	BM.4 / 46 A	125·6	Upper flange of girder of bridge No. 2 of B.B. and C.I. Railway between Patri and Viramgam.	92·137	92·142
38	BM.1 / 46 A	127·6	G.T.S. □ B.M. at Viramgam. Embedded in ground on foot-path close to wall of town, 10 feet N. of wall and 1 chain W. of W. side of doorway of Gulwadi gate, from which there is a pakka road to railway station. The letters G.T.S. B.M. are cut on wall opposite bench-mark.	89·537	89·542

Main-Line 51. (Viramgam to Bombay).

Designation of Bench-marks			Distance from Viramgam	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.1 / 46 A	0·0	G.T.S. □ B.M. at Viramgam. Embedded in ground on foot-path close to wall of town, 10 feet N. of wall and 1 chain W. of W. side of doorway of Gulwadi gate, from which there is a pakka road to railway station. The letters G.T.S. B.M. are cut on wall opposite bench-mark.	89·537	89·542
2		BM.5 / 46 A	0·4	The northerly rail of main line opposite centre of booking office at Viramgam Station of B.B. and C.I. Railway.	93·875	93·881
3		BM.6 / 46 A	2·1	G.T.S. ○ B.M. On coping of S. side of E. abutment of bridge No. 88, 8 chains E. of railway mile-post No. 348 between Viramgam and Ahmedabad.	96·298	96·304
	1/3	BM.7 / 46 A	3·9	On upper mark-stone on top of tower of Hasalpur G.T. Survey Tower Station, lat. 23° 5′ 3″·88, long. 72° 4′ 33″·11. A principal station of Gujarat Longitudinal Series. (For full description *see* Synoptical Volume).	132·813	132·821
4		BM.8 / 46 A	5·3	G.T.S. ○ B.M. On N. parapet of culvert No. 81 of B.B. and C.I. Railway.	101·648	101·654
5			7·7	Destroyed.	102·796	102·802
6		BM.9 / 46 A	8·4	G.T.S. ○ B.M. On S. coping of W. abutment of 1st bridge after mile-post No. 342.	109·368	109·375
7		BM.10 / 46 A	11·8	G.T.S. ○ B.M. On N. parapet of culvert No. 63 between Viramgam and Ahmedabad.	110·531	110·538
8		BM.11 / 46 A	13·9	G.T.S. ○ B.M. On S. side of W. abutment of bridge No. 56 between Viramgam and Ahmedabad.	114·647	114·654
	1/8	BM.12 / 46 A	15·3	On mark-stone on top of tower of Khoraj G. T. Survey Tower Station, lat. 23° 1′ 59″·23, long. 72° 14′ 10″·76. A principal station of Gujarat Longitudinal Series. (For full description *see* Synoptical Volume).	131·664	131·672
	a/8	BM.13 / 46 A	16·1	G.T.S. □ B.M. at Chharodi Railway Station. Embedded about 6 inches below ground level, in a line with back wall and 21 feet W. of S.W. corner of railway station.	107·006	107·013
9		BM.14 / 46 A	19·0	G.T.S. ○ B.M. On S. side of E. abutment of bridge No. 32 between Viramgam and Ahmedabad.	119·914	119·922
10		BM.15 / 46 A	22·3	G.T.S. ○ B.M. On coping of W. side of S. abutment of bridge No. 24 between Viramgam and Ahmedabad.	134·308	134·317

Main-Line 51. (Viramgam to Bombay).

Designation of Bench-marks			Distance from Viramgam	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	1/10	BM.1 / 46 B	24·6	On mark-stone on top of tower of Sanand G.T. Survey Tower Station, lat. 22° 59′ 28″·45, long. 72° 22′ 11″·36. A principal station of Gujarat Longitudinal Series. (For full description *see* Synoptical Volume).	163·216	163·227
11		BM.16 / 46 A	23·2	Rail opposite booking office of Sanand Railway Station.	135·376	135·385
12			23·3	Destroyed.	130·929	130·938
	1/12	BM.17 / 46 A	40·8	⊤ On cornice of E. abutment of Kalapuri gate at Ahmedabad.	169·399	169·410
	1a/12	BM.18 / 46 A	41·2	On S.W. corner of W. abutment of Prembai's gate at Ahmedabad.	166·622	166·633
	1b/12	BM.19 / 46 A	41·5	G.T.S. ○ B.M. On N.E. platform outside Daryapur gate, and to right of flight of steps which leads into doorway, about 25 feet E. of gate.	164·220	164·231
	1c/12	BM.20 / 46 A	41·9	On S.E. corner of Delhi gate at Ahmedabad.	160·851	160·862
	1d/12	BM.21 / 46 A	42·4	↗ On S.E. corner of abutment, inside Shahpur gateway at Ahmedabad.	166·169	166·180
13		BM.22 / 46 A	28·1	G.T.S. ○ B.M. On coping of S. side of W. abutment of bridge No. 15 between Viramgam and Ahmedabad, close to mile-post No. 322.	154·377	154·387
14		BM.23 / 46 A	29·2	G.T.S. ○ B.M. On S. coping of W. abutment of bridge No. 12 between Viramgam and Ahmedabad.	159·859	159·869
15			30·5	Destroyed.	162·167	162·177
16		BM.24 / 46 A	32·2	G.T.S. ○ B.M. On S. side of W. abutment of bridge No. 8 between Viramgam and Ahmedabad.	173·616	173·627
17		BM.25 / 46 A	33·8	G.T.S. ○ B.M. On S. side of E. abutment of bridge No. 6 between Viramgam and Ahmedabad.	180·582	180·593
	1/17	BM.26 / 46 A	35·5	On mark-stone on top of tower of Sola G. T. Survey Tower Station, lat. 23° 5′ 17″·06, long. 72° 31′ 20″·37. A principal station of Gujarat Longitudinal Series. (For full description *see* Synoptical Volume).	241·625	241·640
18		BM.27 / 46 A	36·2	G.T.S. ○ B.M. On N. coping of W. abutment of bridge No. 4 between Viramgam and Ahmedabad.	187·269	187·281

Main-Line 51. (Viramgam to Bombay).

Designation of Bench-marks			Distance from Viramgam	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
19		BM.28 / 46 A	37·8	Westerly rail of old main line opposite booking office at Sabarmati Railway Station.	167·374	167·385
20		BM.29 / 46 A	38·5	G.T.S. ○ B.M. On E. side of top step of flight of steps leading to main entrance to Shahibag at Ahmedabad.	175·161	175·172
21		BM.30 / 46 A	40·9	Rail nearest to and opposite door of booking office at Ahmedabad Railway Station.	166·808	166·819
22		BM.31 / 46 A	41·0	G.T.S. □ B.M. at Ahmedabad Railway Station. Embedded 1 foot below ground level, about 200 feet S. of railway station, between two minarets of an old gateway, and 5 feet from S. minaret on which letters G.T.S. B.M. are inscribed.	167·714	167·725
	1 / 22	BM.2 / 46 B	51·4	On upper surface of rectangular pillar of Aslali Station. This trigonometrical station is situated about ¾ mile S. of Aslali village and about 400 yards W. of cart road from Aslali to Jetapur. The station is in the lands of Aslali village, Daskrohi Taluka, Ahmedabad District.	123·128	123·136
	1a / 22	BM.3 / 46 B	52·0	Cross + on well of Aslali village in field No. 1113, Daskrohi Taluka, Ahmedabad District.	122·820	122·828
	a / 22	BM.4 / 46 B	49·9	On mark-stone on top of pillar of Vastral G.T. Survey Hill Station, lat. 22° 59′ 27″·91, long. 72° 40′ 6″·79. A principal station of Gujarat Longitudinal Series .(For full description *see* Synoptical Volume).	229·052	229·067
23		BM.5 / 46 B	48·0	G.T.S. ○ B.M. On middle coping of N. abutment of bridge No. 713 betwcen Ahmedabad and Surat.	134·870	134·880
24		BM.6 / 46 B	50·2	G.T.S. ○ B.M. On middle coping of S. abutment of bridge No. 709 between Ahmedabad and Surat.	126·179	126·188
25		BM.7 / 46 B	51·5	Rail opposite booking office of Barajri Railway Station.	120·952	120·961
26			51·5	Destroyed	122.493	122·502
27			51·5	Destroyed	124·280	124·289
28		BM.8 / 46 B	53·8	G.T.S. ○ B.M. On W. parapet of bridge No. 701 from Ahmedabad to Surat.	116·477	116·486
29		BM.9 / 46 B	55·0	Top of rail at N. end of girder of bridge No. 699 over Meswo river.	119·016	119·025
30		BM.10 / 46 B	57·5	Top of rail in middle of girder of bridge No. 695 over Watrak river.	115·336	115·345
31		BM.11 / 46 B	57·9	G.T.S. ○ B.M. On coping of E. side of S. abutment of bridge No. 693.	111·150	111·159

Main-Line 51. (Viramgam to Bombay).

Designation of Bench-marks			Distance from Viramgam	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	1/81	BM.12/46 B	62·8	On top of circular pillar of Jinjhar G.T. Survey Hill Station, lat. 22° 53′ 10″·53, long. 72° 45′ 34″·36. A principal station of Gujarat Longitudinal Series. (For full description *see* Synoptical Volume).	212·588	212·605
32			58·5	Destroyed.	113·672	113·681
33		BM.13/46 B	58·6	Rail opposite booking office at Mehmadabad Railway Station.	112·025	112·034
34			58.6	Destroyed.	112·918	112·927
35			63·7	Destroyed.	103·213	103·222
36			65·7	Destroyed.	107·123	107·132
37			67·2	Destroyed.	110·723	110·733
38			69·7	Destroyed.	119·268	119·278
39		BM.14/46 B	69·7	Rail opposite booking office at Nariad Railway Station.	116·373	116·383
40			69·9	Destroyed.	116·450	116·460
41			71·2	Destroyed.	121·425	121·436
42			73·9	Destroyed.	122·103	122·114
43			75·9	Destroyed.	124·311	124·323
44		BM.15/46 B	76·3	Rail opposite booking office at Boriavi Railway Station.	124·917	124·929
45			76·8	Destroyed.	125·172	125·184
46		BM.16/46 B	78·9	G.T.S. ○ B.M. On E. parapet of bridge No. 652 between Ahmedabad and Surat.	132·181	132·194
47		BM.17/46 B	79·4	G.T.S. ○ B.M. On E. parapet of bridge No. 650 between Ahmedabad and Surat, and 30 feet S. of mile-post No. 271.	132·808	132·821
48			80·3	Destroyed.	133·323	133·336
49			81·0	Destroyed.	140·975	140·989
50		BM.18/46 B	81·0	G.T.S. □ B.M. at Anand Railway Station. Embedded about 6 inches below ground level, within station enclosure, about 10 feet N. of telegraph office, on end wall of which letters G.T.S. B.M. are cut.	140·710	140·724

Main-Line 51. (Viramgam to Bombay).

Designation of Bench-marks		Distance from Viramgam	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
51	BM.19 / 46 B	81·1	Rail opposite booking office at Anand Railway Station.	137·391	137·404
52	BM.20 / 46 B	82·9	G.T.S. B.M. On E. parapet of bridge No 644 between Ahmedabad and Surat.	145·535	145·549
53	BM.1 / 46 F	85·1	Rail opposite booking office at Nauli Railway Station.	136·416	136·430
54	BM.2 / 46 F	85·8	G.T.S. B.M. On E. parapet of bridge No. 637 between Ahmedabad and Surat.	137·009	137·023
55	BM.3 / 46 F	87·2	G.T.S. B.M. On E. parapet of culvert No. 634 between Ahmedabad and Surat.	133·862	133·876
56	BM.4 / 46 F	88·0	G.T.S. B.M. On E. parapet of bridge No. 632 between Ahmedabad and Surat.	131·792	131·805
57		90·7	Destroyed.	123·352	123·365
58	BM.5 / 46 F	90·7	Rail opposite booking office at Vasad Railway Station.	122·684	122·697
59	BM 6 / 46 F	92·0	Rail of Mahi bridge, between Vasad and Baroda railway stations.	103·948	103·959
60	BM 7 / 46 F	94·1	G.T.S. B.M. On E. parapet of bridge No. 619 between Ahmedabad and Surat.	121·858	121·871
61	BM.8 / 46 F	95·7	G.T.S. B.M. On E. parapet of bridge No. 614 between Ahmedabad and Surat.	125·159	125·172
62	BM.9 / 46 F	97·2	G.T.S. B.M. On E. parapet of bridge No. 610 between Ahmedabad and Surat.	125·855	125·869
63		97·7	Destroyed.	124·535	124·549
64		98·0	Destroyed.	121·549	121·562
65	BM.10 / 46 F	98·4	Rail opposite booking office at Bajuva Railway Station.	120·946	120·959
66	BM.11 / 46 F	99·4	G.T.S. B.M. On E. parapet of culvert No. 602 close to level crossing No. 238.	119·038	119·051
67	BM.12 / 46 F	101·0	G.T.S. B.M. On E. parapet of culvert No. 597.	119·329	119·342
68		102·3	Destroyed.	114·228	114·241

Main-Line 51. (Viramgam to Bombay).

Designation of Bench-marks			Distance from Viramgam	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	1/68	BM.13 / 46 F	102·7	G.T.S. ○ B.M. On coping of N. parapet of bridge on main road in Baroda camp, 200 yards N.E. of Residency bungalow, and 150 feet N. of a conspicuous boundary pillar.	114·431	114·444
	2/68	BM.14 / 46 F	103·5	G.T.S. □ B.M. at Baroda Cantonment. Embedded about 6 inches below ground outside wall surrounding Powder Magazine in Baroda camp, 8 feet W. of its N.W. corner and same distance S. of sentry box, which is situated at its N.W. corner. The letters B.M. are cut on wall and on sentry box.	114·019	114·032
69		BM.15 / 46 F	103·1	G.T.S. □ B.M. at Baroda Railway Station. Embedded 9 inches below surface of ground, 8 feet N. of N.W. corner of building in which the Gaekwar's State carriage is kept, and about 66 feet S.E. of water tank. The letters G.T.S. B.M. are cut on N. wall of building near which bench-mark is embedded.	112·015	112·028
	1/69	BM.16 / 46 F	105·4	G.T.S. ○ B.M. On pavement immediately below clock Tower at Baroda, 1 foot W. of S.E. pillar which supports central dome on which tower is built.	123·351	123·365
	a/69	BM.17 / 46 F	103·8	G.T.S. ○ B.M. On S.W. corner of Mahadeo's temple, Baroda, 100 yards E. of bridge crossing Vishwamitra river, and 20 feet N. of main road from town to railway station.	110·624	110·637
	b/69	BM.18 / 46 F	105·4	Baroda Clock Tower G. T. Station. This point is immediately above bell from which observations were taken in connection with Gujarat minor triangulation.	200·213	200·236
70		BM.19 / 46 F	103·2	Rail opposite booking office at Baroda Railway Station.	113·734	113·747
71		BM.20 / 46 F	103·7	G.T.S. ○ B.M. On E. parapet of bridge No. 588, about ¼ mile S. of Baroda railway station between Baroda and Surat.	112·749	112·762
72		BM.21 / 46 F	105·1	G.T.S. ○ B.M. On E. parapet of bridge No. 584, between Baroda and Surat.	108·523	108·535
73		BM.22 / 46 F	106·6	G.T.S. ○ B.M. On well, about 11 chains S. of level crossing No. 231.	103·654	103·666
74		BM.23 / 46 F	107·7	G.T.S. ○ B.M. On E. parapet of bridge No. 578.	96·475	96·486
75		BM.24 / 46 F	109·4	G.T.S. ○ B.M. On E. parapet of bridge No. 574 near mile-post No. 241.	88·295	88·305
76		BM.25 / 46 F	111·9	G.T.S. ○ B.M. On E. parapet of bridge No. 568.	83·783	83·793
77		BM.26 / 46 F	112·4	G.T.S. ○ B.M. On E. parapet of bridge No. 566.	83·973	83·983

Main-Line 51. (Viramgam to Bombay).

Designation of Bench-marks		Distance from Viramgam	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
78	BM.27 / 46 F	114·2	G.T.S. ○ B.M. On E. parapet of bridge No. 562, about 200 yards N. of Itola Railway Station.	86·726	86·737
79	BM.28 / 46 F	114·3	G.T.S. □ B.M. at Itola Railway Station. Embedded 6 inches below surface of ground within station enclosure, 8 feet N. of station master's private room on end wall of which letters G.T.S. B.M. are cut.	86·600	86·611
80	BM.29 / 46 F	114·4	Rail opposite booking office at Itola Railway Station.	85·930	85·941
81	BM.30 / 46 F	115·7	G.T.S. ○ B.M. On E. parapet of bridge No. 557.	84·679	84·690
82	BM.31 / 46 F	117·6	G.T.S. ○ B.M. On bridge No. 553.	79·505	79·515
83	BM.32 / 46 F	117·7	G.T.S. ○ B.M. On E. parapet of bridge No. 552.	79·774	79·784
84	BM.33 / 46 F	119·0	G.T.S. ○ B.M. On N.W. corner of N. abutment of bridge No. 545.	78·883	78·893
85	BM.34 / 46 F	120·1	G.T.S. ○ B.M. On N. abutment of bridge No. 543.	83·233	83·244
86	BM.35 / 46 F	121·5	Rail opposite booking office at Miyagam Railway Station.	89·093	89·105
87	BM.36 / 46 F	121·6	G.T.S. □ B.M. at Miyagam Railway Station. Embedded 6 inches below surface of ground at S. end of station, 8 feet S. of S. wall of water closet on which letters G.T.S. B.M. are cut.	91·635	91·647
88	BM.37 / 46 F	122·9	G.T.S. ○ B.M. On E. parapet of bridge No. 540.	85·658	85·669
89	BM.38 / 46 F	123·7	G.T.S. ○ B.M. On E. parapet of bridge No. 538.	84·741	84·752
90	BM.1 / 46 G	125·8	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge No. 535.	84·341	84·352
91	BM.2 / 46 G	128·7	G.T.S. ○ B.M. On E. parapet of N. abutment of bridge No. 531.	84·682	84·694
92	BM.3 / 46 G	129·2	G.T.S. ○ B.M. On E. parapet of N. abutment of bridge No. 530.	85·408	85·420

Main-Line 51. (Viramgam to Bombay).

Designation of Bench-marks		Distance from Viramgam	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
93	BM.4 / 46 G	130·9	G.T.S. □ B.M. at Palej Railway Station. Embedded 6 inches below surface of ground within enclosure of station, 8 feet S. of S.E. corner of permanent way inspector's bungalow, E. of railway line, and about 200 yards N. of railway station. The letters G.T.S. B.M. are cut on end wall of P.W.I's bungalow.	79·606	79·617
94	BM.5 / 46 G	131·1	Rail opposite booking office of Palej Railway Station.	81·711	81·722
95	BM.6 / 46 G	131·3	G.T.S. ○ B.M. On W. parapet of S. abutment of bridge No. 529 near mile-post No. 219.	82·314	82·325
96	BM.7 / 46 G	134·0	G.T.S. ○ B.M. On E. parapet of centre abutment of bridge No. 526.	73·009	73·019
97	BM.8 / 46 G	135·7	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge No. 522.	67·650	67·660
98	BM.9 / 46 G	137·2	G.T.S. ○ B.M. On W. parapet of bridge No. 518.	65·686	65·696
99	BM.10 / 46 G	138·7	G.T.S. ○ B.M. On W. parapet of bridge No. 513.	64·669	64·678
100	BM.11 / 46 G	139·2	G.T.S. □ B.M. at Chamargam Railway Station. Embedded a few inches below ground level, about 8 feet N. of N.E. corner of station house and 8 feet E. of wooden railing which separates bench-mark from signaller's room.	64·808	64·817
101	BM.12 / 46 G	139·3	Rail opposite booking office at Chamargam Railway Station.	64·437	64·446
102	BM.13 / 46 G	139·7	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge No. 511.	64·468	64·477
103	BM.14 / 46 G	142·5	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 508.	65·109	65·119
104	BM.15 / 46 G	144·2	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge No. 507 near mile-post No. 206.	64·105	64·115
105	BM.16 / 46 G	145·8	G.T.S. ○ B.M. On coping of W. parapet of S. abutment of bridge No. 505.	59·551	59·560
106	BM.17 / 46 G	146·8	Rail opposite booking office at Broach Railway Station.	52·889	52·897
107	BM.18 / 46 G	146·8	G.T.S. □ B.M. at Broach Railway Station. Embedded 6 inches below ground level, outside wooden fencing at S. end of railway station in angle formed by it and latrine. The W. wall of latrine is 8 feet from bench-mark.	57·576	57·585

Main-Line 51. (Viramgam to Bombay).

Designation of Bench-marks			Distance from Viramgam	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
108		BM.19 / 46 G	146·9	G.T.S. ○ B.M. On E. parapet of bridge No. 503, about 100 yards S. of Broach Railway Station.	53·309	53·317
109		BM.20 / 46 G	147·1	Rail at Narbada bridge.	51·006	51·014
110			147·8	Destroyed.	25·269	25·273
111		BM.21 / 46 G	151·3	G.T.S. ○ B.M. On E. parapet of bridge No. 499.	48·660	48·668
112		BM.22 / 46 G	152·4	Rail opposite booking office at Anklesvar Railway Station.	58·633	58·642
113			152·5	Destroyed.	57·357	57·366
114		BM.22 / 46 C	153·1	G.T.S. ○ B.M. On E. parapet of N. abutment of bridge No. 494.	59·407	59·416
	1 / 114	BM.23 / 46 G	155·9	On top of rectangular protecting pillar of Bharkodra G. T. Survey Hill Station, lat. 21° 36′ 24″·76, long. 73° 2′ 24″·51. A secondary station of Singi Meridional Series. (For full description *see* Synoptical Volume).	119·033	119·052
115		BM.23 / 46 C	156·5	G.T.S. ○ B.M. On S. abutment of bridge No. 490 near mile-post No. 194.	72.787	72·799
116		BM.24 / 46 C	157·8	G.T.S. ○ B.M. On S. abutment of bridge No. 488.	84·804	84·818
117		BM.25 / 46 C	158·8	Rail opposite booking office at Panoli Railway Station.	90·108	90·123
118			158·8	Destroyed.	91·390	91·405
119		BM.26 / 46 C	160·2	G.T.S. ○ B.M. On W. parapet of bridge No. 483, 6 chains from mile-post No. 190.	93·326	93·341
120		BM.27 / 46 C	161·4	Rail 3 miles S. of Panoli Railway Station.	104·662	104·679
121		BM.28 / 46 C	161·4	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge No. 481.	104·767	104·784
122		BM.29 / 46 C	166·4	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 480, about 8 chains S. of mile-post No. 184.	59·549	59·559
123		BM.30 / 46 C	167·0	G.T.S. ○ B.M. On E. parapet of N. abutment of bridge No. 478.	59·857	59·867
124		BM.31 / 46 C	168·3	G.T.S. ○ B.M. On E. parapet of bridge No. 475.	55·690	55·700

Main-Line 51. (Viramgam to Bombay).

Designation of Bench-marks			Distance from Viramgam	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
125		BM.32 / 46 C	168·6	G.T.S. □ B.M. at Kim Railway Station. Embedded 6 inches below surface of ground at N. end of station, within wooden railing, 10 feet N. of N.W. corner of station and same distance S. of wooden railing which divides station from out-houses.	58·575	58·585
126		BM.33 / 46 C	168·7	Rail opposite booking office at Kim Railway Station.	57·370	57·380
127		BM.34 / 46 C	170·0	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 473.	58·414	58·424
128		BM.35 / 46 C	174·9	Rail opposite booking office at Sayan Railway Station.	60·938	60·949
129		BM.36 / 46 C	174·9	G.T.S. □ B.M. at Sayan Railway Station. Embedded 6 inches below surface of ground within railway enclosure, 8 feet S. of S.E. corner of station, and 16 feet W. of wooden railing which divides platform from back premises of station. The letters B.M. are cut on S. wall of station just below window sill.	62·267	62·278
130		BM.37 / 46 C	175·9	G.T.S. ○ B.M. On E. parapet of bridge No. 469.	61·044	61·055
131		BM.38 / 46 C	178·3	G.T.S. ○ B.M. On upper flat surface of E. parapet of S. abutment of bridge No. 464.	53·750	53·760
132		BM.39 / 46 C	179·7	G.T.S. ○ B.M. On E. parapet of N. abutment of bridge No. 458.	55·766	55·776
133		BM.40 / 46 C	180·8	G.T.S. ○ B.M. On E. parapet of N. abutment of bridge No. 454.	55·191	55·201
134		BM.41 / 46 C	181·2	Rail opposite booking office at Amroli Railway Station.	56·038	56·048
135		BM.42 / 46 C	181·6	Rail of Tapti bridge.	57·460	57·470
136		BM.43 / 46 C	183·0	G.T.S. ○ B.M. On W. parapet of bridge No. 450.	56·151	56·161
137		BM.44 / 46 C	183·4	Rail opposite booking office at Surat Railway Station.	53·209	53·219
138			183·4	Destroyed.	55·244	55·254
	1 / 138	BM.45 / 46 C	183·6	G.T.S. ○ B.M. On lower step of S. entrance to Botliwala's dharmshala, 300 yards W. of Surat Railway Station.	39·381	39·388
	2 / 138	BM.46 / 46 C	184·3	G.T.S. ○ B.M. On centre of lowest step of N. entrance to Surat Clock Tower.	37·761	37·768

Main-Line 51. (Viramgam to Bombay).

Designation of Bench-marks		Distance from Viramgam	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
139	BM.47 / 46 C	184·2	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge No. 444.	48·585	48·594
140	BM.48 / 46 C	185·5	G.T.S. ○ B.M. On E. parapet of bridge No. 438.	35·417	35·424
141	BM.49 / 46 C	186·4	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge No. 436, 1 chain S. of mile-post No. 164.	44·256	44·264
142	BM.50 / 46 C	187·8	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge No. 433.	42·120	42·128
143	BM.51 / 46 C	188·9	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge No. 431.	42·750	42·758
144	BM.52 / 46 C	189·4	On rail, 1 chain S. of mile-post No. 161 and 6 miles from Surat towards Bombay.	41·729	41·737
145	BM.53 / 46 C	190·4	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge No. 427.	36·776	36·783
146	BM.54 / 46 C	191·3	On rail opposite mile-post No. 159 and 8 miles from Surat towards Bombay.	41·239	41·247
147	BM.55 / 46 C	192·0	G.T.S. ○ B.M. On E. parapet of bridge No. 423.	38·270	38·277
148	BM.56 / 46 C	192·4	Rail nearest to and opposite centre of booking office at Sachin Railway Station.	36·180	36·187
149		192·4	Destroyed.	36·601	36·608
150	BM.57 / 46 C	193·0	G.T.S. ○ B.M. On W. parapet of S. abutment of bridge No. 419.	33·118	33·124
151	BM.58 / 46 C	196·0	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge No. 413.	40·219	40·227
152	BM.59 / 46 C	196·4	Rail nearest to and opposite centre of booking office at Maroli Railway Station.	42·285	42·293
153		196·4	Destroyed.	38·759	38·767
154	BM.1 / 46 D	198·3	G.T.S. ○ B.M. On W. parapet of S. abutment of bridge No. 411.	30·872	30·878
155	BM.2 / 46 D	200·0	G.T.S. ○ B.M. On E. parapet of bridge No. 403.	23·146	23·151
156		201·6	Destroyed.	34·412	34·419

Main-Line 51. (Viramgam to Bombay).

Designation of Bench-marks		Distance from Viramgam	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
157	BM.3 / 46 D	201·6	Rail nearest to and opposite centre of booking office at Nausari Railway Station.	33·341	33·348
158	BM.4 / 46 D	202·3	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge No. 396 opposite mile-post No. 148.	38·230	38·238
159	BM.5 / 46 D	203·3	G.T.S. ○ B.M. On E. parapet of bridge No. 393.	49·753	49·763
160	BM.6 / 46 D	205·3	G.T.S. ○ B.M. On E. parapet of bridge No. 389, 2 chains N. of mile-post No. 145.	43·312	43·321
161	BM.7 / 46 D	206·7	G.T.S. ○ B.M. On E. parapet of bridge No. 385.	43·729	43·738
162	BM.8 / 46 D	207·9	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge No. 382.	51·340	51·350
163	BM.9 / 46 D	210·2	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge No. 376.	46·503	46·513
164	BM.10 / 46 D	210·7	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge No. 375.	43·659	43·668
165	BM.11 / 46 D	211·4	Rail nearest to and opposite centre of booking office at Amalsad Railway Station.	37·566	37·574
166		211·4	Destroyed.	39·273	39·281
167	BM.12 / 46 D	212·2	G.T.S. ○ B.M. On W. parapet of bridge No. 371.	28·804	28·810
168	BM.13 / 46 D	212·9	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge No. 369.	23·021	23·026
169	BM.14 / 46 D	213·8	G.T.S. ○ B.M. On E. parapet of bridge No. 366.	27·794	27·800
170	BM.15 / 46 D	214·7	Rail nearest to and opposite centre of booking office at Bilimora Railway Station.	29·602	29·608
171	BM.16 / 46 D	214·7	G.T.S. □ B.M. at Bilimora Railway Station. Embedded within enclosure of station, 8 feet S. of S. wall, 4 feet W. of platform paling and 36 feet E. of back railing of compound.	31·943	31·950
172	BM.17 / 46 D	215·5	G.T.S. ○ B.M. On E. parapet of bridge No. 360.	30·828	30·835
173	BM.18 / 46 D	216·9	G.T.S. ○ B.M. On E. parapet of bridge No. 355.	46·725	46·735
174	BM.19 / 46 D	217·8	G.T.S. ○ B.M. On E. parapet of bridge No. 351.	42·253	42·262

Main-Line 51. (Viramgam to Bombay).

Designation of Bench-marks			Distance from Viramgam	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
175		BM.20 / 46 D	218·0	G.T.S. ⊙ B.M. On E. parapet of bridge No. 350.	41·888	41·897
176		BM.21 / 46 D	218·6	G.T.S. ⊙ B.M. On E. parapet of bridge No. 346.	45·280	45·290
177		BM.22 / 46 D	219·2	G.T.S. ⊙ B.M. On S. parapet of drain at level crossing No. 104, 12 chains N. of mile-post No. 131.	40·872	40·881
178		BM.23 / 46 D	219·6	G.T.S. ⊙ B.M. On E. parapet of N. abutment of bridge No. 343.	42·886	42·895
179			220·4	Destroyed.	53·045	53·056
180		BM.24 / 46 D	220·4	Rail nearest to and opposite centre of booking office at Dungri Railway Station.	50·945	50·956
181		BM.25 / 46 D	221·5	G.T.S. ⊙ B.M. On E. parapet of N. abutment of bridge No. 340.	44·402	44·412
182		BM.26 / 46 D	223·1	G.T.S. ⊙ B.M. On S. parapet of drain at level crossing No. 100 between mile-posts Nos. 127 and 128.	40·334	40·343
183		BM.27 / 46 D	225·0	G.T.S. ⊙ B.M. On E. parapet of S. abutment of bridge No. 331.	34·412	34·419
184		BM.28 / 46 D	226·0	Rail nearest to and opposite centre of booking office at Bulsar Railway Station.	40·266	40·275
185			226·0	Destroyed.	42·451	42·460
186		BM.29 / 46 D	226·0	G.T.S. ⊙ B.M. On coping stone at S. end of platform at Bulsar Railway Station.	42·828	42·838
187		BM.30 / 46 D	227·4	G.T.S. ⊙ B.M. On E. parapet of S. abutment of bridge No. 324.	45·272	45·282
188		BM.31 / 46 D	228·7	G.T.S. ⊙ B.M. On E. parapet of bridge No. 320, midway between mile-posts Nos. 121 and 122.	53·335	53·347
	1 / 188	BM.32 / 46 D	230·7	On the ⊙ on rock *in situ* of Parnera G. T. Survey Hill Station, lat. 20° 32′ 56″·85, long. 72° 56′ 56″·42. A principal station of Singi Meridional Series. (For full description *see* Synoptical Volume).	613·589	613·726
189		BM.33 / 46 D	230·6	G.T.S. ⊙ B.M. On E. parapet of S. abutment of bridge No. 317.	44·880	44·890
190		BM.34 / 46 D	230·9	G.T.S. ⊙ B.M. On W. parapet of bridge No. 315.	42·586	42·596
191		BM.35 / 46 D	231·7	Rail on bridge No. 313 across Par river.	53·076	53·088

Main-Line 51. (Viramgam to Bombay).

Designation of Bench-marks			Distance from Viramgam	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
192		BM.36 / 46 D	232·4	Rail nearest to and opposite centre of booking office at Pardi Railway Station.	43·981	43·991
193		BM.37 / 46 D	232·5	G.T.S. □ B.M. at Pardi Railway Station. Embedded 6 inches below ground, W. of platform, 1 foot S. of latrine to S. of railway station.	45·867	45·877
194		BM 38 / 46 D	233·8	G.T.S. ○ B.M. On W. parapet of bridge No. 306.	42·314	42·324
195		BM.39 / 46 D	234·8	Rail nearest to and opposite centre of booking office at Udvada Railway Station.	53·795	53·807
196			234·8	Destroyed.	54·211	54·223
197		BM.40 / 46 D	236·1	G.T.S. ○ B.M. On E. parapet of bridge No. 296.	61·845	61·859
198		BM.41 / 46 D	237·2	G.T.S. ○ B.M. On N. abutment of bridge No. 293.	54·599	54·612
199		BM.42 / 46 D	238·3	○ On W. parapet of N. abutment of bridge No. 288.	52·659	52·671
200		BM.43 / 46 D	239·5	G.T.S. ○ B.M. On S. abutment of bridge No. 284.	58·885	58·899
201		BM.44 / 46 D	240·2	Rail at level crossing No. 81, 8 chains S. of mile-post No. 110.	69·233	69·249
	1 / 201	BM.45 / 46 D	245·9	G.T.S. □ B.M. Embedded 6 inches below ground level, 3 feet N. of N.W. corner of Idgah at Daman, 1 chain W. of S.W. corner of well to N.E. of Idgah. The letters B.M. are cut on face of N. wall of Idgah.	23·916	23·922
202		BM.46 / 46 D	242·1	G.T.S. ○ B.M. On kerbstone of platform at Daman Road Railway Station, opposite telegraph office.	87·646	87·667
203		BM.47 / 46 D	242·1	Rail nearest to and opposite centre of booking office at Daman Road Railway Station.	84·068	84·088
204		BM.48 / 46 D	242·2	G.T.S. □ B.M. at Daman Road Railway Station. Embedded 6 inches below ground in railway enclosure, 3 feet E. of wooden railing at back of station platform, and 6 feet S. of room immediately to S. of station.	86·407	86·427
205		BM.49 / 46 D	243·3	G.T.S. ○ B.M. On S. abutment of bridge No. 277.	71·730	71·747
206		BM 50 / 46 D	244·3	Rail of bridge over Damanganga river, about 2 miles S. of Daman Road Railway Station.	63·178	63·193

Main-Line 51. (Viramgam to Bombay).

Designation of Bench-marks		Distance from Viramgam	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
207	BM.51 / 46 D	244·8	G.T.S. ○ B.M. On S. abutment of bridge No. 274.	60·428	60·442
208	BM.52 / 46 D	246·3	G.T.S. ○ B.M. On S. abutment of bridge No. 269.	76·043	76·061
209	BM.53 / 46 D	247·4	G.T.S. ○ B.M. On S. abutment of bridge No. 265.	79·511	79·530
210	BM.54 / 46 D	248·6	G.T.S. ○ B.M. On S. abutment of bridge No. 262.	93·025	93·047
211	BM.55 / 46 D	249·1	G.T.S. □ B.M. at Bhilad Railway Station. Embedded 6 inches below ground within railway enclosure, 8 feet N. of N. wall of station and 4 feet E. of wooden railing at back of platform.	101·716	101·740
212	BM.56 / 46 D	249·1	Rail nearest to and opposite centre of booking office at Bhilad Railway Station.	98·823	98·847
213	BM.57 / 46 D	250·3	G.T.S. ○ B.M. On N. abutment of bridge No. 255.	104·810	104·835
214	BM.58 / 46 D	251·2	G.T.S. ○ B.M. On N. abutment of bridge No. 250.	95·196	95·219
215	BM.59 / 46 D	251·9	G.T.S. ○ B.M. On S. abutment of bridge No. 244.	87·259	87·280
216	BM.60 / 46 D	253·9	G.T.S. ○ B.M. On W. side of N. abutment of bridge No. 238.	64·135	64·151
217	BM.61 / 46 D	256·3	Rail nearest to and opposite centre of booking office at Sanjan Railway Station.	48·628	48·640
218	BM.62 / 46 D	256·3	G.T.S. □ B.M. at Sanjan Railway Station. Embedded 6 inches below ground in railway enclosure, 9 feet W. of S.W. corner of stone-built latrine to S. of station and about same distance N. of wooden railing at back of platform.	50·161	50·173
219	BM.63 / 46 D	256·8	G.T.S. ○ B.M. On S. abutment of bridge No. 229.	42·816	42·827
220	BM.64 / 46 D	257·7	G.T.S. ○ B.M. On S. abutment of bridge No. 223.	49·572	49·584
221	BM.65 / 46 D	259·9	G.T.S. ○ B.M. On S. abutment of bridge No. 216.	62·087	62·102
222	BM.66 / 46 D	261·4	G.T.S. ○ B.M. On N. abutment of bridge No. 208, 1 chain S. of mile-post No. 98.	52·546	52·559
223	BM.67 / 46 D	262·8	G.T.S. ○ B.M. On S. abutment of bridge No. 205.	38·916	38·926

Main-Line 51. (Viramgam to Bombay).

Designation of Bench-marks		Distance from Viramgam	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
224	BM.68 / 46 D	264·2	G.T.S. ○ B.M. On S. abutment of bridge No. 199, about 7 chains S. of level crossing No. 63.	41·470	41·480
225	BM.69 / 46 D	265·3	Rail nearest to and opposite centre of booking office at Gholvad Railway Station.	30·890	30·898
226		265·4	Destroyed.	33·520	33·529
227	BM.70 / 46 D	266·6	G.T.S. ○ B.M. On S. abutment of bridge No. 191, about ¼ mile S. of mile-post No. 84.	33·637	33·646
228	BM.71 / 46 D	268·0	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 189.	27·090	27·097
229	BM.72 / 46 D	270·2	G.T.S. ○ B.M. On coping of centre of parapet of N. abutment of bridge No. 179, 15 chains N. of mile-post No. 80.	41·210	41·220
230	BM.73 / 46 D	270·6	G.T.S. ○ B.M. On W. end of N. abutment of bridge No. 176.	40·340	40·350
231	BM.74 / 46 D	271·3	G.T.S. ○ B.M. On S. abutment of bridge No. 174, opposite mile-post No. 79.	33·418	33·426
232	BM.16 / 47 A	272·2	Rail nearest to and opposite centre of booking office at Dahanu Road Railway Station.	27·634	27·641
233		272·3	Destroyed.	29·608	29·616
234	BM.17 / 47 A	274·9	G.T.S. ○ B.M. On E. parapet of bridge No. 167.	15·461	15·465
235	BM.18 / 47 A	277·3	G.T.S. ○ B.M. On S. abutment of bridge No. 164, 5 chains N. of mile-post No. 73.	14·565	14·569
236	BM.19 / 47 A	279·4	G.T.S. ○ B.M. On coping of E. parapet of N. abutment of bridge No. 161.	20·796	20·802
237	BM.20 / 47 A	280·8	G.T.S. ○ B.M. On S. abutment of bridge No. 158.	34·348	34·357
238	BM.21 / 47 A	281·5	G.T.S. ○ B.M. On S. abutment of bridge No. 156, 13 chains S. of mile-post No. 69.	41·149	41·160
239	BM.22 / 47 A	283·5	G.T.S. ○ B.M. On S. abutment of bridge No. 152, close to mile-post No. 67.	43·757	43·769
240		285·6	Destroyed.	49·203	49·216

Main-Line 51. (Viramgam to Bombay).

Designation of Bench-marks		Distance from Viramgam	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
241	BM.23 / 47 A	285·6	Rail nearest to and opposite centre of booking office at Boisar Railway Station.	46·532	46·545
242	BM.24 / 47 A	287·0	G.T.S. ○ B.M. On W. parapet of bridge No. 144, close to mile-post No. 63.	31·233	31·241
243	BM.25 / 47 A	288·4	G.T.S. ○ B.M. On S. end of E. drain at level crossing No. 49, near mile-post No. 62.	33·674	33·683
244	BM.26 / 47 A	289·3	G.T.S. ○ B.M. On E. parapet of N. abutment of bridge No. 138, close to mile-post No. 61.	26·419	26·426
245	BM.27 / 47 A	290·3	G.T.S. ○ B.M. On S. abutment of bridge No. 135.	23·351	23·357
246	BM.28 / 47 A	290·9	G.T.S. ○ B.M. On E. parapet of N. abutment of bridge No. 133.	31·933	31·942
247	BM.29 / 47 A	292·6	G.T.S. □ B.M. at Palghar Railway Station. Embedded 6 inches below ground level, within railway enclosure, 8 feet N. of N. wall of station and 4 feet E. of fencing at back of platform. The letters B.M. are cut on N. wall of station.	52·741	52·756
248	BM.30 / 47 A	292·6	Rail nearest to and opposite centre of booking office at Palghar Railway Station.	50·377	50·391
249	BM.31 / 47 A	295·0	G.T.S. ○ B.M. On coping of W. parapet of bridge No. 124.	49·124	49·138
250	BM.32 / 47 A	295·9	G.T.S. ○ B.M. On coping of E. parapet of S. abutment of bridge No. 121.	39·837	39·848
251	BM.33 / 47 A	296·3	G.T.S. ○ B.M. On W. parapet of bridge No. 120, near mile-post No. 54.	35·167	35·177
252	BM.34 / 47 A	298·7	G.T.S. ○ B.M. On W. parapet of bridge No. 113.	29·979	29·987
253	BM.35 / 47 A	299·5	G.T.S. ○ B.M. On E. parapet of bridge No. 110.	28·758	28·766
254	BM.36 / 47 A	301·7	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 102.	18·465	18·470
255	BM.37 / 47 A	302·6	Rail nearest to and opposite centre of booking office at Saphala Railway Station.	17·883	17·888

Main-Line 51. (Viramgam to Bombay).

Designation of Bench-marks		Distance from Viramgam	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
256		302·6	Destroyed.	16·234	16·239
257	BM.38 / 47 A	303·8	G.T.S. ○ B.M. On E. parapet of N. abutment of bridge No. 96.	14·829	14·833
258	BM.39 / 47 A	305·1	Rail level of N. Vaitarna bridge No. 93.	25·103	25·110
259	BM.40 / 47 A	306·1	Rail level of N. Vaitarna bridge No. 92.	24·912	24·919
260		311·8	Destroyed.	21·270	21·276
261	BM.41 / 47 A	311·8	Rail nearest to and opposite centre of booking office at Virar Railway Station.	18·706	18·711
262	BM 42 / 47 A	313·8	G.T.S. ○ B.M. On E. parapet of N. abutment of bridge No. 82.	12·899	12·903
263	BM.43 / 47 A	316·5	G.T.S. ○ B.M. On E. parapet of bridge No. 77, 21 chains S. of mile-post No. 34.	13·021	13·025
264	BM.44 / 47 A	316·8	G.T.S. □ B.M. at Bassein Road Railway Station. Embedded 6 inches below ground within railway enclosure, 6 feet E. of N.E. corner of latrine to N. side of station, and about same distance S. of wooden railing at N. end of platform.	13·883	13·887
265	BM.45 / 47 A	316·8	Rail nearest to and opposite centre of booking office at Bassein Road Railway Station.	12·108	12·112
266	BM.46 / 47 A	320·1	Rail level of N. Bassein bridge No. 75.	21·488	21·494
267	BM.47 / 47 A	321·4	Rail level of S. Bassein bridge No. 73.	20·781	20·787
268	BM.48 / 47 A	321·9	Platform of Bhayndar Railway Station.	19·738	19·744
269	BM.49 / 47 A	321·9	Rail nearest to and opposite centre of booking office at Bhayndar Railway Station.	16·849	16·854
270	BM.50 / 47 A	325·9	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 71, near mile-post No. 24.	26·528	26·536
271	BM.51 / 47 A	326·7	G.T.S. ○ B.M. On N. abutment of culvert marked No. 4G.3, about 14 chains from level crossing No. 34.	35·871	35·882
272	BM.52 / 47 A	327·7	Rail nearest to and opposite centre of booking office at Borivli Railway Station.	46·817	46·831
273	BM.53 / 47 A	327·8	G.T.S. □ B.M. at Borivli Railway Station. Embedded 1 foot below ground within railway enclosure, 8 feet S. of S.E. corner of station and 18 feet E. of railing at back of platform.	48·693	48·708

Main-Line 51. (Viramgam to Bombay).

Designation of Bench-marks		Distance from Viramgam	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
274	BM.54 / 47 A	329·3	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge No. 70, between mile-post No. 21 and level crossing No. 31.	40·592	40·604
275	BM.55 / 47 A	330·5	G.T.S. ○ B.M. On coping of E. parapet of N. abutment of bridge No. 56, between mile-post No. 20 and level crossing No. 30.	42·947	42·960
276	BM.56 / 47 A	331·2	G.T.S. ○ B.M. On coping of E. parapet of bridge No. 54, about 1 chain S. of mile-post No. 19.	43·920	43·933
277	BM.57 / 47 A	333·7	G.T.S. ○ B.M. On coping of E. parapet of S. abutment of bridge No. 43.	34·839	34·850
278	BM.58 / 47 A	335·2	G.T.S. □ B.M. at Andheri Railway Station. Embedded 6 inches below ground within railway enclosure, 8 feet N. of N.E. corner of station and 12 feet W. of edge of platform.	35·033	35·044
279	BM.59 / 47 A	335·2	Rail nearest to and opposite centre of booking office at Andheri Railway Station.	32·936	32·946
280	BM.60 / 47 A	336·0	G.T.S. ○ B.M. On coping of E. parapet of S. abutment of bridge No. 37, 13 chains N. of mile-post No. 14.	29·162	29·171
281	BM.61 / 47 A	338·0	G.T.S. ○ B.M. On E. parapet of culvert No. 28 near level crossing No. 20, and 15 chains N. of mile-post No. 12.	20·617	20·624
282	BM.62 / 47 A	339·0	G.T.S. ○ B.M. On E. parapet of bridge No. 25, 15 chains N. of mile-post No. 11.	16·604	16·609
283	BM.63 / 47 A	339·7	Rail nearest to and opposite centre of booking office at Bandra Railway Station.	12·682	12·686
284	BM.64 / 47 A	340·8	Rail nearest to and opposite centre of booking office at Mahim Railway Station.	9·317	9·320
285		340·8	Destroyed.	11·254	11·257
286	BM.65 / 47 A	341·5	G.T.S. ○ B.M. On coping of E. parapet of N. abutment of bridge No. 15, near level crossing No. 15, between mile-posts Nos. 8 and 9.	9·484	9·487
287		342·4	Destroyed.	12·817	12·821
288	BM.66 / 47 A	342·5	Rail of level crossing at Dadar Railway Station.	10·592	10·595
289		343·3	Destroyed.	9·825	9·828
290	BM.17 / 47 B	344·1	Rail nearest to and opposite centre of booking office at Parel Railway Station.	7·813	7·816
291		344·6	Destroyed.	6·826	6·828

Main-Line 51. (Viramgam to Bombay).

Designation of Bench-marks		Distance from Viramgam	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
292	BM.18 / 47 B	345·2	Rail nearest to and opposite centre of booking office at Mahalakshmi Railway Station.	5·893	5·895
293		346·1	Destroyed.	6·574	6·576
294	BM.19 / 47 B	346·6	G.T.S. ○ B.M. On N. end of W. platform of Grant Road Railway Station at Bombay.	9·449	9·452
295	BM.20 / 47 B	346·7	Rail below Frere bridge over B.B. and C.I. Railway line at Bombay.	7·272	7·274
296	BM.21 / 47 B	346·9	Rail below Kennedy bridge over B.B. and C.I. Railway line at Bombay.	7·904	7·907
297	BM.22 / 47 B	348·9	G.T.S. ○ B.M. On N. end of E. platform of Church Gate Street Railway Station of B.B. and C.I. Railway at Bombay.	16·180	16·185
298	BM.9 / 47 B	349·9	G.T.S. □ B.M. at Apollo Bander, Bombay. Cut on one of the stone flags forming pavement round circular well at N.E. corner of Bander. It is a few inches N. of parapet wall. This point is the bench-mark of reference for determining value of zero of self-registering tide-gauge working at Apollo Bander.	13·691	13·695
299	BM.1 / 47 B	350·6	G.T.S. ○ B.M. On bottom step on N. side of main entrance to the Town Hall at Bombay. It is a few inches S. of iron railing and immediately above arrow head which was the original bench-mark.	19·737	19·743

Branch-Line 51A. (Mehmadabad to Dholka).

Designation of Bench-marks			Distance from Mehmada-bad	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topogra-phic			Dynamic	Orthometric
			miles		*feet*	*feet*
1			0·0	Destroyed.	112·918	112·927
2			2·1	Destroyed.	97·801	97·809
3		BM.21 / 46 B	2·6	Top of mile pillar No. 4, on main road from Kaira to Mehmadabad.	98·761	98·769
4		BM.22 / 46 B	3·6	Top of mile pillar No. 3, on main road from Kaira to Mehmadabad.	93·908	93·916
5		BM.23 / 46 B	5·6	Top of mile pillar No. 1, on main road from Kaira to Mehmadabad.	86·865	86·872
	a / 5	BM.24 / 46 B	8·0	G.T.S. O B.M. On steps of N. entrance to Kaira Church.	96·811	96·819
6		BM.25 / 46 B	7·1	On upper surface of pillar of Kaira Station. This trigonometrical station is situated ¾ mile W. of town of Kaira and about ¼ mile N.W. of village of Hariala. The station is built on high ground about 20 feet E. of the main road from Dholka to Mehmadabad, and consists of a masonry pillar about 3½ feet high, 3 feet square at base and tapering up to 15 inches at top.	93·947	93·955
7		BM.26 / 46 B	7·6	Top of mile pillar No. 1, on main road from Kaira to Dholka.	83·649	83·656
8		BM.27 / 46 B	8·6	Top of mile pillar No. 2, on main road from Kaira to Dholka.	82·776	82·783
9		BM.28 / 46 B	9·6	Top of mile pillar No. 3, on main road from Kaira to Dholka.	76·403	76·409
10		BM.29 / 46 B	10·6	Top of mile pillar No. 4, on main road from Kaira to Dholka.	74·487	74·493
11		BM.30 / 46 B	11·6	Top of mile pillar No. 5, on main road from Kaira to Dholka.	75·301	75·308
12		BM.31 / 46 B	12·6	Top of mile pillar No. 6, on main road from Kaira to Dholka.	67·841	67·847
13		BM.32 / 46 B	13·6	Top of mile pillar No. 7, on main road from Kaira to Dholka.	70·155	70·161
	a / 13	BM.33 / 46 B	14·0	On upper surface of square pillar of Rardhu G. T. Survey Station, lat. 22° 41′ 55″·47, long. 72° 35′ 1″·74. A secondary station of Gujarat Longitudinal Series. (For full description *see* Synoptical Volume).	113·941	113·951
14		BM.34 / 46 B	15·0	Top of mile pillar No. 8, on main road from Kaira to Dholka.	61·196	61·201
15		BM.35 / 46 B	16·0	Top of mile pillar No. 9, on main road from Kaira to Dholka.	61·239	61·244

Branch-Line 51A. (Mehmadabad to Dholka).

Designation of Bench-marks			Distance from Mehmadabad	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
16		BM.36 / 46 B	17·0	Top of mile pillar No. 10, on main road from Kaira to Dholka.	65·733	65·739
17			19·5	Destroyed.	72·604	72·610
18			21·6	Destroyed.	64·784	64·790
19		BM.37 / 46 B	23·0	Cross + on root of a *kothi* tree in field No. 362 of Dholka.	66·791	66·797
20			23·1	Destroyed.	64·793	64·799
21		BM.38 / 46 B	24·1	Top of mile-stone No. 2, on main road from Dholka to Kaira, and 2 miles from Dholka.	70·605	70·611
22			24·2	Destroyed.	65·078	65·084
23		BM.39 / 46 B	24·9	G.T.S. O B.M. On upper step of S. entrance to travellers' bungalow at Dholka.	80·702	80·709
24		BM.40 / 46 B	25·2	Top of mile-stone No. 1, on main road from Dholka to Kaira and 1 mile from Dholka.	65·230	65·236
	a / 24	BM.41 / 46 B	26·2	Cross + on root of a *tamarind* tree in field No. 172 of Dholka, on S. boundary of field and close to Balas Talao.	68·644	68·650
25			27·0	Destroyed.	69·642	69·648

Branch-Line 51B. (Anand to Pali).

Designation of Bench-marks		Distance from Anand	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1		0·0	Destroyed.	140·975	140·989
2	BM.42 / 46 B	0·2	G.T.S. ○ B.M. On coping of N. parapet of bridge No. 1.	134·282	134·295
3	BM.39 / 46 F	3·9	G.T.S. ○ B.M. On trough of well named Nawa Kua, about 150 feet N. of Ajapur village and about 100 feet E. of mile-post No. 4 on railway line between Anand and Bhalaj. Anand Taluka, Kaira District.	150·358	150·372
4		5·3	Destroyed.	151·600	151·614
5	BM.40 / 46 F	6·9	Rail opposite booking office of Bhalaj Railway Station.	146·006	146·019
6	BM.41 / 46 F	9·8	G.T.S. ○ B.M. On coping of N. parapet of bridge No. 20 close to mile-post No. 10 between Bhalaj and Dakor Railway Stations.	165·572	165·587
7		11·8	Destroyed.	167·200	167·215
8	BM.42 / 46 F	13·7	Rail opposite booking office of Umreth Railway Station.	167·139	167·154
9	BM.43 / 46 F	13·9	G.T.S. ○ B.M. On culvert No. 29, about 200 yards E. of Umreth Railway Station.	167·019	167·034
10	BM.44 / 46 F	14·8	G.T.S. ○ B.M. On N. parapet of bridge No. 33 near mile-post No. 15.	172·202	172·217
11	BM.45 / 46 F	17·4	G.T.S. ○ B.M. On N. parapet of bridge No. 39.	169·472	169·487
12	BM.46 / 46 F	18·3	Rail opposite booking office of Dakor Railway Station.	171·831	171·846
13		18·3	Destroyed.	170·897	170·912
14	BM.47 / 46 F	18·6	G.T.S. ○ B.M. On coping of N. parapet of 1st railway bridge, ¼ mile W. of mile-post No. 19 on line from Dakor to Thasra Railway Stations.	174·800	174·815
15	BM.48 / 46 F	22·6	G.T.S. ○ B.M. On coping of S. parapet of bridge, ¾ mile E. of mile-post No. 22 between Dakor and Thasra Railway Stations.	196·920	196·936
16	BM.49 / 46 F	23·2	G.T.S. ○ B.M. On N. parapet of bridge, about 3 chains W. of Thasra travellers' bungalow between Dakor and Thasra Railway Stations.	195·001	195·017
17	BM.50 / 46 F	23·8	Rail opposite booking office at Thasra Railway Station.	198·589	198·605

Branch-Line 51B. (Anand to Pali).

Designation of Bench-marks		Distance from Anand	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
18	BM.51 / 46 F	23·8	G.T.S. ○ B.M. On platform of Thasra Railway Station.	199·494	199·510
19	BM.52 / 46 F	25·4	G.T.S. ○ B.M. On N. parapet of culvert, about midway between mile-posts Nos. 25 and 26.	210·340	210·357
20		27·4	Destroyed.	206·908	206·925
a / 20	BM.53 / 46 F	36·6	On mark-stone on top of tower of Pocda G. T. Survey Tower Station, lat. 22° 55′ 5″·26, long. 73° 12′ 42″·25. A principal station of Gujarat Longitudinal Series. (For full description *see* Synoptical Volume).	309·369	309·394
21		28·4	Destroyed.	206·673	206·690
22	BM.54 / 46 F	29·5	G.T.S. ○ B.M. On S. parapet of bridge, about 2 miles E. of Hangari village.	206·043	206·060
23		31·7	Destroyed.	215·828	215·845
24		32·9	Destroyed.	263·542	263·564

Branch-Line 51C. (Vasad to Cambay).

Designation of Bench-marks			Distance from Vasad	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1			0·0	Destroyed.	123·352	123·365
2		BM.55 / 46 F	0·8	G.T.S. O B.M. On N. parapet of bridge on main road from Vasad to Borsad, about 3 chains E. of mile-stone No. 1 from Vasad.	137·674	137·688
3		BM.56 / 46 F	2·7	G.T.S. O B.M. On coping of well called Kanthariana Kua, 1 furlong E. of mile-stone No. 3, on main road from Vasad to Borsad, and 10 feet S. of road. Close to it is an arrow ↗ cut in masonry. The well is in lands of Kanthariana village, Anand Taluka, Kaira District.	126·091	126·104
4		BM.43 / 46 B	4·9	Top of mile-stone No. 5, on main road from Vasad to Borsad. The letters G.T.S. B.M. are cut on back of stone.	123·538	123·551
5			5·4	Destroyed.	121·456	121·469
6		BM 44 / 46 B	6·9	Top of mile-stone No. 7, on main road from Vasad to Borsad. The letters G.T.S. B.M. are cut on back of stone.	116·563	116·575
	a / 6	BM.45 / 46 B	7·4	G.T.S. O B.M. On S. platform of well called Danjiwala Kua, about 100 feet N. of main road Vasad to Borsad, and about ½ mile E. of Dawal village. The well belongs to Kuarwalabhai of Dawal village, Borsad Taluka, Kaira District.	116·885	116·897
7		BM 46 / 46 B	7·9	Top of mile-stone No. 8, on main road from Vasad to Borsad. The letters G.T.S. B.M. are cut on back of stone.	112·773	112·785
8		BM.47 / 46 B	8·4	G.T.S. O B.M. On well called Amtha Bhagwana Kua, about ¼ mile S.W. of Dawal village, and about 50 yards S. of main road from Vasad to Borsad. The letters G.T.S. B.M. are cut on N. wall of E. trough of well.	113·128	113·140
9		BM.48 / 46 B	8·9	Top of mile-stone No. 9, on main road from Vasad to Borsad. The letters G.T.S. B.M. are cut on back of stone.	108·967	108·979
10		BM.49 / 46 B	9·9	Top of mile-stone No. 10, on main road from Vasad to Borsad. The letters G.T.S. B.M. are cut on back of stone.	111·711	111·723
11		BM 50 / 46 B	11·7	G.T.S. O B.M. On stone at bottom of slope leading out of Cambay Gate at Borsad town.	99·136	99·146
12			13·6	Destroyed.	92·357	92·367
13			14·8	Destroyed.	82·462	82·471

Branch-Line 51C. (Vasad to Cambay).

Designation of Bench-marks		Distance from Wasad	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
14	BM 51 / 46 B	16·9	Boundary Pillar between Khanpur village (Borsad Taluka) and Uneli village (Cambay State). The pillar is situated 100 yards S. of Uneli village and 12 feet S. of cart-road from Uneli to Khanpur. The letters G.T.S. / B.M. are cut on upper surface of pillar.	82·369	82·378
15		17·8	Destroyed.	90·865	90·875
16	BM.52 / 46 B	18·3	G.T.S. / O / B.M. On stone at S.W. corner of cattle trough of well called Bhaghirna Kua, 100 feet N. of Ranoli village and about 50 feet N. of cart-road from Borsad to Cambay. A Hindu temple, Matha-to-tali is 150 feet N. of well.	84·597	84·606
17	BM.53 / 46 B	19·3	G.T.S. / O / B.M. On upper surface of a block of masonry, ½ mile E. of Virsad village and 20 feet N. of cart-road from Virsad to Ranoli.	81·566	81·575
a / 17	BM.54 / 46 B	20·0	G.T.S. / O / B.M. On stone at S. entrance to tank, N.E. of and adjoining to Virsad village, Borsad Taluka, Kaira District.	72·721	72·729
18		24·4	Destroyed.	65·686	65·693
19		26·7	Destroyed.	54·010	54·016
20	BM 55 / 46 B	30·3	G.T.S. / □ / B.M. at Cambay. Situated just outside E. suburbs of town at junction of two cart-roads, Cambay to Uneli and Cambay Bander to Kalodla. About 8 feet N. of bench-mark is a pakka well and same distance to E. is a block of masonry which has letters G.T.S. cut on its W. side.	42·638	42·643
21		32·6	Destroyed.	102·711	102·723

Branch-Line 51D. (Miyagam to Dabhoi).

	Designation of Bench-marks		Distance from Miyagam	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM 36 / 46 F	0·0	G.T.S. □ B.M. at Miyagam Railway Station. Embedded 6 inches below surface of ground at S. end of station, 8 feet S. of S. wall of water closet on which letters G.T.S. / B.M. are cut.	91·635	91·647
2		BM 57 / 46 F	1·4	G.T.S. ○ B.M. On N. parapet of bridge No. 3 on railway line, Miyagam to Dabhoi.	87·065	87·076
3		BM 58 / 46 F	3·1	G.T.S. ○ B.M. On S. parapet of bridge No. 5 on railway line, Miyagam to Dabhoi.	91·858	91·870
4		BM 59 / 46 F	3·9	G.T.S. ○ B.M. On S. parapet of culvert No. 7 on railway line, Miyagam to Dabhoi.	93·695	93·707
5		BM.60 / 46 F	4·9	G.T.S. ○ B.M. On E. abutment of culvert No. 9, 8 chains S. of mile-post No. 5 on railway line, Miyagam to Dabhoi.	95·232	95·244
6		BM 61 / 46 F	6·3	G.T.S. ○ B.M. On S. parapet of centre abutment of bridge No. 13 on railway line, Miyagam to Dabhoi.	97·761	97·774
7		BM 62 / 46 F	8·6	Rail opposite booking office of Karvan Railway Station.	100·838	100·851
8		BM 63 / 46 F	8·6	G.T.S. □ B.M. at Karvan Railway Station. Situated 95 feet E. of E. wall of station, 11 feet S. of well and 196 feet W. of E. semaphore. The letters G.T.S. / B.M. are cut on side of well.	96·777	96·789
9		BM.64 / 46 F	8·8	G.T.S. ○ B.M. On E. abutment of bridge No. 19 on railway line, Miyagam to Dabhoi.	102·501	102·514
10		BM.65 / 46 F	10·5	G.T.S. ○ B.M. On N. parapet of culvert No. 23 on railway line, Miyagam to Dabhoi.	109·241	109·255
11		BM 66 / 46 F	12·3	G.T.S. ○ B.M. On S. parapet of W. abutment of bridge No. 26 on railway line, Miyagam to Dabhoi.	115·036	115·051
12		BM 67 / 46 F	13·1	Rail opposite booking office at Mandala Railway Station.	115·456	115·471
13		BM 68 / 46 F	13·3	G.T.S. ○ B.M. On S. parapet of E. abutment of bridge No. 29 on railway line, Miyagam to Dabhoi.	116·322	116·337
14		BM.69 / 46 F	14·8	G.T.S. ○ B.M. On S. parapet of E. abutment of bridge No. 31 on railway line, Miyagam to Dabhoi.	124·141	124·157
15		BM.70 / 46 F	15·5	G.T.S. ○ B.M. On N. parapet of W. abutment of bridge No. 33 on railway line, Miyagam to Dabhoi.	124·930	124·946

Branch-Line 51D. (Miyagam to Dabhoi).

Designation of Bench-marks			Distance from Miyagam	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
16		BM.71 / 46 F	16·8	G.T.S. ○ B.M. On N. parapet of W. abutment of bridge No. 38 on railway line, Miyagam to Dabhoi.	128·695	128·711
17		BM 72 / 46 F	16·9	Rail opposite booking office at Nada Railway Station.	128·297	128·313
18		BM.73 / 46 F	17·4	G.T.S. ○ B.M. On N. parapet of bridge No. 40 on railway line, Miyagam to Dabhoi.	129·319	129·335
	a / 18	BM 74 / 46 F	19·3	G.T.S. ○ B.M. On stone forming water trough of Ranchorji's well, about 2 miles S. of Dabhoi and a few feet E. of cart-road from Dabhoi to Chandwar. About 100 feet N. of well there is a newly constructed temple dedicated to Ranchorji.	168·154	148·173
	b / 18	BM.75 / 46 F	24·3	On top of rectangular protecting pillar of Sidhpur G.T. Survey Station, lat. 22° 4′ 15″·21, long. 73° 28′ 59″·81. A principal station of Singi Meridional Series. (For full description *see* Synoptical Volume).	168·368	168·389
19		BM.76 / 46 F	20·0	Rail opposite booking office at Dabhoi Railway Station.	148·444	148·462
20		BM.77 / 46 F	20·0	G.T.S. □ B.M. at Dabhoi Railway Station. Embedded 6 inches below surface of ground, to E. of station, 14 feet from its N.E. and 38 feet from its S.E. corners.	148·399	148·417

Main-Line 52. (Sujawal to Shikarpur (Sind)).

Designation of Bench-marks			Distance from Sujawal	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.29 / 40 D	0·0	G.T.S. □ B.M. at Sujawal. Embedded in front verandah of Mukhtyarkar's kachahri, flush with floor, opposite to gateway, and to left of court room door, immediately below window, 2 feet from wall, and 36 feet from S.E. corner of verandah.	28·733	28·732
2		BM.37 / 40 D	0·1	G.T.S. ○ B.M. On E. parapet of Sujawal bridge across Muhammad Wah, 7 chains N.W. of Mukhtyarkar's kachahri.	34·737	34·736
3		BM.38 / 40 D	1·7	G.T.S. ○ B.M. On top of mile-stone No. 1 from Sujawal and No. XIII from Mirpur Batoro.	27·965	27·964
4		BM.39 / 40 D	3·4	G.T.S. ○ B.M. On E. end of N. abutment of bridge S.E. of Keharkagoth, 3 miles from Sujawal Mukhtyarkarate.	28·300	28·299
	1/4	BM.40 / 40 D	4·0	G.T.S. □ B.M. Embedded about 6 inches below ground level, 40 feet N. of road bridge across Ghari Wah on Sujawal—Mirpur road, about 4 miles from Sujawal, 42 feet from E. end of N. parapet of bridge, 58 feet from W. end of same parapet, and 47 feet from keystone of arch on N. side.	26·965	26·964
5		BM.41 / 40 D	4·7	G.T.S. ○ B.M. On top of mile-stone No. IV from Sujawal and No. X from Mirpur Batoro.	28·288	28·287
6		BM.42 / 40 D	9·2	G.T.S. ○ B.M. On W. parapet of road bridge across Pinyari canal at Dari, 68 feet from W. end of parapet.	49·420	49·418
	a/6	BM.43 / 40 D	11·9	G.T.S. ○ B.M. On stone coping of S.E. parapet of bridge across Mahmuda Wah, 3 miles E. of Pinyari canal at Dari.	42·963	42·961
7		BM.44 / 40 D	13·4	G.T.S. ○ B.M. On N.W. parapet of culvert, 2 miles from Mirpur Batoro.	29·940	29·938
	a/7	BM.45 / 40 D	15·0	G.T.S. □ B.M. at Mirpur Batoro. Embedded near S.E. corner of Mukhtyarkar's kachahri, 6 inches below ground level, 5 feet from S. wall and 7 feet from E. wall of kachahri, 128 feet from S. corner of Police Station verandah, 184 feet from centre of E. gate and 86 feet from centre of S.W. wall of compound. The letters B.M. are cut on S. wall of kachahri.	28·648	28·647
8		BM.46 / 40 D	15·0	G.T.S. ○ B.M. On top of mile-stone No. 0 from Mirpur Batoro and No. XI from Laikpur, 7 chains E. of Mukhtyarkarate.	32·140	32·138
9		BM.47 / 40 D	16·1	G.T.S. ○ B.M. On W. parapet of road bridge across Shah Wah.	34·362	34·360
10		BM.48 / 40 D	19·3	G.T.S. ○ B.M. On N.W. parapet of road bridge across Batoro Wah.	37·142	37·140

Main-Line 52. (Sujawal to Shikarpur (Sind)).

Designation of Bench-marks		Distance from Sujawal	Description of Bench-marks	Corrected Elevation.	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
a/10	BM.49/40 D	22·4	G.T.S. ○ B.M. On top of mile-stone No. VII from Mirpur Batoro.	38 164	38·162
11	BM.50/40 D	22·4	G.T.S. ○ B.M. On N. end of W. parapet of bridge across Joyo Wah at Jhok.	36·076	36·074
a/11	BM.51/40 D	22·6	G.T.S. □ B.M. at Jhok. Embedded 6 inches below ground level, in grounds adjoining Kalandar Shah's mausoleum, 60 feet from centre of S.E. door, 26 feet from middle of E. door, 29 feet from N.E. door leading to mosque, and 8 feet from wall on which inscription G.T.S. B.M. ▽ is cut.	36·213	36·211
b/11	BM.52/40 D	26·0	G.T.S. ○ B.M. On S. end of 2nd step leading into Pir Sahibno Shah's residence at Bulri.	50·218	50·215
12	BM.53/40 D	26·5	○ B.M. at Stone Pillar. On upper surface of P.W.D. bench-mark No. 39/1, on E. margin of high road, ¾ mile from Bulri.	35·622	35·620
a/12	BM.54/40 D	27·8	○ B.M. at Stone Pillar. On upper surface of P.W.D. bench-mark No. 37/1, E. of road, 2 miles from Bulri.	36·025	36·023
13	BM.55/40 D	28·7	G.T.S. ○ B.M. at Stone Pillar. On upper surface of P.W.D. bench-mark No. 35/1, E. of road, 3 miles from Bulri and 2 miles from Kambra Wah.	38·218	38·216
14	BM.56/40 D	30·1	G.T.S. ○ B.M. at Stone Pillar. On upper surface of P.W.D. bench-mark at Kambra Wah bridge, W. of S.W. end.	41·343	41·340
15	BM.57/40 D	31·4	G.T.S. □ B.M. at Mir Wah. Embedded 6 inches below ground, between old and new canals, on W. side of bridge, about 6 miles from Bulri village, 23 and 62 feet respectively from N. end and S. end of W. wing wall of old road bridge, and 23 and 63 feet respectively from N. end and S. end of W. wing wall of new road bridge.	45·363	45·360
l/15	BM.58/40 D	31·4	G.T.S. ○ B.M. On stone coping of W. parapet of road bridge across old Mir Wah.	53·615	53·611
2/15	BM.59/40 D	32·6	On top of mark-stone, 1 foot below the upper surface, of Kanad G. T. Survey Tower Station, lat. 24° 55′ 55″·68, long. 68° 22′ 28″·18. A principal station of Karachi Longitudinal Series. (For full description *see* Synoptical Volume).	82·298	82·293
16	BM.60/40 D	32·5	○ B.M. at Stone Pillar. On upper surface of P.W.D. bench-mark No. 27/1, on E. margin of road, 1 mile N. of B.M. No. 15.	41·437	41·434

Main-Line 52. (Sujawal to Shikarpur (Sind)).

Designation of Bench-marks			Distance from Sujawal	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
17		BM.61 / 40 D	33·3	○ B.M. at Stone Pillar. On upper surface of P.W.D. bench-mark No. 25/1, on E. margin of road, 2 miles N. of B.M. No. 15.	41·557	41·554
18		BM.62 / 40 D	35·3	○ B.M. at Stone Pillar. On upper surface of P.W.D. bench-mark No. 21/1, on E. margin of road, 50 chains E. of Dhandi.	42·724	42·721
19		BM.1 / 40 C	37·5	G.T.S. ○ B.M. On W. side of most southerly pier of bridge across Hasan Ali canal near Shahkapur.	54·475	54·471
20		BM.2 / 40 C	38·2	○ B.M. at Stone Pillar. On upper surface of P.W.D. bench-mark, on E. margin of road, 1 mile N. of Hasan Ali canal bridge near Shahkapur.	44·754	44·751
21		BM.3 / 40 C	39·6	○ B.M. at Stone Pillar. On upper surface of P.W.D. bench-mark, on E. margin of road, 2 miles N. of Hasan Ali canal bridge.	47·868	47·865
22		BM.4 / 40 C	41·1	B.M. ○ at Stone Pillar. On upper suaface of P.W.D. bench-mark, on E. margin of road, 4 miles N. of Hasan Ali canal bridge and 114 chains S. of B.M. No. 23.	47·875	47·871
	a / 22	BM.5 / 40 C	42·4	G.T.S. ○ B.M. at Stone Pillar. On upper surface of P.W.D. bench-mark, on E. margin of road, 8 chains S. of B.M. No. 23.	47·471	47·468
23		BM.6 / 40 C	42·6	G.T.S. □ B.M. at Gaja Wah. Embedded 6 inches below ground level, on right bank of canal, 92 feet from pilaster of S W. wing wall, 118 feet from water gauge attached to bridge, and 25 feet S. of canal bank. The letters G.T.S. B.M. are painted on bridge.	47·982	47·978
24		BM.7 / 40 C	44·0	○ B.M. at Stone Pillar. On upper surface of P.W.D. bench-mark, on E. margin of road, 2 miles N. of B.M. No. 23.	48·523	48·519
	a / 24	BM.8 / 40 C	47·0	○ B.M. at Stone Pillar. On upper surface of P.W.D. bench-mark, on E. margin of road, 2 miles S. of B.M. No. 25.	48·238	48·234
	b / 24	BM.9 / 40 C	49·1	□ at Masonry Pillar. Railway bench-mark No. 112, 2 chains S. of B.M. No. 25.	58·883	58·879
25		BM.10 / 40 C	49·1	G.T.S. □ B.M. at Tando Muhammad Khan Railway Station. Embedded W. of main entrance to station platform, 149 and 145 feet respectively from N.W. and S.W. corners of station.	57·048	57·044

Main-Line 52. (Sujawal to Shikarpur (Sind)).

Designation of Bench-marks		Distance from Sujawal	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
26	BM 11 / 40 C	49·8	G.T.S. ○ B.M. On S.W. cap of abutment of bridge, near telegraph post No. B 134/5.	59·811	59·806
27	BM.12 / 40 C	51·0	+ at Masonry Pillar. Railway bench-mark No. 102, near telegraph post No. B 132/22.	56·847	56·842
28	BM.13 / 40 C	51·4	G.T.S. ○ B.M. On S. parapet of culvert, near telegraph post No. B 132/13.	56·001	55·997
29	BM.14 / 40 C	52·1	+ at Masonry Pillar. Railway bench-mark No. 96, near telegraph post No. B 131/19.	56·473	56·469
30	BM.15 / 40 C	53·3	G.T.S. ○ B.M. On E. parapet of culvert, near telegraph post No. B 131/15.	56·190	56·185
31	BM.16 / 40 C	53·6	G.T.S. ○ B.M. On S.E. cap of abutment of bridge, near telegraph post No. B 130/9.	65·873	65·868
32	BM.17 / 40 C	55·3	G.T.S. ○ B.M. On S.W. parapet of culvert, near telegraph post No. B 128/7.	57·630	57·625
33	BM.18 / 40 C	55·7	+ at Wooden Post. Railway bench-mark No. 78, near telegraph post No. B 128/6.	62·511	62·506
34	BM.19 / 40 C	57·8	G.T.S. ○ B.M. On S.W. cap of abutment of bridge, near telegraph post No. B 126/5.	60·084	60·079
35	BM.20 / 40 C	58·6	+ at Wooden Post. Railway bench-mark, near telegraph post No. B 125/10.	60·098	60·093
36	BM.21 / 40 C	59·5	G.T.S. □ B.M. at Khathar Railway Station. Embedded W. of railway station, 145 and 148 feet respectively from N.W. and S.E. corners and 143 feet W. of centre of entrance to platform.	60·126	60·121

Main-Line 52. (Sujawal to Shikarpur (Sind)).

Designation of Bench-marks			Distance from Sujawal	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
37		BM.22 / 40 C	60·1	G.T.S. ○ B.M. On masonry base of N. distant signal at Khathar Railway Station.	62·060	62·055
38		BM.23 / 40 C	63·5	G.T.S. ○ B.M. On S.W. parapet of pipe, near telegraph post No. B 120/9.	64·811	64·805
39		BM.24 / 40 C	64·4	G.T.S. ○ B.M. On S.W. parapet of bridge, near telegraph post No. B 119/14.	63·759	63·753
40		BM.25 / 40 C	65·5	G.T.S. ○ B.M. On S.W. parapet of culvert, near telegraph post No. B 118/10.	65·033	65·027
41		BM.26 / 40 C	68·3	+ at Masonry Pillar. Railway bench-mark No. 11, ¼ mile S.W. of mile-stone No. 116.	66·929	66·923
42		BM.27 / 40 C	68·8	G.T.S. ○ B.M. On W. parapet of bridge, 2 miles E. of Hyderabad railway station.	65·065	65·059
43		BM.28 / 40 C	70·4	G.T.S. ○ B.M. at Hyderabad Railway Station. On platform coping at E. end above ramp.	66·898	66·892
	a/43	BM.29 / 40 C	70·4	G.T.S. ○ B.M. On S.E. end of verandah flooring immediately below the most easterly arch facing platform at Hyderabad Railway Station.	67·422	67·415
	b/43	BM.30 / 40 C	70·4	G.T.S. □ B.M. at Hyderabad Railway Station. Embedded in E. end of verandah flooring, flush with upper surface of same, 5 feet from Railway Officers' Rest Room, 41 and 27 feet respectively from N.W. and S.W. corners of lavatory, and 6 feet from B.M. No. a/43.	67·499	67·492
	c/43	BM.31 / 40 C	71·3	P.W.D. ○ B.M.1826 at Kachahri, Hyderabad. Embedded S.W. of and immediately facing Treasury room door, 167 feet S. of W. corner of kachahri, 64 feet from S. corner, 70 feet from centre of middle steps and 14 feet from water-tap N. of bench-mark.	104·034	104·024
	1/43	BM.32 / 40 C	71·7	G.T.S. ○ B.M. On N.E. return wall of bridge, near telegraph post No. 111/31.	67·813	67·806
	2/43	BM.33 / 40 C	73·1	G.T.S. ○ B.M. On N.E. cap of bridge, near telegraph post No. 110/20.	82·172	82·164
	3/43	BM.34 / 40 C	74·4	G.T.S. ○ B.M. On S.E. end of abutment at Gidu Bandar end of bridge across the Indus River at Kotri.	90·035	90·026

Main-Line 52. (Sujawal to Shikarpur (Sind)).

Designation of Bench-marks		Distance from Sujawal	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
3a/43	BM 35/40 C	75·1	H.F.L.66·90 / 1894 at N.W.R. Flotilla Office, Kotri. Embedded 76 feet from N. end of office, 10 feet from cobbled wall on river bank, and 167 feet from the most westerly pier of Indus river bridge. (Railway bench-mark).	65·246	65·240
3b/43	BM.36/40 C	75·1	River Gauge attached to S.E. pile of jetty at railway pumping station on Indus at Kotri.	63·875	63·869
3c/43	BM.37/40 C	75·2	The most northerly mooring gun at Kotri, under a blacksmith's shed, S. of bridge, belonging to Flotilla Office.	66·357	66·351
3d/43	BM.38/40 C	75·4	Zero of Kotri Gauge 24·10 Feet Below this Stone at Kotri. On stone embedded on river bank E. of Indus River Commission Office. (P.W.D. bench-mark).	66·693	66·687
3e/43	BM.39/40 C	75·4	A wooden water gauge on Indus river bank at Kotri, about 1 chain E. of B.M. No. 3d/43.	66·090	66·084
3f/43	BM.40/40 C	76·5	○ On top of mile-stone No. 23 Jerruck / No. 1 Kotri.	64·236	64·230
4/43	BM.41/40 C	76·9	○ On top of mile-stone No. II from Kotri on road to Sehwan.	65·480	65·474
5/43	BM.42/40 C	77·9	○ B.M. On top of mile-stone No. III from Kotri on road to Sehwan.	66·659	66·653
6/43	BM.43/40 C	79·0	○ B.M. On top of mile-stone No. IV from Kotri on road to Sehwan.	66·981	66·975
7/43	BM.44/40 C	80·0	○ B.M. On top of mile-stone No. V from Kotri on road to Sehwan.	66·402	66·396
8/43	BM.45/40 C	81·0	○ B.M. On top of mile-stone No. VI from Kotri on road to Sehwan.	66·880	66·874
9/43	BM.46/40 C	82·0	○ B.M. On top of mile-stone No. VII from Kotri on road to Sehwan.	69·365	69·358
10/43	BM.47/40 C	83·1	○ B.M. On top of mile-stone No. VIII from Kotri on road to Sehwan.	69·579	69·572
11/43	BM 48/40 C	84·1	○ B.M. On top of mile-stone No. IX from Kotri on road to Sehwan.	70·650	70·643
12/43	BM.49/40 C	85·1	○ B.M. On top of mile-stone No. X from Kotri on road to Sehwan.	72·197	72·190
13/43	BM.50/40 C	87·1	○ B.M. On top of mile-stone No. XII from Kotri on road to Sehwan.	75·627	75·620

Main-Line 52. (Sujawal to Shikarpur (Sind)).

Designation of Bench-marks			Distance from Sujawal	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	14/43	BM.51/40 C	87·1	⊙ at G.T.S. Bench-mark. On top of stone prism, 189 feet from mile-stone No. 12, Kotri and bearing 326° from same.	72·311	72·304
44		BM.52/40 C	71·5	G.T.S. ○ B.M. On 2nd pier, counting from N. of railway bridge over Fuleli canal.	78·027	78·019
45		BM.53/40 C	74·0	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 116/21.	69·315	69·308
46		BM.54/40 C	75·7	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 118/15.	70·984	70·977
47		BM.55/40 C	76·6	G.T.S. ○ B.M. On W. cap of bridge, near telegraph post No. 119/10.	69·396	69·389
	a/47	BM.56/40 C	76·6	G.T.S. □ B.M. at Rahoki Railway Station. Embedded in E. corner of masonry base of home signal immediately in front of station house, and 17 feet N.E. of telegraph post No. 119/11. It is 30 feet from N.E. and W. corners of station, and about 4 chains S.E. of pakka well.	71·224	71·217
48		BM.57/40 C	78·7	G.T.S. ○ B.M. On W. cap of bridge, near telegraph post No. 121/14.	69·589	69·582
	a/48	BM.58/40 C	79·5	G.T.S. □ B.M. at Khatian Road Railway Station. Embedded under S.E. arch of passengers' waiting hall, 2 feet from nearest wall, 23 feet from W. corner of hall and 21 feet from E. corner of station building.	72·346	72·339
49		BM.59/40 C	80·4	G.T.S. ○ B.M. On W. cap of bridge, near telegraph post No. 123/9.	70·541	70·534
50		BM.60/40 C	81·6	↑ On E. parapet of bridge, near telegraph post No. 124/12. (Railway bench-mark).	77·206	77·198
51		BM.61/40 C	82·1	G.T.S. ○ B.M. On W. cap of bridge, near telegraph post No. 125/1.	81·530	81·521
52		BM.62/40 C.	83·7	G.T.S. ○ B.M. On masonry base of S. Points signal at Allahdino Sand Railway Station.	73·471	73·463
53		BM.63/40 C	83·9	G.T.S. □ B.M. at Allahdino Sand Railway Station. Embedded at N.E. end of station platform, 139 and 163 feet respectively from S.W. and S.E. corners of menials' quarters, 25 feet from N.E. corner of wooden palings of platform enclosure, and 244 feet from S.E. corner of verandah of station building.	74·475	74·467

Main-Line 52. (Sujawal to Shikarpur (Sind)).

Designation of Bench-marks		Distance from Sujawal	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
54	BM 64 / 40 C	85·2	G.T.S. ○ B.M. On stone slab let into W. cap of bridge, near telegraph post No. 128/2.	81·949	81·940
55	BM.65 / 40 C	87·6	G.T.S. ○ B.M. On W. parapet of culvert, near telegraph post No. 130/12.	72·466	72·458
56	BM.66 / 40 C	89·6	G.T.S. ○ B.M. On S.W. cap of bridge, near telegraph post No. 132/11.	82·445	82·436
57	BM.67 / 40 C	91·2	G.T.S. ○ B.M. On W. parapet of culvert, near telegraph post No. 134/3.	74·328	74·320
58	BM.68 / 40 C	93·0	G.T.S. ○ B.M. On W. cap of bridge, near telegraph post No. 135/22.	77·972	77·963
59	BM.69 / 40 C	93·5	G.T.S. ○ B.M. On masonry base of S. Points signal at Udero Lal Railway Station.	77·467	77·458
60	BM.70 / 40 C	93·8	G.T.S. □ B.M. at Udero Lal Railway Station. Embedded in N.E. end of station platform, 245 feet from S.W. corner of station building, 117 and 177 feet respectively from S.W. and S.E. corners of menials' quarters, and 31 and 26 feet respectively from N.E. and S.E. corners of wooden palings of platform enclosure.	79·593	79·584
61	BM.71 / 40 C	95·8	G.T.S. ○ B.M. On W. parapet of culvert, near telegraph post No. 138/18.	73·288	73·279
62	BM.72 / 40 C	97·7	G.T.S. ○ B.M. On W. cap of bridge, near telegraph post No. 140/14.	79·389	79·380
63	BM.73 / 40 C	99·5	G.T.S. ○ B.M. On W. parapet of culvert, near telegraph post No. 142/11.	73·624	73·615
64	BM.74 / 40 C	100·1	↑ On N.E. cap of bridge, near telegraph post No. 143/3. (Railway bench-mark).	80·257	80·247
65	BM.75 / 40 C	101·4	G.T.S. ○ B.M. On S.W. cap of girder bridge, near telegraph post No. 144/10.	79·656	79·646
66	BM.76 / 40 C	103·3	G.T.S. ○ B.M. On W. parapet of culvert, near telegraph post No. 146/6.	72·307	72·298
67	BM.77 / 40 C	103·6	G.T.S. ○ B.M. On masonry base of S. Points signal at Tando Adam Railway Station.	75·392	75·383

Main-Line 52. (Sujawal to Shikarpur (Sind)).

Designation of Bench-marks		Distance from Sujawal	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
68	BM.78 / 40 C	103·8	G.T.S. □ B.M. at Tando Adam Railway Station. Embedded in N. end of station platform, 4 chains from centre of pakka well near northen water tank staging, 27 feet from N.E. end of wooden palings of platform enclosure, 28 feet from ramp in platform and 231 feet from S.E. corner of station building.	77·387	77·377
69	BM.79 / 40 C	105·3	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. 148/5.	78·847	78·837
70	BM.80 / 40 C	107·3	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. 150/7.	80·413	80·403
71	BM.81 / 40 C	108·7	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. 151/16.	79·138	79·128
72	BM.82 / 40 C	110·8	G.T.S. ○ B.M. On S.W. cap of bridge, near telegraph post No. 153/18.	80·434	80·424
73	BM.83 / 40 C	112·2	G.T.S. ○ B.M. On S.W. parapet of bridge, near telegraph post No. 155/4.	81·841	81·830
74	BM.84 / 40 C	114·1	G.T.S. ○ B.M. On W. parapet of culvert, near telegraph post No. 157/1.	79·561	79·550
75	BM.85 / 40 C	115·5	G.T.S. ○ B.M. On S.E. corner of masonry base of S. Points signal at Shahdadpur railway station.	83·107	83·096
76	BM.86 / 40 C	115·7	G.T.S. □ B.M. at Shahdadpur Railway Station. Embedded at N. end of station platform, 2 chains from S.E. and N.E. corners of traffic menials' quarters, 28 feet from N.W. corner of wooden palings, 28 feet from N. end of platform above ramp and 4 chains from N.E. corner of station building.	85·715	85·703
77	BM.87 / 40 C	116·4	G.T.S. ○ B.M. On S. end of W. abutment of bridge, near telegraph post No. 159/8.	86·752	86·740
78	BM.88 / 40 C	118·4	G.T.S. ○ B.M. On W. parapet of drain, near telegraph post No. 161/8.	82·110	82·099
79	BM.89 / 40 C	120·0	G.T.S. ○ B.M. On W. parapet of culvert, near telegraph post No. 162/23.	82·035	82·024
80	BM.90 / 40 C	121·9	G.T.S. ○ B.M. On S. end of W. abutment of bridge, near telegraph post No. 164/19.	84·756	84·744

Main-Line 52. (Sujawal to Shikarpur (Sind)).

Designation of Bench-marks		Distance from Sujawal	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
81	BM.1 / 40 B	124·3	G.T.S. ○ B.M. On N. end of masonry base of S. Points signal at Lundo railway station.	89·827	89·814
82	BM.2 / 40 B	124·5	G.T.S. □ B.M. at Lundo Railway Station. Embedded in N.W. end of station platform, 4 chains N.W. of N. corner of station building, 3 chains from N. corner of station master's quarters and 30 feet from N.W. corner of wooden paling of platform enclosure.	91·046	91·033
83	BM.3 / 40 B	125·6	G.T.S. ○ B.M. On W. parapet of drain, near telegraph post No. 168/13.	90·103	90·090
84	BM.4 / 40 B	127·2	G.T.S. ○ B.M. On W. parapet of drain, near telegraph post No. 170/3.	89·847	89·834
85	BM.5 / 40 B	129·0	G.T.S. ○ B.M. On W. parapet of culvert, near telegraph post No. 171/21.	87·754	87·741
86	BM.6 / 40 B	130·6	G.T.S. ○ B.M. On N. end of masonry base of S. Points signal at Sarhari railway station.	92·749	92·735
87	BM.7 / 40 B	130·9	G.T.S. □ B.M. at Sarhari Railway Station. Embedded in N. end of station platform, 4 chains from N.E. corner of station building and 30 and 24 feet respectively from N.W. and N.E. corners of wooden paling of platform enclosure.	93·685	93·671
88	BM.8 / 40 B	131·1	G.T.S. ○ B.M. On W. parapet of drain, near telegraph post No. 173/21.	90·008	89·995
89	BM.9 / 40 B	132·2	G.T.S. ○ B.M. On W. parapet of culvert, near telegraph post No. 175/3.	90·214	90·200
90	BM.10 / 40 B	134·2	G.T.S. ○ B.M. On W. end of S. abutment of bridge, near telegraph post No. 177/1.	94·607	94·593
91	BM.11 / 40 B	135·4	G.T.S. ○ B.M. On S. end of W. abutment of bridge, near telegraph post No. 178/8.	96·595	96·580
92	BM.12 / 40 B	137·9	G.T.S. ○ B.M. On W. end of S. abutment of bridge, near telegraph post No. 180/19.	98·767	98·752
93	BM.13 / 40 B	140·1	G.T.S. ○ B.M. On W. parapet of drain, near telegraph post No. 182/22.	97·062	97·047

Main-Line 52. (Sujawal to Shikarpur (Sind)).

Designation of Bench-marks		Distance from Sujawal	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
94	BM 14 / 40 B	141·6	G.T.S. ○ B.M. On S.W. cap of bridge, near telegraph post No. 184/10.	99·967	99·951
95	BM 15 / 40 B	141·6	G.T.S. ○ B.M. On N. side of masonry base of S. Points signal at Nawabshah railway station.	100·160	100·144
96	BM 16 / 40 B	141·9	G.T.S. □ B.M. at Nawabshah Railway Station. Embedded in N. end of station platform, 256 feet N. of N.E. corner of station building, 21 and 23 feet respectively from N.W. and N.E. corners of wooden paling of platform enclosure and 125 and 144 feet respectively from N.E. and S.E. corners of menials' quarters.	101.018	101·002
97	BM.17 / 40 B	143·1	G.T.S. ○ B.M. On masonry pillar on W. side of railway line, near mile-plate No. 186.	97·787	97·771
98	BM.18 / 40 B	145·1	G.T.S. ○ B.M. On masonry pillar on W. side of railway line, near mile-plate No. 188.	101·468	101·452
99	BM.19 / 40 B	147·1	G.T.S. ○ B.M. On masonry pillar on W. side of railway line, near mile-plate No. 190.	105·418	105·401
100	BM.20 / 40 B	149·1	G.T.S. ○ B.M. On masonry pillar on W. side of railway line near mile-plate No. 192.	107·875	107·857
101	BM 21 / 40 B	149·6	G T S. ○ B.M. On N side of masonry base of S. Points signal at Bucheri railway station.	110·781	110·762
102	BM.22 / 40 B	149·9	G.T.S. □ B.M. at Bucheri Railway Station. Embedded in N. end of platform, 257 feet N. of N.E. corner of station building, 29 and 25 feet respectively from N.W. and N.E. corners of wooden paling of platform enclosure 201 feet N.E. of pakka well in station yard and 177 feet from N.E. corner of station master's house.	111·971	111·952
103	BM 23 / 40 B	151·1	G.T.S. ○ B.M. On masonry pillar on W. side of railway line, near mile-plate No. 194.	109·223	109·205
104	BM.24 / 40 B	153·1	G.T.S. ○ B.M. On masonry pillar on W. side of railway line, near mile-plate No. 196.	111·161	111·142
105	BM.25 / 40 B	155·2	G.T.S. ○ B.M. On masonry pillar on W. side of railway line, near mile-plate No. 198.	113·475	113·455
106	BM.26 / 40 B	157·4	G.T.S. ○ B.M. On N. side of masonry base of S. Points signal at Daur railway station.	117·207	117·187

Main-Line 52. (Sujawal to Shikarpur (Sind)).

Designation of Bench-marks		Distance from Sujawal	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
107	BM.27 / 40 B	157·6	G.T.S. □ B.M. at Daur Railway Station. Embedded in N. end of station platform, 257 feet from N.E. corner of station building, 199 feet from centre of pakka well in station yard, and 28 and 24 feet respectively from N.W. and N.E. corners of wooden paling of platform enclosure.	118·156	118·135
108	BM.28 / 40 B	158·3	G.T.S. ○ B.M. On S.W. wing wall of bridge, near telegraph post No. $\frac{201}{5}$.	114·480	114·460
109	BM.29 / 40 B	160·2	G.T.S. ○ B.M. On masonry pillar on W. side of railway line, near mile-plate No. 203.	116·695	116·674
110	BM.30 / 40 B	162·2	G.T.S. ○ B.M. On masonry pillar on W. side of railway line, near mile-plate No. 205.	118·467	118·446
111	BM.31 / 40 B	164·2	G.T.S. ○ B.M. On masonry pillar on W. side of railway line, near mile-plate No. 207.	119·988	119·966
112	BM.32 / 40 B	166·3	G.T.S. ○ B.M. On N. side of masonry base of S. Points signal at Bandhi railway station.	126·569	126·546
113	BM.33 / 40 B	166·6	G.T.S. □ B.M. at Bandhi Railway Station. Embedded in N. end of station platform, 248 feet N. of N.E. corner of station building, and 29 and 22 feet respectively from N.E. and S.E. corners of water-pumping house.	127·904	127·880
114	BM.34 / 40 B	166·9	G.T.S. ○ B.M. On W. parapet of culvert, near telegraph post No. $\frac{209}{19}$.	125·082	125·059
115	BM.35 / 40 B	168·8	G.T.S. ○ B.M. On W. parapet of culvert, near telegraph post No. $\frac{211}{14}$.	127·738	127·714
116	BM.36 / 40 B	169·6	G.T.S. ○ B.M. On W. parapet of culvert, near telegraph post No. $\frac{212}{12}$.	128·874	128·850
117	BM.37 / 40 B	171·5	G.T.S. ○ B.M. On S.W. return wall of bridge, near telegraph post No. $\frac{214}{9}$.	133·197	133·172
118	BM.38 / 40 B	173·6	G.T.S. ○ B.M. On W. parapet of culvert, near telegraph post No. $\frac{216}{10}$.	131·078	131·053
119	BM.39 / 40 B	175·2	G.T.S. ○ B.M. On W. parapet of culvert, near telegraph post No. $\frac{218}{2}$.	133·605	133·579
120	BM.40 / 40 B	177·9	G.T.S. ○ B.M. On W. parapet of culvert, between telegraph posts Nos. $\frac{220}{17}$ and $\frac{220}{18}$.	137·380	137·353

Main-Line 52. (Sujawal to Shikarpur (Sind)).

Designation of Bench-marks			Distance from Sujawal	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
121		BM.41 / 40 B	179·6	G.T.S. □ B.M. at Pad Idan Railway Station. Embedded at S. end of station platform outside enclosure, 198 feet from S.E. corner of station building, 7 chains from N.W. corner of S. signal box, 50 feet from S.W. corner of wooden paling surrounding platform, 74 feet from semaphore on main line, and 10 feet from platform coping above ramp.	140·542	140·514
122		BM.42 / 40 B	179·6	G.T.S. ○ B.M. On platform coping at Pad Idan railway station.	140·764	140·736
123		BM.43 / 40 B	181·2	G.T.S. ○ B.M. On S. W. abutment of bridge, near telegraph post No. 224/1.	140·255	140·227
124		BM.44 / 40 B	183·2	G.T.S. ○ B.M. On S. W. abutment of bridge, near telegraph post No. 226/2.	141·669	141·640
125		BM.45 / 40 B	185·4	G.T.S. ○ B.M. On W. parapet of drain, near telegraph post No. 228/7.	137·139	137·111
126		BM.46 / 40 B	187·4	G.T.S. □ B.M. at Bhiria Road Railway Station. Embedded at S. end of platform outside enclosure, 267 feet S. of S.E. corner of station building, 133 feet from S.E. corner of traffic menials' quarters, 32 feet from S.W. corner of paling, and 13 feet from end of platform coping above ramp.	144·960	144·930
	a / 126	BM.47 / 40 B	187·4	G.T.S. ○ B.M. On platform coping at Bhiria Road railway station.	145·033	145·003
127		BM.48 / 40 B	189·7	G.T.S. ○ B.M. On W. parapet of culvert, near telegraph post No. 232/14.	144·414	144·384
128		BM.49 / 40 B	191·9	G.T.S. ○ B.M. On masonry pillar on W. side of railway line, near telegraph post No. 234/18.	145·403	145·372
129		BM.50 / 40 B	193·6	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. 237/10.	150·477	150·445
130		BM.51 / 40 B	195·4	G.T.S. □ B.M. at Kandiaro Road Railway Station. Embedded at S. end of platform outside enclosure, 277 feet from S.E. corner of station building, 32 and 4 feet respectively from S.W. and S.E. corners of paling, and 214 feet from S.E. corner of station master's house.	153·452	153·419
	a / 130	BM.52 / 40 B	195·4	G.T.S. ○ B.M. On masonry pillar embedded in platform of Kandiaro Road railway station.	153·717	153·684

Main-Line 52. (Sujawal to Shikarpur (Sind)).

Designation of Bench-marks			Distance from Sujawal	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
131		BM.1 / 40 A	197·7	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. 240/14.	150·815	150·782
132		BM.2 / 40 A	200·1	G.T.S. ○ B.M. On W. parapet of drain, near telegraph post No. 242/22.	154·763	154·729
133		BM.3 / 40 A	202·0	G.T.S. ○ B.M. On W. parapet of drain, near telegraph post No. 244/22.	157·594	157·559
134		BM.4 / 40 A	203·9	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. 246/19.	154·145	154·110
	a / 134	BM.5 / 40 A	204·2	G.T.S. □ B.M. at Mahrabpur Railway Station. Embedded outside paling at S. end of platform, 4 feet from S.E. end of paling, 269 feet from S.E. corner of station building, 29 feet from S.E. coner of pumping house, 135 feet from northernmost block of menials' quarters, and 10 feet from S end of platform coping above ramp.	157·151	157·116
135		BM.6 / 40 A	204·2	G.T.S. ○ B.M. at Mahrabpur Railway Station. On platform coping in front of station building.	157·599	157·564
136		BM.7 / 40 A	205·6	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. 248/12.	155·206	155·171
137		BM.8 / 40 A	207·7	G.T.S. ○ B.M. On W. parapet of drain, near telegraph post No. 250/12.	156·715	156·679
138		BM 9 / 40 A	209·9	G.T.S. ○ B.M. On W. parapet of culvert, near telegraph post No. 252/17.	160·188	160·151
139		BM.10 / 40 A	211·7	G.T.S. ○ B.M. On W. parapet of culvert, near telegraph post No. 254/13.	160·696	160·659
	a / 139	BM.11 / 40 A	212·1	G.T.S. □ B.M. at Setharja Railway Station. Embedded outside paling at S. end of platform, 278 feet from S.E. corner of station building, 31 feet from S.W. corner of paling, and 4 feet from S.E. end of same.	163·930	163·892
140		BM.12 / 40 A	212·2	G.T.S. ○ B.M. at Setharja Railway Station. On masonry pillar in platform in front of station building.	163·985	163·947
141		BM.13 / 40 A	214·1	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. 256/23.	162·044	162·006

Main-Line 52. (Sujawal to Shikarpur (Sind)).

Designation of Bench-marks			Distance from Sujawal	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
142		BM.14 / 40 A	215·8	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. 258/16.	163·450	163·412
143		BM.15 / 40 A	217·6	G.T.S. ○ B.M. On S.W. wing wall of bridge, near telegraph post No. 260/13.	162·818	162·779
	a/143	BM.16 / 40 A	217·9	G.T.S. □ B.M. at Ranipur Railway Station. Embedded outside paling at S. end of platform, 281 feet from S.E. corner of station building, 129 feet from S.E. corner of menials' quarters, 31 feet from S.W. corner of paling, and 4 feet from S.E. end of same.	167·385	167·345
144		BM.17 / 40 A	217·9	G.T.S. ○ B.M. at Ranipur Railway Station. On masonry pillar in front of station building.	167·642	167·602
145		BM.18 / 40 A	220·0	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. 262/22.	167·393	167·353
146		BM.19 / 40 A	221·6	G.T.S. ○ B.M. On S.W. return wall of bridge, near telegraph post No. 264/11.	168·407	168·366
	a/146	BM 20 / 40 A	222·2	G.T.S. □ B.M. at Gambat Railway Station. Embedded outside paling at S. end of platform, 269 feet from S.E. corner of station building, 127 feet from S.E. corner of menials' quarters, 10 feet from S. end of platform above ramp, and 4 feet from S.E. end of paling.	172·171	172·129
147		BM.21 / 40 A	222·3	G.T.S. ○ B.M. On coping of platform at Gambat Railway Station.	172·703	172·661
148		BM 22 / 40 A	224·1	G.T.S. ○ B.M. On W. end of S. abutment of bridge, near telegraph post No. 266/23.	175·840	175·797
149		BM.23 / 40 A	225·3	G.T.S. ○ B.M. On W. parapet of drain, near telegraph post No. 268/4.	172·541	172·499
150		BM.24 / 40 A	227·3	G.T.S. ○ B.M. On W. parapet of culvert, near telegraph post No. 270/4.	173·439	173·396
	a/150	BM.25 / 40 A	230·2	G.T.S. ○ B.M. On W. parapet of culvert, near telegraph post No. 272/24.	176·095	176·052

Main-Line 52. (Sujawal to Shikarpur (Sind)).

Designation of Bench-marks		Distance from Sujawal	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
151	BM.26 / 40 A	231·2	G.T.S. □ B.M. at Tando Mustikhan Railway Station. Embedded outside paling at S. end of platform, 269 feet from S.E. corner of station building, 10 feet from S. end of platform coping above ramp, and 4 feet from S.E. end of paling.	180·972	180·927
152	BM.27 / 40 A	231·3	G.T.S. ○ B.M. On coping of platform at Tando Mustikhan Railway Station.	180·727	180·682
153	BM.28 / 40 A	232·1	G.T.S. ○ B.M. On masonry pillar on W. side of railway line, near mile-plate No. 275.	179·908	179·863
154	BM.29 / 40 A	234·1	G.T.S. ○ B.M. On masonry pillar on W. side of railway line, near mile-plate No. 277.	180·989	180·943
155	BM.30 / 40 A	236·0	G.T.S. ○ B.M. On W. parapet of drain, near telegraph post No. 278/21.	177·799	177·754
156	BM.31 / 40 A	238·0	G.T.S. ○ B.M. On W. parapet of drain, near telegraph post No. 280/20.	181·389	181·343
157	BM.32 / 40 A	239·8	G.T.S. □ B.M. at Khairpur Mir's Railway Station. Embedded outside paling at S. end of platform, 262 feet from S. corner of station building, 156 feet from N.E. corner of Sub-Platelayer's house, 4 and 27 feet respectively from S.E. and S.W. ends of paling, and 9 feet from S. end of platform coping above ramp.	191·018	190·969
158	BM.33 / 40 A	239·8	G.T.S. ○ B.M. at Khairpur Mir's Railway Station. On coping of platform in front of station building.	190·069	190·020
159	BM.34 / 40 A	240·0	G.T.S. ○ B.M. On W. parapet of culvert, near telegraph post No. 281/21.	185·519	185·471
160	BM.35 / 40 A	242·2	G.T.S. ○ B.M. On masonry pillar on W. side of railway line, near mile-plate No. 285.	191·412	191·363
161	BM.36 / 40 A	244·2	G.T.S. ○ B.M. On masonry pillar on W. side of railway line, near mile-plate No. 287.	192·093	192·043
162	BM.37 / 40 A	246·2	G.T.S. ○ B.M. On masonry pillar on W. side of railway line, near mile-plate No. 289.	191·916	191·866
a/162	BM.38 / 40 A	247·3	G.T.S. □ B.M. at Begmanji Railway Station. Embedded outside paling at S. end of platform, 282 feet from S.E. corner of station building, 135 feet from S.E. corner of menials' quarters, 4 feet from S.E. end of paling, and 27 feet from S.W. corner of same.	193·428	193·378

Main-Line 52. (Sujawal to Shikarpur (Sind)).

Designation of Bench-marks			Distance from Sujawal	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
163		BM.39 / 40 A	247·3	G.T.S. ○ B.M. at Begmanji Railway Station. On masonry pillar in platform in front of station building.	193·086	193·036
164		BM.40 / 40 A	248·1	G.T.S. ○ B.M. On masonry pillar on W. side of railway line, near mile-plate No. 291.	192·158	192·108
165		BM.41 / 40 A	250·1	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. 292/22.	191·884	191·833
166		BM.42 / 40 A	252·1	G.T.S. ○ B.M. On masonry pillar on W. side of railway line, near mile-plate No. 295.	196·612	196·560
167		BM.43 / 40 A	254·1	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. 296/22.	201·203	201·150
	a/167	BM.44 / 40 A	255·6	G.T.S. □ B.M. at Rohri Junction Railway Station. Embedded S.E. of island platform near extreme end of ramp, 127 feet from N.E. corner of W. gate of station building on hill, 47 feet from S.W. corner of passengers' waiting shed, 213 feet from S.W. end of goods shed platform coping above ramp, and 114 feet from W. water column.	223·653	223·593
	b/167	BM.45 / 40 A	255·6	G.T.S. ○ B.M. On N. coping of island platform under overbridge at Rohri Junction Railway Station.	226·610	226·550
168		BM.46 / 40 A	256·9	G.T.S. ○ B.M. On S.E. parapet of bridge, 73 chains E. of Sukkur Railway Station.	221·036	220·977
169		BM.47 / 40 A	257·8	G.T.S. ○ B.M. On stone coping of platform in front of "Left Luggage Office" at Sukkur Railway Station.	205·642	205·587
	1/169	BM.48 / 40 A	258·1	G.T.S. ○ B.M. On S. end of third stone step in front of E. entrance to N. wing of N.W. Railway Institute, Sukkur.	235·330	235·267
	1a/169	BM.49 / 40 A	258·3	G.T.S. ○ B.M. On flooring of S. verandah of travellers' bungalow, Sukkur, 28 feet from S.W. corner of same, 1 foot from wall of building and 5 feet from centre of door, 2nd from W. or 4th from E.	241·137	241·072
	1b/169	BM.50 / 40 A	258·5	G.T.S. B.○M. On N. end of W. parapet of road bridge, about 100 feet N. of Municipal Office and Town Hall, Sukkur.	237·579	237·515
	1c/169	BM.51 / 40 A	257·8	G.T.S. □ B.M. at Sukkur Railway Station. Embedded in platform to W. of station building, flush with floor, 2 feet N. of base of Sukkur main home signal, 15 feet from edge of platform, 41 feet W. of water pipe and 56 feet W. of N.W. corner of lamp godown.	205·709	205·654

Main-Line 52. (Sujawal to Shikarpur (Sind)).

Designation of Bench-marks		Distance from Sujawal	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1d/169	BM.52/40 A	257·9	G.T.S. ○ B.M. On flooring of W. verandah of railway pay clerk's office, Sukkur, near N.W. corner of main building.	199·540	199·486
2/169	BM.53/40 A	258·5	G.T.S. ○ B.M. On second stone step in front of main entrance to Church of England, Sukkur.	227·878	227·817
170	BM.54/40 A	258·6	G.T.S. B.○M. On base of W. distant signal at Sukkur Railway Station.	201·406	201·352
171	BM.55/40 A	260·1	B.○M. On E. return wall of drain, near telegraph post No. 331/1.	198·652	198·598
172	BM.56/40 A	262·0	G.T.S. 6 B.M. On N. parapet of culvert, near telegraph post No. 329/4.	200·206	200·152
173	BM.57/40 A	262·0	G.T.S. □ B.M. at Shahpur Railway Station. Embedded W. of station, 6 inches below level of rails, 2 feet W. of base of home signal, and 120 feet W. of N.W. corner of level crossing gate lodge.	199·902	199·848
174	BM.58/40 A	264·0	G.T.S. ○ B.M. On S. parapet of culvert No. 13, near telegraph post No. 327/3.	199·558	199·504
175	BM.59/40 A	265·6	G.T.S. ○ B.M. On base of E. distant signal at Bagarji Railway Station.	197·742	197·688
176	BM.60/40 A	266·1	G.T.S. □ B.M. at Bagarji Railway Station. Embedded flush with level of station platform, 2 feet N. of base of home signal, 14 feet from edge of platform, 109 feet from N.W. corner of station building, and 108 feet from N.E. corner of station master's quarters.	199·199	199·145
177	BM.61/40 A	267·3	G.T.S. ○ B.M. On S. parapet of culvert No. 20, near telegraph post No. 323/18.	197·191	197·137
178	BM.62/40 A	269·2	G.T.S. ○ B.M. On S. parapet of culvert No. 27, near telegraph post No. 321/22.	197·363	197·309
a/178	BM.63/40 A	270·5	G.T.S. ○ B.M. On S. parapet of culvert No. 28, near telegraph post No. 320/17.	197·501	197·447
b/178	BM.64/40 A	271·9	G.T.S. ○ B.M. On S. cap of E. abutment of bridge, near telegraph post No. 319/2.	198·748	198·693

Main-Line 52. (Sujawal to Shikarpur (Sind)).

Designation of Bench-marks		Distance from Sujawal	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1b/178	BM.65/40 A	273·0	G.T.S. □ B.M. at Ruk Railway Station. Embedded flush with platform level, 4 feet S. of base of home signal, 15 feet from N.W. corner of main entrance, 36 feet from N.E. corner of station master's room and 16 feet from edge of platform.	199·517	199·462
179	BM.66/40 A	273·1	G.T.S. ○ B.M. On E. cap of S. abutment of bridge, near telegraph post No. P 318/22.	200·013	199·957
180	BM.67/40 A	273·9	G.T.S. ○ B.M. On N.W. cap of bridge No. 1, near telegraph post No. P 319/18.	193·356	193·302
181	BM.68/40 A	275·5	G.T.S. ○ B.M. On N.W. cap of bridge No. 4, near telegraph post No. P 321/5.	195·176	195·121
182	BM.69/40 A	276·8	G.T.S. ○ B.M. On N.W. cap of bridge No. 11, near telegraph post No. P 322/10.	195·227	195·172
a/182	BM.70/40 A	277·8	G.T.S. ○ B.M. On N.W. cap of bridge No. 13A, near telegraph post No. P 323/9.	195·047	194·992
b/182	BM.71/40 A	279·2	G.T.S. ○ B.M. On base of home signal at Jamra Railway Station.	194·742	194·687
183	BM.72/40 A	281·0	G.T.S. ○ B.M. On N.W. cap of bridge No. 22, near telegraph post No. P 326/11.	201·103	201·045
184	BM.73/40 A	281·9	○ On N.E. cap of drain No. 25, near telegraph post No. P 327/10.	195·976	195·920
a/184	BM.74/40 A	283·0	G.T.S. ○ B.M. On plinth of railway rest house, Shikarpur, on W. side of building, 23 feet from N.W. corner of same and 22 feet from centre of main entrance.	193·832	193·776
b/184	BM.75/40 A	283·0	G.T.S. ○ B.M. On flooring of E. verandah of Government High School, Shikarpur, 2 and 33 feet respectively from N.W. and S.E. corners of same, and 10 feet from centre of E. door of main building.	192·799	192·743

Main-Line 52. (Sujawal to Shikarpur (Sind)).

Designation of Bench-marks		Distance from Sujawal	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
c/184	BM.76/40 A	283·2	G.T.S. ○ B.M. On uppermost step at back or E. side of Shikarpur railway station at plinth level, 3 feet from N.E. corner of building and 12 feet from centre of central arched entrance to passengers' waiting hall.	197·266	197·209
1/184	BM.77/40 A	282·0	G.T.S. ○ B.M. On N.W. cap of bridge No. 26, near telegraph post No. P 327/12.	197·373	197·316
2/184	BM.78/40 A	283·1	G.T.S. □ B.M. at Shikarpur Railway Station. Embedded S. of station building outside platform enclosure between railway line and road, and 6 inches below ground level; 67 feet N. of station well, 72 feet N. of N.E. corner of tank house, and 163 feet from N.W. corner of railway servants' pakka quarters.	191·431	191·376
185	BM.79/40 A	282·2	Iron plug driven horizontally into N. wall of Shikarpur kachahri (now Sessions Judge's Court) on level of plinth, 53 feet from N.E. angle of building.	193·738	193·682
a/185	BM.80/40 A	282·2	G.T.S. ○ B.M. at Sessions Judge's Court, Shikarpur. On flooring of S. verandah, 35 and 37 feet respectively from N.W. and S.W. corners of same, 5 feet from centre of second door from W. of main building, and 10 inches from wall.	193·456	193·400
b/185	BM.81/40 A	282·3	G.T.S. ○ B.M. On 3rd step in front of W. door on N. side of the late Major Stewart's house to E. of Sessions Judge's Court, Shikarpur.	193·194	193·138

Main-Line 53. (Shikarpur (Sind) to Tatta).

Designation of Bench-marks			Distance from Shikarpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.79 / 40 A	0·0	Iron plug driven horizontally into N. wall of Shikarpur kachahri, (near Session's Judge's Court) on level of plinth, 53 feet from N.E. angle of building.	193·738	193·682
2		BM.82 / 40 A	2·4	G.T.S. + B.M. On top of stone, 20 feet N. of 2nd mile-stone from Shikarpur and 37th from Larkhana.	191·568	191·513
	a / 2	BM.83 / 40 A	4·3	On upper mark-stone of Mari G.T. Survey Tower Station, lat. 27° 55′ 7″·38, long. 68° 35′ 43″·40. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	225·487	225·422
	b / 2	BM.84 / 40 A	15·5	On upper mark-stone of Yusuf G.T. Survey Platform Station, lat. 27° 51′ 8″·74, long. 68° 26′ 14″·75. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	215·139	215·077
	c / 2	BM.85 / 40 A	28·2	On ground level mark-stone of Jalbani G.T. Survey Tower Station, lat. 27° 49′ 6″·09, long. 68° 13′ 59″·05. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	165·580	165·532
3		BM.86 / 40 A	39·8	On ground level mark-stone of Chandia-Khan G.T. Survey Tower Station, lat. 27° 42′ 16″·21, long. 68° 5′ 31″·50. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	155·163	155·121
	a / 3	BM.1 / 35 M	48·7	On ground level mark-stone of Lakha G.T. Survey Tower Station, lat. 27° 37′ 14″·30, long. 67° 58′ 53″·50. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	154·022	153·981
	b / 3	BM.2 / 35 M	61·5	On upper mark-stone of Sojra G. T. Survey Tower Station, lat. 27° 37′ 49″·80, long. 67° 47′ 51″·72. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	173·335	173·289
	c / 3	BM.3 / 35 M	89·5	On upper mark-stone of Maru Pir G. T. Survey Tower Station, lat. 27° 18′ 42″·01, long. 67° 38′ 30″·86. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	174·032	173·985
	d / 3	BM.4 / 35 M	102·0	On upper mark-stone of Sabar Khan G. T. Survey Tower Station, lat. 27° 8′ 40″·72, long. 67° 34′ 22″·86. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	158·252	158·210
	e / 3	BM.5 / 35 M	112·9	On upper mark-stone of Mir-ka-kuba G. T. Survey Tower Station, lat. 27° 0′ 3″·78, long. 67° 29′ 59″·20. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	219·020	218·961

Main-Line 53. (Shikarpur (Sind) to Tatta).

Designation of Bench-marks			Distance from Shikarpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
	1/3	BM.6 / 35 M	*miles* 69·6	On upper mark-stone of Karohar G. T. Survey Tower Station, lat. 27° 30′ 25″·11, long. 67° 41′ 59″·25. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	*feet* 183·079	*feet* 183·042
4		BM.1 / 35 N	125·1	On ground level mark-stone of Hairo G. T. Survey Tower Station, lat. 26° 49′ 47″·04, long. 67° 28′ 10″·07. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	202·794	202·753
	a/4	BM.2 / 35 N	140·6	On upper mark-stone of Mir Khan G. T. Survey Tower Station, lat. 26° 36′ 20″·80, long. 67° 28′ 40″·10. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	183·819	183·782
	b/4	BM.3 / 35 N	152·2	Gularo Bench Mark. Embedded at N.W. corner of a mound, 4 feet below surface. Gularo village lies about ¾ mile S. of Soopur (Tuppidari), on W. bank of Nara river.	113·854	113·831
	c/4	BM.4 / 35 N	168·6	G.T.S. Bench Mark, Sehwan. Embedded in mound about 2 feet below its surface and 46 feet from S. gate of Jail, near mukhtiarkari.	116·783	116·759
5		BM.5 / 35 N	168·8	Top of mile-stone No. 24 from Dadu and No. 87 from Kotri near Sehwan Mukhtiarkari.	119·074	119·053
6		BM.6 / 35 N	176·6	Top of mile-stone No. 8 from Sehwan and No. 78 from Kotri.	114·425	114·406
7		BM.7 / 35 N	177·6	Top of mile-stone No. 9 from Sehwan and No. 77 from Kotri.	112·476	112·458
8		BM.8 / 35 N	178·5	Top of mile-stone No. 10 from Sehwan and No. 76 from Kotri.	110·749	110·731
9		BM.9 / 35 N	179·5	Top of mile-stone No. 11 from Sehwan and No. 75 from Kotri.	108·020	108·003
10		BM.10 / 35 N	180·5	Top of mile-stone No. 12 from Sehwan and No. 74 from Kotri.	114·027	114·009
11		BM.11 / 35 N	181·5	Top of mile-stone No. 13 from Sehwan and No. 73 from Kotri.	110·851	110·833
12		BM.12 / 35 N	182·5	Top of mile-stone No. 14 from Sehwan and No. 72 from Kotri.	111·391	111·373
13		BM.13 / 35 N	183·5	Top of mile-stone No. 15 from Sehwan and No. 71 from Kotri.	110·555	110·537
14		BM.14 / 35 N	184·5	Top of mile-stone No. 16 from Sehwan and No. 70 from Kotri.	108·853	108·836

Main-Line 53. (Shikarpur (Sind) to Tatta).

Designation of Bench-marks		Distance from Shikarpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
15	BM.15 / 35 N	185·5	Top of mile-stone No. 17 from Sehwan and No. 69 from Kotri.	103·696	103·680
16	BM.16 / 35 N	186·5	Top of mile-stone No. 18 from Sehwan and No. 68 from Kotri.	109·883	109·866
17	BM.17 / 35 N	187·5	Base of mile-stone No. 19 from Sehwan and No. 67 from Kotri.	106·714	106·697
18	BM.18 / 35 N	188·6	Top of mile-stone No. 20 from Sehwan and No. 66 from Kotri.	110·028	110·011
19	BM.53 / 40 B	189·6	Base of mile-stone No. 21 from Sehwan and No. 65 from Kotri.	109·894	109·877
20	BM.54 / 40 B	190·6	Top of mile-stone No. 22 from Sehwan and No. 64 from Kotri.	109·198	109·181
21	BM.55 / 40 B	191·6	Top of mile-stone No. 23 from Sehwan and No. 63 from Kotri.	109·097	109·080
22	BM.56 / 40 B	192·7	Top of mile-stone No. 24 from Sehwan and No. 62 from Kotri.	107·414	107·398
23	BM.57 / 40 B	193·7	Top of mile-stone No. 25 from Sehwan and No. 61 from Kotri.	107·380	107·364
24	BM.58 / 40 B	194·7	Top of mile-stone No. 26 from Sehwan and No. 60 from Kotri.	105·661	105·645
25	BM.59 / 40 B	195·7	Top of mile-stone No. 27 from Sehwan and No. 59 from Kotri.	105·744	105·728
26	BM.60 / 40 B	196·7	Top of mile-stone No. 28 from Sehwan and No. 58 from Kotri.	106·018	106·002
27	BM.61 / 40 B	197·7	Top of mile-stone No. 29 from Sehwan and No. 57 from Kotri.	105·132	105·116
28	BM.62 / 40 B	199·0	Top of mile-stone No. 30 from Sehwan and No. 56 from Kotri.	101·853	101·838
29	BM.63 / 40 B	200·0	Top of mile-stone No. 31 from Sehwan and No. 55 from Kotri.	104·034	104·019
30	BM.64 / 40 B	201·0	Top of mile-stone No. 32 from Sehwan and No. 54 from Kotri.	109·548	109·532
31	BM.65 / 40 B	202·1	Top of mile-stone No. 33 from Sehwan and No. 53 from Kotri.	107·891	107·875

Main-Line 53. (Shikarpur (Sind) to Tatta).

Designation of Bench-marks			Distance from Shikarpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
32		BM.66 / 40 B	203·1	Top of mile-stone No. 34 from Sehwan and No. 52 from Kotri.	103·087	103·072
33		BM.67 / 40 B	204·1	Top of mile-stone No. 35 from Sehwan and No. 51 from Kotri.	102·458	102·443
	a / 33	BM.68 / 40 B	204·9	Top of bench-mark on N. bank of Karo Wah engraved "B.M. No. 1", 203 feet E. of road.	105·341	105·326
34		BM.69 / 40 B	205·1	Top of mile-stone No. 36 from Sehwan and No. 50 from Kotri.	100·563	100·549
35		BM.70 / 40 B	206·1	Top of mile-stone No. 37 from Sehwan and No. 49 from Kotri.	101·335	101·321
36		BM.91 / 40 C	207·1	Top of mile-stone No. 38 from Sehwan and No. 48 from Kotri.	100·977	100·963
37		BM.92 / 40 C	208·1	Top of mile-stone No. 39 from Sehwan and No. 47 from Kotri.	101·054	101·040
38		BM.93 / 40 C	209·1	Top of mile-stone No. 40 from Sehwan and No. 46 from Kotri.	99·773	99·759
39		BM.94 / 40 C	210·2	Top of mile-stone No. 41 from Sehwan and No. 45 from Kotri.	99·607	99·593
40		BM.95 / 40 C	211·2	Top of mile-stone No. 42 from Sehwan and No. 44 from Kotri.	97·190	97·177
41		BM.96 / 40 C	212·2	Top of mile-stone No. 43 from Sehwan and No. 43 from Kotri.	95·018	95·005
42		BM.97 / 40 C	213·2	Top of mile-stone No. 44 from Sehwan and No. 42 from Kotri.	95·015	95·002
43		BM.98 / 40 C	213·7	G.T.S. Bench Mark, Manjunda. Embedded in N.W. corner of compound of dharmshala, about 6 feet from two adjacent walls, and 3 feet below ground level.	88·056	88·044
44		BM.99 / 40 C	214·2	Top of mile-stone No. 45 from Sehwan and No. 41 from Kotri.	94·392	94·379
45		BM.100 / 40 C	215·2	Top of mile-stone No. 46 from Sehwan and No. 40 from Kotri	92·400	92·388
46		BM.101 / 40 C	216·2	Top of mile-stone No. 47 from Sehwan and No. 39 from Kotri.	94·872	94·859
47		BM.102 / 40 C	217·2	Top of mile-stone No. 48 from Sehwan and No. 38 from Kotri.	98·463	98·450

Main-Line 53. (Shikarpur (Sind) to Tatta).

Designation of Bench-marks			Distance from Shikarpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
48		BM.103 / 40 C	218·2	Top of mile-stone No. 49 from Sehwan and No. 37 from Kotri.	94·372	94·360
49		BM.104 / 40 C	219·2	Top of mile-stone No. 50 from Sehwan and No. 36 from Kotri.	89·160	89·149
50		BM.105 / 40 C	220·3	Top of mile-stone No. 51 from Sehwan and No. 35 from Kotri.	87·036	87·025
51		BM.106 / 40 C	221·3	Top of mile-stone No. 52 from Sehwan and No. 34 from Kotri.	88·564	88·553
52		BM.107 / 40 C	222·3	Top of mile-stone No. 53 from Sehwan and No. 33 from Kotri.	87·487	87·476
53		BM.108 / 40 C	223·4	Top of mile-stone No. 54 from Sehwan and No. 32 from Kotri.	87·313	87·302
54		BM.109 / 40 C	224·4	Top of mile-stone No. 55 from Sehwan and No. 31 from Kotri.	86·752	86·741
55		BM.110 / 40 C	225·4	Top of mile-stone No. 56 from Sehwan and No. 30 from Kotri.	87·696	87·685
56		BM.111 / 40 C	226·5	Top of mile-stone No. 57 from Sehwan and No. 29 from Kotri.	87·894	87·883
	a / 56	BM.112 / 40 C	227·3	Bench-mark on Bagdada Canal, between B.M. No. 56 and B.M. No. 55 superscribed "B.M. No. 2, 1 Mile." There is another canal bench-mark a few yards from it, without any superscription, 2 feet higher than the former one.	86·988	86·977
57		BM.113 / 40 C	227·5	Top of mile-stone No. 58 from Sehwan and No. 28 from Kotri.	87·779	87·768
58		BM.114 / 40 C	228·5	Top of mile-stone No. 59 from Sehwan and No. 27 from Kotri.	85·949	85·939
59		BM.115 / 40 C	229·4	Top of mile-stone No. 26 from Kotri.	83·042	83·032
60		BM.116 / 40 C	230·5	Top of mile-stone No. 25 from Kotri.	81·871	81·861
61		BM.117 / 40 C	231·5	Top of mile-stone No. 24 from Kotri.	80·738	80·728
62		BM.118 / 40 C	232·5	Top of mile-stone No. 23 from Kotri.	79·649	79·640
63		BM.119 / 40 C	233·5	Top of mile-stone No. 22 from Kotri.	78·621	78·612

Main-Line 53. (Shikarpur (Sind) to Tatta).

Designation of Bench-marks			Distance from Shikarpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
64		BM.120 / 40 C	234·5	Top of mile-stone No. 21 from Kotri.	79·802	79·793
65		BM.121 / 40 C	237·6	Top of mile-stone No. 18 from Kotri.	75·406	75·398
66		BM.122 / 40 C	238·6	Top of mile-stone No. 17 from Kotri.	74·228	74·220
67		BM.123 / 40 C	239·6	Top of mile-stone No. 16 from Kotri.	74·685	74·677
68		BM.124 / 40 C	240·5	Top of mile-stone No. 15 from Kotri.	73·974	73·966
69		BM.125 / 40 C	241·5	Top of mile-stone No. 14 from Kotri.	73·230	73·222
70		BM.126 / 40 C	242·5	Top of mile-stone No. 13 from Kotri.	70·883	70·875
71			243·5	Destroyed.	76·118	76·110
	a / 71	BM 51 / 40 C	243·5	⊙ at G.T.S. Bench-mark. On top of stone prism, 189 feet from mile-stone No. 12, Kotri and bearing 326° from same.	72·311	72·304
72		BM.127 / 40 C	244·5	Top of mile-stone No. 11 from Kotri.	75·909	75·901
73			245·5	Destroyed.	72·549	72·541
74			246·5	Destroyed.	71·593	71·585
75			247·5	Destroyed.	71·933	71·926
76			248·5	Destroyed.	67·027	67·020
77			249·6	Destroyed.	71·176	71·169
78			250·5	Destroyed.	66·356	66·349
79			251·6	Destroyed.	68·877	68·870
80			252·7	Destroyed.	66·425	66·418

Main-Line 53. (Shikarpur (Sind) to Tatta).

Designation of Bench-marks			Distance from Shikarpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
81			253·7	Destroyed.	66·548	66·542
82			254·7	Destroyed.	67·638	67·631
83			255·5	Destroyed.	66·111	66·105
	a/83	BM.128/40 C	255·9	Railway Bench-mark, Kotri. Embedded where tramway to river crosses road to Sehwan, about 15 paces S.W. from angle of junction.	66·372	66·366
84			255·8	Destroyed.	63·840	63·834
85			256·9	Destroyed.	62·885	62·879
86			257·9	Destroyed.	65·238	65·232
87			259·0	Destroyed.	71·737	71·730
88			260·1	Destroyed.	79·037	79·030
89			261·0	Destroyed.	83·727	83·719
90			262·1	Destroyed.	84·903	84·895
91			263·1	Destroyed.	79·334	79·327
92			264·1	Destroyed.	76·524	76·517
93			267·1	Destroyed.	65·002	64·996
94			268·1	Destroyed.	58·217	58·212
95		BM.129/40 C	269·0	Top of mile-stone No. 13 from Kotri and No. 11 from Jerruck.	54·811	54·806
96		BM.130/40 C	270·0	Base of mile-stone No. 14 from Kotri and No. 10 from Jerruck.	56·540	56·535

Main-Line 53. (Shikarpur (Sind) to Tatta).

Designation of Bench-marks		Distance from Shikarpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
97	BM.131 / 40 C	270·9	Top of mile-stone No. 15 from Kotri and No. 9 from Jerruck.	50·408	50·404
98	BM.132 / 40 C	271·9	Top of mile-stone No. 16 from Kotri and No. 8 from Jerruck.	55·878	55·873
99	BM.133 / 40 C	272·9	Top of mile-stone No. 17 from Kotri and No. 7 from Jerruck.	55·345	55·341
100	BM.134 / 40 C	273·8	Top of mile-stone No. 18 from Kotri and No. 6 from Jerruck.	51·618	51·614
101	BM.135 / 40 C	274·8	Top of mile-stone No. 19 from Kotri and No. 5 from Jerruck.	45·664	45·660
102	BM.136 / 40 C	275·8	Top of mile-stone No. 20 from Kotri and No. 4 from Jerruck.	55·210	55·206
103	BM.137 / 40 C	276·7	Top of mile-stone No. 21 from Kotri and No. 3 from Jerruck.	63·556	63·551
104	BM.138 / 40 C	277·6	Top of mile-stone No. 22 from Kotri and No. 2 from Jerruck.	67·432	67·427
105	BM.139 / 40 C	278·7	Top of mile-stone No. 23 from Kotri and No. 1 from Jerruck.	77·405	77·399
106	BM.140 / 40 C	279·6	Top of mile-stone No. 24 from Kotri and No. 0 from Jerruck.	86·983	86·977
107	BM.141 / 40 C	280·5	Top of mile-stone No. 1 from Jerruck and No. 31 from Tatta.	81·787	81·781
a / 107	BM.142 / 40 C	281·5	Top of Lamp Pillar, Jerruck, at junction of roads from Tatta and Kotri, 143 feet from B.M. No. 106 and 123 feet from mile-stone No. $\frac{0\ \text{Jerruck}}{32\ \text{Tatta}}$.	87·258	87·252
b / 107	BM.143 / 40 C	281·5	G.T.S. Bench-mark at Jerruck. Embedded in S. angle of compound of dharmshala, 5 feet from adjacent walls, and 8 inches below ground level.	84·144	84·138
108	BM.144 / 40 C	281·5	Top of mile-stone No. 2 from Jerruck and No. 30 from Tatta.	47·134	47·131
109	BM.145 / 40 C	282·5	Top of mile-stone No. 3 from Jerruck and No. 29 from Tatta.	46·386	46·383
110	BM.146 / 40 C	283·4	Top of mile-stone No. 4 from Jerruck and No. 28 from Tatta.	79·852	79·846

Main-Line 53. (Shikarpur (Sind) to Tatta).

Designation of Bench-marks		Distance from Shikarpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
111	BM.147 / 40 C	284·4	Top of mile-stone No. 5 from Jerruck and No. 27 from Tatta.	93·236	93·229
112	BM.148 / 40 C	285·4	Top of mile-stone No. 6 from Jerruck and No. 26 from Tatta.	132·976	132·967
113	BM.149 / 40 C	286·3	Top of mile-stone No. 7 from Jerruck and No. 25 from Tatta.	77·025	77·020
114	BM.63 / 40 D	287·3	Top of mile-stone No. 8 from Jerruck and No. 24 from Tatta.	65·788	65·783
115	BM.64 / 40 D	288·9	Canal Bench Mark. B.M. inscribed II on E. of road, and surrounded by three mounds and a ditch, opposite Soonda village, W. of road.	38·143	38·140
116	BM.65 / 40 D	289·2	Top of mile-stone No. 10 from Jerruck and No. 22 from Tatta.	42·649	42·646
117	BM.66 / 40 D	290·1	Top of mile-stone No. 11 from Jerruck and No. 21 from Tatta.	44·338	44·335
118	BM.67 / 40 D	291·1	Top of mile-stone No. 12 from Jerruck and No. 20 from Tatta.	44·892	44·889
119	BM.68 / 40 D	292·0	Top of mile-stone No. 13 from Jerruck and No. 19 from Tatta.	42·519	42·516
120	BM.69 / 40 D	293·0	Top of mile-stone No. 14 from Jerruck and No. 18 from Tatta.	43·466	43·463
121	BM.70 / 40 D	294·0	Top of mile-stone No. 15 from Jerruck and No. 17 from Tatta.	43·071	43·068
122	BM.71 / 40 D	294·9	Top of mile-stone No. 16 from Jerruck and No. 16 from Tatta.	41·317	41·314
123	BM.72 / 40 D	295·9	Top of mile-stone No. 17 from Jerruck and No. 15 from Tatta.	40·137	40·135
124	BM.73 / 40 D	296·8	Top of mile-stone No. 18 from Jerruck and No. 14 from Tatta.	50·846	50·843
125	BM.74 / 40 D	297·7	Top of mile-stone No. 19 from Jerruck and No. 13 from Tatta.	53·699	53·696
126	BM.75 / 40 D	298·7	Top of mile-stone No. 20 from Jerruck and No. 12 from Tatta.	62·255	62·251
127	BM.76 / 40 D	299·7	Top of mile-stone No. 21 from Jerruck and No. 11 from Tatta.	72·396	72·392

Main-Line 53. (Shikarpur (Sind) to Tatta).

Designation of Bench-marks		Distance from Shikarpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
128	BM.77 / 40 D	300·6	Top of mile-stone No. 22 from Jerruck and No. 10 from Tatta.	60·755	60·751
129	BM.78 / 40 D	301·5	Top of mile-stone No. 23 from Jerruck and No. 9 from Tatta.	71·732	71·728
130	BM.92 / 35 P	302·5	Top of mile-stone No. 24 from Jerruck and No. 8 from Tatta.	74·038	74·034
131	BM.82 / 35 P	303·0	G.T.S. O B.M. On top of stone 3 inches above ground level, near Chilia dharmshala, at 10 paces E. of road, and 43 paces from N.W. angle of dharmshala.	41·780	41·778
132	BM.93 / 35 P	303·5	Top of mile-stone No. 25 from Jerruck and No. 7 from Tatta.	28·623	28·621
133	BM.94 / 35 P	304·4	Top of mile-stone No. 26 from Jerruck and No. 6 from Tatta.	30·223	30·221
134	BM.95 / 35 P	305·3	Top of mile-stone No. 27 from Jerruck and No. 5 from Tatta.	31·305	31·303
135	BM.96 / 35 P	306·3	Top of mile-stone No. 28 from Jerruck and No. 4 from Tatta.	33·621	33·619
136	BM.97 / 35 P	307·2	Top of mile-stone No. 29 from Jerruck and No. 3 from Tatta.	34·985	34·983
137	BM.98 / 35 P	308·2	Top of mile-stone No. 30 from Jerruck and No. 2 from Tatta.	34·047	34·045
138		309·1	Destroyed.	33·327	33·325
139		310·0	Destroyed.	35·358	35·356
140	BM.66 / 35 P	310·1	G.T.S. Bench Mark at Tatta. Embedded in mound on which Tatta Dak Bungalow is built, 158 feet from mile-stone No. XXXII Jerruck / 0 Tatta, 112 feet from N. angle of travellers' bungalow, 150 feet from S.E. angle of compound of Mukhtiarkari, and Sowars' lines, and 2 inches below ground level.	38·766	38·764

Main-Line 54. (Shikarpur (Sind) to Murghai).

Designation of Bench-marks			Distance from Shikarpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.79 / 40 A	0·0	Iron plug driven horizontally into N. wall of Shikarpur kachahri, (now Sessions Judge's Court) on level of plinth, 53 feet from N.E. angle of building.	193·738	193·682
	a / 1	BM.87 / 40 A	6·7	On upper mark-stone of Hatidara G. T. Survey Tower Station, lat. 27° 59′ 2″·16, long. 68° 44′ 55″·65. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	234·608	234·540
2		BM.1 / 39 D	17·6	On ground level mark-stone of Jangal-pahora G. T. Survey Tower Station, lat. 28° 2′ 13″·05, long. 68° 55′ 2″·60. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	203·312	203·252
3		BM.2 / 39 D	28·5	On ground level mark-stone of Litan G. T. Survey Tower Station, lat. 28° 11′ 22″·86, long. 68° 58′ 19″·68. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	213·144	213·079
	a / 3	BM.1 / 39 H	44·6	On ground level mark-stone of Kandkot G.T. Survey Tower Station, lat. 28° 14′ 43″·05, long. 69° 10′ 43″·28. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	231·081	231·010
	b / 3	BM.2 / 39 H	58·7	Bench Mark No. 1 of Canal line of levels from Kasmor to Jacobabad, about 250 yards W. by N. from Kumbri spiral tower.	233·271	233·200
4		BM.3 / 39 H	67·5	B.M. No. V of Captain Soady's levels from Kasmor to Jacobabad, in front of *garhi* of Dudur-ka-kote, on road to Kasmor. (Canal bench-mark).	240·549	240·470
	1 / 4	BM.4 / 39 H	67·7	On ground level mark-stone of Kasmor G.T. Survey Tower Station, lat. 28° 26′ 28″·66, long. 69° 33′ 57″·04. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	245·352	245·272
5		BM.5 / 39 H	73·6	B.M. No. XX of Canal line of levels to Jacobabad, about 200 yards N.E. of Sowars' lines at Kasmor.	246·454	246·374
6		BM.6 / 39 H	80·3	B.M. No. XVIII of Captain Soady's Canal line of levels, at Lungey-ke-koo, 350 yards S. of point where road from new Kasmor to Lungey-ke-koo joins road from old Kasmor to Shahwali. (Canal bench-mark).	252·987	252·905
	a / 6	BM 7 / 39 H	84·0	Shahwali Bench Mark, lat. 28° 27′ 38″·4, long. 69° 43′ 38″·7. A secondary point of Great Indus Series. (For full description *see* Synoptical Volume).	264·444	264·358

Main-Line 54. (Shikarpur (Sind) to Murghai).

Designation of Bench-marks		Distance from Shikarpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
7	BM.8 / 39 II	99·4	Kin Bench Mark, lat. 28° 37′ 39″·4, long. 69° 53′ 23″·0. A secondary point of Great Indus Series. (For full description *see* Synoptical Volume).	270·587	270·495
8	BM.1 / 39 L	114·8	Badli Bench Mark Station, lat. 28° 45′ 59″·29, long. 70° 4′ 52″·08. A secondary point of Great Indus Series. (For full description *see* Synoptical Volume).	276·529	276·432
9	BM.2 / 39 L	130·6	Murghai Bench Mark, lat. 28° 55′ 8″·6, long. 70° 15′ 57″·8. A secondary point of Great Indus Series. (For full description *see* Synoptical Volume).	293·409	293·303

Main-Line 55. (Murghai to Chach).

Designation of Bench-marks			Distance from Murghai	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.2 / 39 L	0·0	Murghai Bench Mark, lat. 28° 55′ 8″·6, long. 70° 15′ 57″·8. A secondary point of Great Indus Series. (For full description *see* Synoptical Volume).	293·409	293·303
2		BM.1 / 39 K	14·3	Rajanpur Bench Mark, lat. 29° 6′ 20″·0, long. 70° 19′ 27″·4. A secondary point of Great Indus Series. (For full description *see* Synoptical Volume).	304·677	304·562
3		BM.2 / 39 K	29·7	Fazalpur Bench Mark. Embedded 6 inches below surface of ground, on E. side of road, 374 yards from N. gate of town of Fazalpur, and surrounded by 3 mounds of earth and a ditch.	321·424	321·298
4		BM.3 / 39 K	42·2	Muhammadpur Bench Mark, lat. 29° 28′ 26″·1, long. 70° 30′ 34″·7. A secondary point of Great Indus Series. (For full description *see* Synoptical Volume).	337·802	337·665
5		BM.4 / 39 K	55·1	Jampur Bench Mark Station, lat. 29° 38′ 48″·91, long. 70° 35′ 37″·32. A secondary point of Great Indus Series. (For full description *see* Synoptical Volume).	348·430	348·284
6		BM.5 / 39 K	72·5	Chhota Kot Bench Mark. Embedded on E. side of road to Dera Ghazi Khan, where it takes a bend, about 440 yards N. of Chhota Kot.	372·731	372·567
7		BM.6 / 39 K	79·5	Mian Bara Bench Mark. Embedded 1 foot below ground level, on W. side of road, in grave-yard near Chuhetra well, 1 mile S. of Guggu village.	386·161	385·988
8		BM.1 / 39 J	86·5	Dera Ghazi Khan Bench Mark. Embedded 1 foot below ground level between gate and S.W. bastion of treasury, and adjoining the latter, about 120 feet E. of masonry flower stand to S. of and fronting kachahri.	394·480	394·301
	1/8	BM.2 / 39 J	89·5	On ground level mark-stone of Dorata G.T. Survey Tower Station, lat. 30° 2′ 32″·33, long. 70° 47′ 52″·44. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	396·479	396·300
9		BM.3 / 39 J	100·1	On ground level mark-stone of Khemwala G. T. Survey Tower Station, lat. 30° 9′ 45″·76, long. 70° 56′ 46″·32. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	409·450	409·261
	a/9	BM.1 / 39 N	109·2	On ground level mark-stone of Mahiwala G. T. Survey Tower Station, lat. 30° 15′ 45″·96, long. 71° 2′ 32″·28. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	428·499	428·298
	b/9	BM.2 / 39 N	118·9	On ground level mark-stone of Abbaswala G. T. Survey Tower Station, lat. 30° 24′ 17″·59, long. 71° 2′ 36″·06. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	448·866	448·651

Main-Line 55. (Murghai to Chach).

Designation of Bench-marks			Distance from Murghai	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	c/9	BM.4 / 39 J	132·3	On upper mark-stone of Dera Din Panah G. T. Survey Platform Station, lat. 30° 34′ 1″·87, long. 70° 56′ 7″·29. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	489·688	489·446
10		BM 3 / 39 N	142·5	On ground level mark-stone of Sakwala G. T. Survey Tower Station, lat. 30° 41′ 40″·20, long. 71° 1′ 5″·62. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	474·252	474·013
	1/10	BM.5 / 39 J	153·3	On ground level mark-stone of Farowala G. T. Survey Tower Station, lat. 30° 49′ 53″·66, long. 70° 55′ 58″·88. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	471·270	471·027
	2/10	BM.6 / 39 J	163·2	On ground level mark-stone of Sukhiwala G. T. Survey Tower Station, lat. 30° 57′ 49″·49, long. 70° 58′ 4″·98. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	490·431	490·173
	3/10	BM.1 / 39 I	172·5	On ground level mark-stone of Shahpur G. T. Survey Tower Station, lat. 31° 5′ 37″·87, long. 70° 56′ 37″·83. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	504·339	504·068
	4/10	BM.1 / 39 M	182·0	On ground level mark-stone of Muhammad Shah G. T. Survey Tower Station, lat. 31° 13′ 13″·47, long. 71° 0′ 32″·92. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	512·769	512·488
	5/10	BM.2 / 39 I	191·2	On ground level mark-stone of Jharkil G. T. Survey Tower Station, lat. 31° 21′ 13″·65, long. 70° 59′ 44″·80. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	531·668	531·371
	6/10	BM.2 / 39 M	199·8	On ground level mark-stone of Kasain G. T. Survey Tower Station, lat. 31° 27′ 30″·22, long. 71° 3′ 39″·59. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	550·460	550·148
	7/10	BM.3 / 39 M	212·0	On ground level mark-stone of Bakar G. T. Survey Tower Station, lat. 31° 37′ 42″·23, long 71° 3′ 24″·30. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	578·795	578·459
	8/10	BM.4 / 39 M	221·0	On ground level mark-stone of Segra G. T. Survey Tower Station, lat. 31° 45′ 3″·21, long. 71° 5′ 55″·17. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	605·617	605·259

Main-Line 55. (Murghai to Chach).

Designation of Bench-marks		Distance from Murghai	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
8a/10	BM.5/39M	230·1	On ground level mark-stone of Ahmad Sindi G. T. Survey Tower Station, lat. 31° 52′ 42″·18, long. 71° 7′ 26″·50. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	618·922	618·550
8b/10	BM.1/38P	240·2	On ground level mark-stone of Sandi G. T. Survey Tower Station, lat. 32° 0′ 47″·20, long. 71° 10′ 44″·60. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	629·615	629·229
8c/10	BM.2/38P	248·1	On upper mark-stone of Malani G. T. Survey Station, lat. 32° 7′ 22″·66, long. 71° 13′ 19″·54. A secondary station of Great Indus Series. (For full description *see* Synoptical Volume).	634·112	633·717
8d/10	BM 3/38P	256·0	On upper mark-stone of Jhamra G. T. Survey Station, lat. 32° 13′ 7″·56, long. 71° 17′ 36″·25. A secondary station of Great Indus Series. (For full description *see* Synoptical Volume).	637·174	636·773
8e/10	BM.4/38P	262·0	On surface of triangular pillar of Pipli Town (heliotrope), lat. 32° 17′ 27″·96, long. 71° 21′ 2″·05. A secondary point of Great Indus Series. (For full description *see* Synoptical Volume).	650·456	650·043
9/10	BM.6/39M	223·6	G.T.S. ○ B.M. On stone coping at S. end of platform at Darya Khan railway station.	587·900	587·552
10/10	BM.7/39M	223·7	G.T.S. ○ B.M. On stone coping at N. end of platform at Darya Khan railway station.	588·194	587·846
11/10	BM.3/39I	238·1	G.T.S. ○ B.M. On flooring near S.W. corner of N. verandah of Native Infantry Hospital, Dera Ismail Khan.	564·025	563·691
12/10	BM.4/39I	238·2	G.T.S. ○ B.M. On flooring near S.W. end of N. verandah of Cavalry and Artillery Hospital, Dera Ismail Khan.	565·057	564·723
13/10	BM.5/39I	238·4	On stone let into plinth, near N. door of St. Thomas' Church, Dera Ismail Khan (P.W.D. bench-mark $\frac{592\cdot40}{574\cdot52}$).	568·177	567·841
14/10	BM.6/39I	238·8	Iron plug at Charitable Hospital, Dera Ismail Khan, driven into wall, flush with flooring, near S.E. corner of S. verandah of operating room. The letters G.T.S. B.M. ↓ are cut on wall, just above iron plug.	568·090	567·754
15/10	BM.7/39I	238·9	□ ↑ On top of mile-stone, Khush 198, Bannu 88, D.I.K. I, near police chauki, at junction of Municipal and M.W.S. roads.	569·338	569·001

Main-Line 55. (Murghai to Chach).

Designation of Bench-marks		Distance from Murghai	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
16/10	BM.8/39 I	239·0	G.T.S. ○ B.M. On flooring, near N.W. corner of S. verandah of District Local Board's Office, Dera Ismail Khan.	567·570	567·234
17/10	BM.9/39 I	239·1	G.T.S. ○ B.M. On stone slab let into flooring, on E. side of front or N. semi-circular verandah, in inner corner, near wall of Deputy Commissioner's kachahri, Dera Ismail Khan.	569·145	568·808
18/10	BM.10/39 I	239·2	Iron plng at Municipal Town Hall, Dera Ismail Khan, driven into wall, flush with flooring of verandah, between S. and E. doors, and just below window near S.E. corner of building. The letters G T.S. B.M. are cut on wall, just above plug.	570·257	569·920
19/10	BM.11/39 I	239·2	Iron plug at Municipal Town Hall, Dera Ismail Khan, driven into floor of N. verandah, just below 2nd window, from W. door. The letters G.T.S. B.M. are cut on flooring, near plug.	570·165	569·828
20/10	BM.12/39 I	240·9	Cannon at Akalgarh Fort. Embedded on W. side of main gate.	582·880	582·535
21/10	BM.13/39 I	240·8	Iron plug at Akalgarh Fort, driven in flooring of E. verandah of Block No. 13, on S. side of 6th door from N. leading into room of Bell of Arms, D. Company. The letters G.T.S. B.M. are cut on flooring around the plug.	578·754	578·411
22/10	BM.14/39 I	240·9	G.T.S. ○ B.M. at Akalgarh Fort. On a stone slab, let into flooring, near N. end of E. verandah of Block No. 14, 8 feet from centre of 2nd arch from N., and 15 feet from centre of door No. 13.	579·010	578·667
23/10	BM 15/39 I	238·5	G.T.S. □ B.M. at St. Thomas' Church, Dera Ismail Khan. Embedded about 1 foot below ground level, on E. of N. aisle, almost touching N. wall of church, and 7 feet from angle made by this wall and N. aisle, and 8 feet from extreme N.E. corner of church.	566·109	565·774
24/10	BM.16/39 I	238·5	+ at Major General Sir H. M. Durand's Tomb. On marble ledge, just below the epitaph, on E. side of tomb, in compound of St. Thomas' Church, Dera Ismail Khan.	567·779	567·443
25/10	BM.17/39 I	239·0	G.T.S. ○ B.M. On stone slab let into flooring, near N.W. corner of W. verandah of Assistant Commanding Royal Engineer's Office, Dera Ismail Khan.	565·057	564·723
26/10	BM.18/39 I	238·7	G.T.S. Standard Bench Mark 1907 at Dera Ismail Khan. Situated in S.W. corner of polo ground, and due E. of Post Office, and N.W. of St. Thomas' Church. The bench-mark is enclosed by an iron railing 11 feet square.	567·998	567·662
27/10	BM.19/39 I	238·7	G.T.S. ○ B.M. On a stone slab, let into flooring, near S.E. corner of W. verandah of Derajat Brigade Staff Offices, Dera Ismail Khan.	566·070	565·735

Main-Line 55. (Murghai to Chach).

Designation of Bench-marks			Distance from Murghai	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
11		BM.5 / 38 P	268·3	On upper mark-stone of Aluwali G. T. Survey Station, lat. 32° 22′ 11″·49, long. 71° 24′ 8″·63. A secondary station of Great Indus Series. (For full description *see* Synoptical Volume).	656·027	655·605
12		BM.6 / 38 P	275·6	Kundian Bench Mark. Embedded 1 foot below surface of ground, in a hillock on W. side of town, 86 feet from N.W. corner of salt chauki, 168 feet W. of S.W. bastion of a dismantled fort in thana, tahsil and District Mianwali.	665·447	665·014
	a / 12	BM.7 / 38 P	285·3	On upper surface of pillar of Mianwali G. T. Survey Station, lat. 32° 34′ 31″·46, long. 71° 30′ 24″·34. A secondary station of Great Indus Series. (For full description *see* Synoptical Volume).	681·282	680·833
13		BM.8 / 38 P	291·4	On upper mark-stone of Rokri G. T. Survey Station, lat. 32° 39′ 48″·37, long. 71° 30′ 21″·09. A secondary station of Great Indus Series. (For full description *see* Synoptical Volume).	687·163	686·704
14		BM 9 / 38 P	299·0	Tadawali Bench Mark. Embedded about 15 inches below surface of ground, in compound of Salt Agent's Bungalow to N. of same.	674·191	673·735
15		BM.10 / 38 P	308·8	Khairabad Bench Mark. Embedded 1 foot below surface of ground to N. of village. A deep ditch is cut round the bench-mark.	749·819	749·304
16		BM.11 / 38 P	323·4	Niki Bench Mark. Embedded on E. edge of Kalabagh road, near Salt Agent's Bungalow, and 73 feet from N.W. corner of a small building occupied by Custom's chaprasis.	1057·577	1056·845
17		BM 1 / 38 O	333·7	Shah Muhammad Ali Bench Mark. Embedded in ground adjoining tomb of Kadam Shah to N. The tomb is S. of road, facing the village and about 200 yards S. of it.	843·502	842·910
	1 / 17	BM.1 / 43 D	340·2	On upper surface mark-stone of Taman G. T. Survey Hill Station, lat. 32° 57′ 11″·01, long. 72° 6′ 0″·50. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	1385·348	1384·391
18		BM.1 / 43 C	347·7	Naka Bench Mark. Embedded a little S. of road, in a rise called Nulli, in lands of Naka well, by road side from Naka towards Toot.	937·604	936·939
	a / 18	BM.2 / 43 C	357·4	On upper surface mark-stone of Pari G. T. Survey Hill Station, lat. 33° 9′ 47″·76, long. 72° 16′ 13″·57. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	1439·580	1438·560
	b / 18	BM.3 / 43 C	369·2	Raowali Bench Mark. Embedded about 30 yards E. of road from Attok, where the latter crosses a ridge, on which the trijunction pillars of Ningrial, Khairshah Thulli and Kullarwali Thulli—Ningrial, Kullarwali Thulli and Gangawali *dhok* are placed, E. and W. of road. The bench-mark is embedded between the pillars.	1417·216	1416·187

Main-Line 55. (Murghai to Chach).

Designation of Bench-marks			Distance from Murghai	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
	c/18	BM.4 43 C	*miles* 384·8	Kotli Bench Mark. Embedded in summit of N.E. bastion of ruined Fort of Kotli, or Rajah Hodi's *Garhi*, about 10 miles S.W. of Fatehganj.	*feet* 1541·154	*feet* 1540·021
19		BM.5 43 C	397·5	Basirah Bench Mark. Embedded on a high knoll called Basirah, about 2 miles W. of Fatehganj, in lands of village of Sadkal, where Kohat Road bends almost at a right angle. The knoll adjoins a patch of cultivation called Chowi Mianwali.	1712·494	1711·223
	a/19	BM.6 43 C	406·9	Jabi Bench Mark. Embedded on a ridge about 59 feet S. of point where Campbellpur-Fatehganj road crosses. The village of Jabi is at N. extremity of ridge.	1350·045	1349·031
	b/19	BM.7 43 C	416·1	Koua Bench Mark. Embedded on remains of an old building called Mahri to N. of Koua village.	1161·070	1160·189
20		BM.8 43 C	427·4	On mark on surface of pillar of Chach Base-Line, S.W. End, G. T. Survey Station, lat. 33° 53′ 11″·75, long. 72° 22′ 53″·74. A principal station of Base-Line Figures of Great Indus Series. (For full description *see* Synoptical Volume).	1014·846	1014·063

Branch-Line 55A. (Khemwala to Multan).

Designation of Bench-marks			Distance from Khemwala	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM 3 / 39 J	0·0	On ground level mark-stone of Khemwala G.T. Survey Tower Station, lat. 30° 9′ 45″·76, long. 70° 56′ 46″·32. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	409·450	409·261
2		BM.7 / 39 J	6·6	On N.E. end of N. parapet wall of bridge, 68 yards from 13th mile-stone, on road from Muzaffargarh to Dera Ghazi Khan.	398·425	398·244
3		BM 8 / 39 J	7·9	On S. parapet wall of bridge, about 15 chains from 12th mile-stone, on road from Muzaffargarh to Dera Ghazi Khan.	400·273	400·091
4		BM.4 / 39 N	8·6	On N. parapet wall of bridge N. of Sakwala village, and about 2 chains from 11th mile-stone on road from Muzaffargarh to Dera Ghazi Khan.	398·802	398·620
5		BM.5 / 39 N	9·2	On N. parapet wall of bridge near Bhadiwala well, 41 chains from mile-stone No. 10, on road from Muzaffargarh to Dera Ghazi Khan.	396·084	395·904
6		BM.6 / 39 N	9·9	On N. parapet wall of Kariah nala bridge.	399·261	399·079
7		BM.7 / 39 N	10·0	On N. parapet wall of bridge over irrigation drain S. of Tobwala pakka well.	397·581	397·401
8		BM.8 / 39 N	10·6	On N. parapet wall of bridge over irrigation drain, at 9th mile-stone, on road from Muzaffargarh to Dera Ghazi Khan.	395·560	395·380
9		BM.9 / 39 N	11·3	On N. parapet wall of Thulwa bridge.	396·870	396·689
10		BM.10 / 39 N	12·2	On S. side of bridge over irrigation drain, about 40 chains from 8th mile-stone, on road from Muzaffargarh to Dera Ghazi Khan.	395·196	395·016
11		BM.11 / 39 N	13·3	On S. parapet wall of bridge over Kuba nala.	396·949	396·768
12		BM.12 / 39 N	14·9	On N. parapet wall of culvert, near Mahiwala well.	392·498	392·320
13		BM.13 / 39 N	18·0	On S. parapet wall of culvert, 15 chains from mile-stone No. 2, on road from Muzaffargarh to Dera Ghazi Khan.	383·230	383·056
14		BM.14 / 39 N	18·7	On S. parapet wall of culvert, 6 chains from mile-stone No. 1, on road from Muzaffargarh to Dera Ghazi Khan.	387·401	387·225
15		BM.15 / 39 N	19·7	Muzaffargarh No. 3. On S. parapet wall of bridge close to thana.	387·182	387·006
	a / 15	BM.16 / 39 N	20·0	Muzaffargarh No. 4. On upper plinth of S. side of S.W. pillar of encamping ground, near tahsil.	385·729	385·554

Branch-Line 55A. (Khemwala to Multan).

Designation of Bench-marks			Distance from Khemwala	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
16		BM.17 39 N	19·8	Muzaffargarh No. 2. On 4th step leading to doorway on S. side of kachahri.	388·156	387·980
17		BM.18 39 N	21·4	On middle of parapet wall above slab marked 1856, of bridge over Tiliri nala, on road from Multan to Muzaffargarh and about 2 miles from latter place.	393·717	393·538
	a 17	BM.19 39 N	22·3	On S. parapet wall of bridge crossing Ghaus nala.	392·207	392·029
	b 17	BM.20 39 N	22·7	Muzaffargarh No. 1. On edge of square well with steps.	388·490	388·313
18		BM.21 39 N	22·0	On N.E. wall of bridge, about 19 chains from 2nd mile-stone from Muzaffargarh.	387·223	387·047
19		BM.22 39 N	22·8	On S.E. parapet wall of bridge, near 3rd mile-stone from Muzaffargarh.	389·050	388·873
20		BM.23 39 N	23·4	On N. end of S.E. parapet wall of bridge over road to Muzaffargarh.	388·176	387·999
21		BM.24 39 N	23·8	On S. parapet wall of culvert, near 4th mile-stone from Muzaffargarh.	389·089	388·912
22		BM.25 39 N	24·4	On N.E. end of W. parapet wall of bridge, 35 chains from 6th mile-stone from Muzaffargarh.	391·377	391·199
23		BM.26 39 N	28·2	Platform at triple junction of Abuhutta, Sher Shah and Kabarbela villages.	391·128	390·949
24		BM.27 39 N	31·4	On N.W. wing wall of bridge on Multan and Dera Ghazi Khan road, over canal from Nawabpur to Secunderabad.	403·020	402·835
25		BM.28 39 N	33·1	On top of culvert, on N. side of railway to Sher Shah.	398·376	398·193
26		BM.29 39 N	35·7	Level of rails at crossing of road to Sher Shah and railway to Bandar ghat.	399·266	399·082
27		BM.30 39 N	36·9	On E. parapet wall of culvert, at junction of roads to Cantonment, Bandar ghat and Sher Shah ghat.	402·697	402·511
28		BM.31 39 N	37·1	On W. parapet wall of culvert, on S. side of road and close to Magazine, P.W. building No. 13.	402·846	402·659
29			37·5	Destroyed.	402·743	402·556

Branch-Line 55A. (Khemwala to Multan).

Designation of Bench-marks			Distance from Khemwala	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	1/29	BM.32 39 N	39·1	On N. parapet wall of bridge over Nawab Wali Muhammad Khan-ka-nala, at crossing of Multan cantonment and Bahawalpur roads.	412·092	411·901
30		BM.33 39 N	38·1	G.T.S. × B.M. at Multan Cantonment. Embedded 1 foot below ground level, 123 feet and 107° to N.E. corner of Regimental School and Store Godown, 79 feet and 222° to N.W. corner of same building, and 185 feet and 353° to S.E. corner of Barrack No. 4, British Infantry Lines.	401·565	401·378
	1/30	BM 34 39 N	38·2	G.T.S. Standard Bench Mark 1906 at Multan Cantonment. Situated S.W. of St. Mary's Church, between Church Road and Station Hospital Road, 123 feet and 34° to centre of S.W. gate of church compound, 91 feet and 114° to S. corner of church compound wall, and 184 feet and 253° to N.E. corner of Regimental bath house No. 40.	403·971	403·784
	1a/30	BM 35 39 N	39·3	G.T.S. ○ B.M. at Multan Cantonment Railway Station. On W. end of N. coping of main platform, nearly in front and to S. of N.W. railway rest house.	408·409	408·220
	2a/30	BM 36 39 N	39·4	G.T.S. ○ B.M. at N.W. Railway Rest House, Multan. On block of masonry, flush with ground level, 108 feet from N.W. corner of rest house, 298 feet from N.E. corner of W. Signal cabin, and 3 feet from iron fencing.	404·345	404·158
	3a/30	BM.37 39 N	39·5	G.T.S. ○ B.M. at Multan Cantonment Railway Station. On coping of main platform, opposite main exit in centre of station building.	408·434	408·245
	4a/30	BM.38 39 N	39·6	G.T.S. ○ B.M. at Multan Cantonment Railway Station. On S. coping at E. end of main platform.	408·492	408·303
	2/30	BM.39 39 N	38·2	G.T.S. ○ B.M. at Barrack No. 4, British Infantry Lines, Multan. On flooring of northern of two projected verandahs on E. side of building.	404·287	404·100
	3/30	BM.40 39 N	38·3	G.T.S. ○ B.M. at Barrack No. 1, British Infantry Lines, Multan. On flooring of S. verandah near most easterly door, numbered 41.	406·124	405·936
	4/30	BM.41 39 N	38·3	G.T.S. ○ B.M. at St. Mary's Church, Multan. On N.E. corner of flooring under steeple tower, in front of S. main door of church.	406·446	406·258
	5/30	BM.42 39 N	38·4	G.T.S. ○ B.M. at St. Mary's Church, Multan. On lower step of door leading into Chaplain's office, on E. side of church.	405·765	405·577

Branch-Line 55A. (Khemwala to Multan).

Designation of Bench-marks		Distance from Khemwala	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
6/30	BM.43 / 39 N	38·5	G.T.S. ○ B.M. at Station Hospital, Multan. On uppermost step on S. side of block No. 26, in front of centre pillar of verandah.	405·725	405·537
7/30	BM.44 / 39 N	38·6	G.T.S. ○ B.M. at Station Hospital, Multan. On flooring of S. verandah of block No. 28, between doors Nos. 38 and 39.	405·927	405·739

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1	BM.1 / 44 J	0·0	G.T.S. Bench Mark at Ferozepore. Embedded due W. of Volunteer Instructor's quarters, on S. side of Grand Trunk Road near a tank. It is 298 feet and 100° to base of a well, 343 feet and 78° to N.W. corner of out-offices of Volunteer Instructor's house, and 86° to S.W. corner of house itself. The old sentry box still exists 10 feet S.E. of bench-mark.	645·017	644·679
a / 1	BM.2 / 44 J	1·6	G.T.S. O B.M. On stone slab over drain, near S. end of W. entrance gate to Arsenal inside fort, Ferozepore.	649·266	648·926
b / 1	BM.3 / 44 J	1·7	G.T.S. O B.M. On stone flooring at S W. end of front or N.W. verandah near wall, between doors Nos. 48 and 49, of double storied barrack in fort, Ferozepore.	656·101	655·757
c / 1	BM.4 / 44 J	1·7	G.T.S. O B.M. On stone flooring at N.E. end of N.W. or front verandah, near wall of above barrack in fort, Ferozepore.	656·425	656·081
1 / 1	BM.5 / 44 J	0·3	G.T.S. Standard Bench Mark 1904 at Ferozepore. Situated to S. of Saragarhi Memorial temple, near junction of Arsenal and Knox roads, on triangular plot of ground enclosed by above roads.	649·198	648·858
1a / 1	BM.6 / 44 J	0·5	G.T.S. O B.M. On W. stone coping above steps in front of S. door of Saragarhi Memorial temple.	650·844	650·503
1b / 1	BM.7 / 44 J	0·5	G.T.S. O B.M. On 3rd stone step in front of W. door of Saragarhi Memorial temple.	647·806	647·467
1c / 1	BM.8 / 44 J	1·3	G.T.S. O B.M. On stone coping at W. end of main platform at Ferozepore Cantonment Railway Station.	652·373	652·031
1d / 1	BM.9 / 44 J	1·5	G.T.S. O B.M. On E. end of stone coping on S. side of centre of goods platform at Ferozepore Cantonment Railway Station.	653·947	653·604
1e / 1	BM.10 / 44 J	1·6	G.T.S. O B.M. On stone base of most easterly water column at Ferozepore Cantonment Railway Station.	651·071	650·730
2 / 1	BM.11 / 44 J	0·8	G.T.S. O B.M. at Public Dak Bungalow, Ferozepore. On flooring of E. verandah near wall, 11 feet N. from centre of central door.	646·757	646·418
3 / 1	BM.12 / 44 J	1·4	G.T.S. O B.M. On stone step in front of W. or main entrance to St. Andrew's Church, Ferozepore.	648·998	648·658
4 / 1	BM.13 / 44 J	1·5	G.T.S. O B.M. On stone platform of Sutlej Campaign (1845-46) Monument in compound of St. Andrew's Church, Ferozepore, just below the inscription.	650·503	650·162

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
5/1	BM.14/44 J	1·8	G.T.S. ○ B.M. On lowest step in front of main or S.W. entrance to Wesleyan Church, Ferozepore.	647·721	647·382
6/1	BM.15/44 J	2·6	G.T.S. ○ B.M. On stone flooring in centre of N. verandah of block No. 9, between doors Nos. 11 and 12 of Station Hospital, Ferozepore.	651·578	651·237
7/1	BM.16/44 J	2·7	G.T.S. ○ B.M. On stone flooring, near E. wall, of N. verandah of W. wing of block No. 5, opposite door No. 21 of Station Hospital, Ferozepore.	651·533	651·192
8/1	BM.17/44 J	2·9	G.T.S. ○ B.M. On stone flooring of S.W. verandah, near door No. 34 of barrack No. 2 (B. Company) of British Infantry Lines, Ferozepore.	650·266	649·925
9/1	BM.18/44 J	3·3	G.T.S. ○ B.M. On uppermost step at plinth level, under 1st arch, in front of N.E. verandah of No. 3 Barrack, almost opposite door No. 18 of Royal Horse Artillery Lines, Ferozepore.	649·354	649·014
10/1	BM.19/44 J	3·3	G.T.S. ○ B.M. On flooring of N.E. verandah of No. 3 Barrack, E. of door No. 18 of Royal Horse Artillery Lines, Ferozepore.	649·519	649·178
2		0·8	Destroyed.	652·652	652·309
3		1·8	Destroyed.	649·255	648·914
4		2·8	Destroyed.	651·047	650·705
5		3·7	Destroyed.	653·899	653·554
6		4·7	Destroyed.	653·699	653·354
7		5·7	Destroyed.	653·537	653·191
8		9·2	Destroyed.	654·584	654·235
9		9·9	Destroyed.	656·267	655·917
10		10·9	Destroyed.	654·091	653·741
11		11·9	Destroyed.	654·386	654·035
12		12·8	Destroyed.	653·909	653·558
13		13·8	Destroyed.	653·576	653·224
14		14·8	Destroyed.	653·767	653·414
15		15·2	Destroyed.	673·487	673·124
16	BM.1/44 I	15·6	+ On lower flooring on N.W. of well of encamping ground, Kasur.	672·075	671·713

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks.			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
17		BM.2 / 44 I	15·8	Top of mile-stone No. 16 on main road from Ferozepore to Lahore.	670·460	670·098
18		BM.3 / 44 I	16·5	Top of mile-stone No. 1 from Kasur and No. 17 from Raewind railway station.	672·365	672·001
19		BM.4 / 44 I	17·7	Top of mile-stone No. 18 on main road from Ferozepore to Lahore.	679·859	679·490
20		BM.5 / 44 I	18·7	Top of mile-stone No. 19 on main road from Ferozepore to Lahore.	688·444	688·070
21		BM.6 / 44 I	19·7	Top of mile-stone No. 20 on main road from Ferozepore to Lahore.	688·249	687·874
22		BM.7 / 44 I	20·7	Top of mile-stone No. 21 on main road from Ferozepore to Lahore.	689·063	688·687
23		BM.8 / 44 I	21·7	Top of mile-stone No. 22 on main road from Ferozepore to Lahore.	689·115	688·738
24		BM.9 / 44 I	22·7	Top of mile-stone No. 23 on main road from Ferozepore to Lahore.	688·490	688·113
25		BM.10 / 44 I	23·6	Top of mile-stone No. 24 on main road from Ferozepore to Lahore.	689·255	688·877
26		BM.11 / 44 I	24·6	Top of mile-stone No. 25 on main road from Ferozepore to Lahore.	689·667	689·287
27		BM.12 / 44 I	24·7	Luliani B.M. No. 1. S. parapet wall of bridge leading to bungalow E. of road.	687·527	687·149
28		BM.13 / 44 I	25·1	Luliani B.M. No. 2. 3rd step of well in encamping ground.	690·076	689·696
29		BM.14 / 44 I	25·6	Top of mile-stone No. 26 on main road from Ferozepore to Lahore.	694·326	693·944
30		BM.15 / 44 I	26·2	Bari Doab Canal Bridge. On N. end of wing wall, on which letters G.T.S. B.M. are cut, 2 miles N. of Luliani.	700·726	700·339
	1/30	BM.16 / 44 I	26·5	Bari Doab Canal B.M. No. 305.	690·569	690·188
	2/30	BM.17 / 44 I	26·7	Bari Doab Canal B.M. No. 306.	688·812	688·432
	3/30	BM.18 / 44 I	26·9	Bari Doab Canal B.M. No. 307.	689·210	688·830
	4/30	BM.19 / 44 I	27·1	Bari Doab Canal B.M. No. 308.	688·136	687·756

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
5/30	BM.20/44 I	27·3	Bari Doab Canal B.M. No. 309.	688·714	688·334
6/30	BM.21/44 I	27·5	Bari Doab Canal B.M. No. 310.	687·964	687·584
7/30	BM.22/44 I	27·6	Bari Doab Canal B.M. No. 311.	688·292	687·912
8/30	BM.23/44 I	27·8	Bari Doab Canal B.M. No. 312.	686·693	686·314
9/30	BM.24/44 I	28·0	Bari Doab Canal B.M. No. 313.	686·611	686·232
10/30	BM.25/44 I	28·2	Bari Doab Canal B.M. No. 314.	686·019	685·640
11/30	BM.26/44 I	28·8	Bari Doab Canal B.M. No. 317.	684·503	684·125
12/30	BM.27/44 I	28·9	On E. footing of N. pier of Dabthu Bridge, Bari Doab Canal.	680·261	679·886
a/30	BM.28/44 I	26·5	Bari Doab Canal B.M. No. 302.	693·057	692·674
b/30	BM.29/44 I	28·7	Bari Doab Canal B.M. No. 290.	696·692	696·307
c/30	BM.30/44 I	28·9	Bari Doab Canal B.M. No. 289.	697·138	696·753
d/30	BM.31/44 I	29·1	Bari Doab Canal B.M. No. 288.	697·528	697·143
e/30	BM.32/44 I	29·3	Bari Doab Canal B M. No. 287.	697·104	696·719
f/30	BM.33/44 I	29·7	On E. footing of N.W. pier of Bhujai or Sariali Bridge, Bari Doab Canal.	689·445	689·064
31	BM.34/44 I	26·6	Top of mile-stone No. 27 on main road from Ferozepore to Lahore.	690·915	690·534
32	BM.35/44 I	27·6	Top of mile-stone No. 28 on main road from Ferozepore to Lahore.	689·657	689·275
33	BM.36/44 I	28·6	Top of mile-stone No. 29 on main road from Ferozepore to Lahore.	692·532	692·147
34	BM.37/44 I	28·9	On W. side and on centre of brick rim of well under bridge over Raewind rajbaha, at its crossing Grand Trunk Road to Lahore.	685·087	684·707
35	BM.38/44 I	29·5	Top of mile-stone No. 30 on main road from Ferozepore to Lahore.	692·952	692·567

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
36		BM.39 / 44 I	30·5	Top of mile-stone No. 31 on main road from Ferozepore to Lahore.	692·755	692·369
37		BM.40 / 44 I	32·5	Top of mile-stone No. 33 on main road from Ferozepore to Lahore.	697·649	697·259
38		BM.41 / 44 I	33·5	Top of mile-stone No. 34 on main road from Ferozepore to Lahore.	696·782	696·391
39		BM.42 / 44 I	33·6	On S. parapet wall at E. end of bridge leading to bungalow W. of road, near Kana village.	695·116	694·726
	a / 39	BM.43 / 44 I	33·7	On floor of verandah of road bungalow.	693·236	692·847
40		BM.44 / 44 I	35·4	Top of mile-stone No. 36 on main road from Ferozepore to Lahore.	693·678	693·287
41		BM.45 / 44 I	36·4	Top of mile-stone No. 37 on main road from Ferozepore to Lahore.	696·121	695·728
42		BM.46 / 44 I	38·3	Top of mile-stone No. 39 on main road from Ferozepore to Lahore.	701·943	701·546
43		BM.47 / 44 I	38·9	On surface of wall of well, under bridge over Siti rajbaha, at its crossing Grand Trunk Road to Lahore.	696·595	696·200
	a / 43	BM.48 / 44 I	39·0	On N.E. flooring of verandah of Amarsiddu canal chauki	698·917	698·521
44		BM.49 / 44 I	40·3	Top of mile-stone No. 41 on main road from Ferozepore to Lahore.	697·806	697·410
45		BM.50 / 44 I	40·5	Level of rails, where Grand Trunk Road crosses N. W. Railway.	697·622	697·226
46		BM.51 / 44 I	41·3	Top of mile-stone No. 42 on main road from Ferozepore to Lahore.	698·429	698·032
47		BM.52 / 44 I	42·2	Top of mile-stone No. 43 on main road from Ferozepore to Lahore.	701·850	701·450
	a / 47	BM.53 / 44 I	43·2	Plinth of well, near N.W. pillar of Bhabrawala chauki.	704·004	703·603
48		BM.54 / 44 I	43·2	Top of mile-stone No. 44 on main road from Ferozepore to Lahore.	703·779	703·377
49		BM.55 / 44 I	44·0	Centre of E. parapet wall of bridge over Bari Doab Canal, on Grand Trunk Road, and near town of Itchra.	712·216	711·809
50		BM.56 / 44 I	44·2	Top of mile-stone No. 45 on main road from Ferozepore to Lahore.	703·317	702·915

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
a/50	BM.57/44 I	45·4	Well near Itchra town, S.W. of Grand Trunk Road.	697·311	696·912
51	BM.58/44 I	45·4	E. parapet of bridge over Mian Mir Canal N.E. of Bhairo's temple.	705·451	705·047
52	BM.59/44 I	46·0	S. parapet of bridge at junction of Ferozepore and Multan roads, opposite Government House.	692·226	691·829
53		46·2	Destroyed.	694·849	694·451
54		47·1	Destroyed.	685·568	685·174
55		47·9	Destroyed.	703·593	703·187
56		49·5	Destroyed.	704·962	704·555
57	BM.60/44 I	49·7	G.T.S. × B.M. at Lahore Railway Station. Embedded near W. bastion, about 3 feet below platform level, 5 feet N. of angle made by W. bastion with W. wall of station building, 15 feet from N.W. corner of building, 33 feet from centre of lowest step of overbridge and 35 feet from B.M. No. 1/57.	705·833	705·426
a/57	BM.61/44 I	49·8	Lahore Railway Station. Level of rails at middle of S. platform, opposite station exit.	706·110	705·703
b/57		49·8	Destroyed.	708·270	707·861
c/57	BM.62/44 I	51·8	Level of rails at crossing of railway over Lahore–Mian Mir road.	715·774	715·361
d/57		54·3	Destroyed.	709·721	709·311
e/57	BM.63/44 I	54·5	+ On marble sill of W. doorway of Church of England, Lahore Cantonment, East.	708·688	708·279
f/57	BM.64/44 I	54·5	+ On 1st step of W. porch, under steeple tower of Church of England, Lahore Cantonment, East.	707·448	707·040
g/57	BM.65/44 I	54·6	G.T.S. + B.M. at Church of England, Lahore Cantonment, East. On stone embedded in compound about 9 inches below ground, 49 feet E. of N.E. and 58 feet N.E. of S.E. corners of chaukidar's house.	705·499	705·092
h/57	BM.66/44 I	54·6	G.T.S. Standard Bench Mark 1904 at Lahore Cantonment, East. Surrounded by metal railing with masonry pillars and situated close to Napier memorial, in triangular plot formed at junction of Wellington, Mall, and Gujarat streets, about 200 yards due N. of Church of England.	708·885	708·476

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1/57	BM.67/44 I	49·8	G.T.S. ○ B.M. at Lahore Railway Station. On stone coping of No. 2 platform immediately under overbridge opposite main exit.	708·405	707·996
2/57	BM.68/44 I	49·8	G.T.S. ○ B.M. at Lahore Railway Station. On W. end of coping of No. 2 platform in front of and 19 feet from N.W. corner of station building.	708·447	708·038
3/57	BM.69/44 I	49·9	G.T.S. ○ B.M. at Lahore Railway Station. On coping at E. end of No. 2 platform, 43 feet from N.E. corner of station building and 53 feet from angle made by E. bastion with E. wall of building.	708·418	708·009
4/57	BM.70/44 I	50·4	↑ at Central offices N.W. Railway, Lahore. On E. end of lowest stone step in front of N. side of building.	700·194	699·790
5/57	BM.71/44 I	50·4	G.T.S.B.M. ↑ at Central offices N.W. Railway, Lahore. Embedded 3 feet below ground level, 5 feet E. of N.E. corner of building.	696·300	695·898
5a/57	BM.72/44 I	50·9	G.T.S. □ B.M. at N.W. Railway Institute, Lahore. Embedded about 3 inches below ground level, 3 feet S.W. of S. corner of building.	704·098	703·692
5b/57	BM.73/44 I	50·9	G.T.S. ○ B.M. at No. 1 Muhammad Raffi's Estate, Lahore. On edge of verandah floor under N.E. arch of railway staff quarters No. 1, about 2 chains W. of Railway Institute.	705·412	705·005
5c/57	BM.74/44 I	51·2	G.T.S. □ B.M. at N.W. Railway General Stores, Lahore. Embedded 3 feet below ground level on E. side of Victoria road, close to gate leading to Loco Chaukidars' quarters, 4 feet from wall, and 6 feet from angle made by wall and S. pillar of gate.	703·230	702·824
5d/57	BM.75/44 I	51·6	G.T.S. □ B.M. at Shalamar Road overbridge, Lahore. Embedded 3 feet below rail level, 6 feet S.E. of 4th pier (counting from S. end), N. of down main line to Amritsar.	703·688	703·282
5e/57	BM.76/44 I	51·7	G.T.S. ○ B.M. On parapet of main drain where it discharges into tank near Running Shed, 82 feet from centre of Engine Reversing Table, and about 250 feet N. of down main line.	696·686	695·684
6/57	BM.77/44 I	51·8	G.T.S. B.M. ○ at Cathedral, Lahore. On sill under central arch on inner side of outer wall of W. porch.	702·917	702·511
7/57	BM.78/44 I	51·8	G.T.S. B.M. ○ at Cathedral, Lahore. On sill under central arch on inner side of outer wall of N. porch.	702·978	702·572
8/57	BM.79/44 I	51·9	G.T.S. ○ B.M. On uppermost stone step at plinth level E. of General Post Office, Lahore, under main porch.	690·133	689·735

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	9/57	BM.80/44 I	51·9	G.T.S. ○ B.M. On E. end of uppermost stone step at plinth level on S. side of General Post Office, Lahore.	690·199	689·801
	10/57	BM.81/44 I	52·0	G.T.S. ○ B.M. On E. end of 4th stone step on N. side of Chief Court, Lahore, under main porch.	698·391	697·988
	11/57	BM.82/44 I	52·2	On old sill, embedded about 6 inches below present wooden sill of E. doorway of Anarkali Municipal Market (old Exhibition House).	687·738	687·341
	12/57	BM.83/44 I	52·4	G.T.S. ○ B.M. On 1st marble step just below foundation stone under main porch on S. side of University Hall, Lahore.	687·972	687·575
	13/57	BM.84/44 I.	52·4	G.T.S. ○ B.M. On E. end of 4th marble step on N. side of Museum, Lahore.	689·982	689·584
58		BM.85/44 I	51·4	G.T.S. ○ B.M. On platform coping in front of Badami Bag Railway Station building.	697·455	697·051
59		BM.86/44 I	52·7	G.T.S. ○ B.M. On E. cap of S. abutment of Ravi bridge.	706·680	706·270
	a/59	BM.87/44 I	52·9	G.T.S. ○ B.M. On E. cap of N. abutment of Ravi bridge.	706·660	706·250
60		BM.88/44 I	54·7	G.T.S. ○ B.M. On S. end of platform coping at Shahdara Railway Station.	696·328	695·923
	a/60	BM.89/44 I	54·7	G.T.S. □ B.M. at Shahdara Railway Station. Embedded about 2 feet below ground level, S. of station building, outside platform enclosure, 37 and 31 feet respectively from S.E. and S.W. corners of main building, 36 and 24 feet respectively from S.E. and S.W. corners of verandah, and 62 feet from edge of platform.	692·033	691·630
61		BM.90/44 I	54·8	G.T.S. ○ B.M. On N. end of platform coping at Shahdara Railway Station.	696·518	696·112
	a/61	BM.91/44 I	54·9	G.T.S. ○ B.M. On E. end of S. abutment of bridge No. 54, near telegraph post No. 828/8.	693·495	693·091
62		BM.92/44 I	55·1	G.T.S. ○ B.M. On E. end of N. abutment of bridge No. 54, near telegraph post No. 828/10.	693·704	693·300
63		BM.93/44 I	55·5	G.T.S. ○ B.M. On N. end of W. parapet of drain No. 55, near telegraph post No. 828/19.	691·662	691·259
64		BM.94/44 I	56·8	G.T.S. ○ B.M. On N. end of W. parapet of bridge No. 57, near telegraph post No. 830/6.	696·859	696·452

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
	a/64	BM.95/44 I	*miles* 59·1	G.T.S. ○ B.M. On W. end of N. abutment of bridge No. 60, near telegraph post No. 832/11.	*feet* 696·656	*feet* 696·249
	b/64	BM.96/44 I	61·6	G.T.S. ○ B.M. On W. end of N. abutment of bridge No. 62, near telegraph post No. 834/22.	699·555	699·146
	c/64	BM.97/44 I	62·6	G.T.S. ○ B.M. On W. end of N. abutment of bridge No. 64, near telegraph post No. 835/22.	700·814	700·405
65		BM.98/44 I	64·5	G.T.S. ○ B.M. On N. end of W. parapet of bridge No. 66, near telegraph post No. 837/20.	706·002	705·584
66		BM.99/44 I	66·1	G.T.S. ○ B.M. On S. end of platform coping at Muridke Railway Station.	708·875	708·455
67		BM.100/44 I	66·2	G.T.S. ○ B.M. On N. end of platform coping at Muridke Railway Station.	708·775	708·355
	a/67	BM.101/44 I	66·3	G.T.S. □ B.M. at Muridke Railway Station. Embedded about 2 inches below ground level, 31 feet N. of N.W. corner of railway quarters marked R/3, 72 feet from N.E. corner of same, and 211 feet from B.M. No. 67.	700·886	700·470
68		BM.102/44 I	67·3	G.T.S. ○ B.M. On W. end of N. abutment of bridge No. 70, near telegraph post No. 840/17.	705·972	705·552
	a/68	BM.103/44 I	69·1	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 71, near telegraph post No. 842/12.	709·222	708·800
69		BM.104/44 I	69·9	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 72, near telegraph post No. 843/10.	709·301	708·877
70		BM.105/44 I	72·2	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 74, near telegraph post No. 845/15.	709·687	709·261
71		BM.106/44 I	74·1	G.T.S. ○ B.M. On W. parapet of drain No. 78, near telegraph post No. 847/14.	720·075	719·642

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
72		BM.107 / 44 I	76·2	G.T.S. ○ B.M. On W. end of N. abutment of bridge No. 81, near telegraph post No. 849/15.	721·838	721·401
	a/72	BM 108 / 44 I	77·6	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 83, near telegraph post No. 850/21.	717·662	717·228
73		BM.109 / 44 I	78·7	G.T.S. ○ B.M. On S. end of platform coping at Kamoke Railway Station.	729·633	729·189
74		BM.110 / 44 I	78·9	G.T.S. ○ B.M. On N. end of platform coping at Kamoke Railway Station.	729·543	729·099
	a/74	BM.111 / 44 I	78·9	G.T.S. □ B.M. at Kamoke Railway Station. Embedded 3 inches below ground level, N. of station building, outside platform enclosure, 89 feet W. of B M. No. 74, 315 feet from N.W. corner of station latrines, 169 feet S. of base of pakka well, and 33 feet E. of centre of station road.	723·241	722·801
	b/74	BM.112 / 44 I	80·6	G.T.S. ○ B.M. On N.W. parapet of drain No. 87, near telegraph post No. 854/3.	728·496	728·053
	c/74	BM.1 / 43 L	83·1	G.T.S. ○ B.M. On W. end of N. abutment of bridge No. 89, near telegraph post No. 856/14.	734·324	733·878
	d/74	BM.2 / 43 L	83·8	G.T.S. □ B.M. at Eminabad Railway Station. Embedded about 9 inches below ground level, W. of railway line, 271 feet from N.W. corner of level crossing gate lodge No. 20 A, 319 feet from N.W. end of drain No. 92, 29 feet from centre of road leading to level crossing, and 7 feet from S.W. corner of fencing N. of road.	729·978	729·534
75		BM.3 / 43 L	84·8	G.T.S. ○ B.M. On W. parapet of drain No. 93, near telegraph post No. 858/7.	736·405	735·953
76		BM.4 / 43 L	87·0	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 96, near telegraph post No. 860/10.	741·001	740·544
77		BM.5 / 43 L	88·4	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 100, near telegraph post No. 861/21.	742·487	742·028
78		BM.6 / 43 L	89·2	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 103, near telegraph post No. 862/14.	743·187	742·726
79		BM.7 / 43 L	90·7	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 104, near telegraph post No. 864/3.	744·071	743·608

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
a/79	BM.8 / 43 L	91·3	G.T.S. □ B.M. at Gujranwala Railway Station. Embedded about 6 inches below ground level, between railway station and level crossing gate lodge No. 23, close to railway fencing along road, 258 feet from N.W. corner of above gate lodge, 82 and 86 feet respectively from S.W. and N.W. corners of tank house, 98 feet S.W. of well, and 184 feet S.W. of B.M. No. 80.	740·929	740·468
80	BM.9 / 43 L	91·4	G.T.S. ○ B.M. On S. end of platform coping at Gujranwala Railway Station.	747·307	746·842
a/80	BM.10 / 43 L	91·5	G.T.S. ○ B.M. On N. end of platform coping at Gujranwala Railway Station.	747·126	746·661
81	BM.11 / 43 L	92·4	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 109, near telegraph post No. 865/19.	746·820	746·354
a/81	BM.12 / 43 L	93·6	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 114, near telegraph post No. 867/2.	752·914	752·444
b/81	BM.13 / 43 L	95·4	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 120, near telegraph post No. 868/18.	752·916	752·446
82	BM.14 / 43 L	96·7	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 124, near telegraph post No. 870/3.	752·675	752·201
83	BM.15 / 43 L	98·7	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 132, near telegraph post No. 872/3.	753·095	752·619
a/83	BM.16 / 43 L	100·2	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 134, near telegraph post No. 873/13.	753·106	752·630
b/83	BM.17 / 43 L	101·3	G.T.S. □ B.M. ar Ghakkhar Railway Station. Embedded about 9 inches below road level, about 6 chains S.W. of station building to W. of road, 47 feet from centre of road, 96 feet from S.W. corner of railway menials' quarters No. R/5, 133 feet from S.W. corner of Sub-Platelayer's quarters, 358 feet from S.W. corner of platform enclosure, and 418 feet from S.W. corner of menials' quarters No. R/2.	748·758	748·285
84	BM.18 / 43 L	101·4	G.T.S. ○ B.M. On S. end of platform coping at Ghakkhar Railway Station.	756·697	756·216

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
85	BM.19 / 43 L	101·5	G.T.S. ○ B.M. On N. end of platform coping at Ghakkhar Railway Station.	756·768	756·287
86	BM.20 / 43 L	102·2	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 140, near telegraph post No. $\frac{875}{15}$.	754·001	753·521
87	BM.21 / 43 L	103·7	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 146, near telegraph post No. $\frac{877}{5}$.	756·024	755·541
a/87	BM.22 / 43 L	105·4	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 149, near telegraph post No. $\frac{878}{17}$.	758·258	757·774
88	BM.23 / 43 L	106·0	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 153, near telegraph post No. $\frac{879}{13}$.	758·076	757·589
a/88	BM.24 / 43 L	107·7	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 158, near telegraph post No. $\frac{881}{5}$.	758·015	757·528
89	BM.25 / 43 L	109·7	G.T.S. ○ B.M. On W. parapet of N. abutment of bridge No. 166, near telegraph post No. $\frac{883}{5}$.	755·850	755·361
90	BM.26 / 43 L	111·7	G.T.S. □ B.M. at Wazirabad Railway Station. Embedded about 6 inches below ground level, close to W. compound wall due W. of subordinates' rest house No. $\frac{R}{4}$, 6 feet from compound wall, 103 feet from S. gate post of entrance to ferry train platform, 124 feet from N.W. corner of Lyallpur platform coping, 196 feet from B.M. No. $\frac{a}{90}$, and 31 feet from centre of Grand Trunk Road to Gujrat.	753·105	752·616
a/90	BM.27 / 43 L	111·7	G.T.S. ○ B.M. On N. end of main platform coping at Wazirabad Railway Station.	756·246	755·755
b/90	BM.28 / 43 L	111·7	G.T.S. ○ B.M. On S. end of main platform coping at Wazirabad Railway Station.	756·273	755·782
c/90	BM.29 / 43 L	112·8	G.T.S. ○ B.M. On base of S. distant signal, near telegraph post No. $\frac{886}{10}$, at Haripur Railway Station.	755·242	754·752

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
d/90	BM.30/43 L	114·2	G.T.S. ○ B.M. On W. end of S. abutment of Alexandra bridge over Chenab river.	764·026	763·530
e/90	BM.31/43 L	115·0	G.T.S. ○ B.M. On W. end of N. abutment of Alexandra bridge over Chenab river.	764·039	763·543
f/90	BM.32/43 L	115·4	G.T.S. ○ B.M. On W. end of N. abutment of pier, near mile-plate No. 889.	758·395	757·903
g/90	BM.33/43 L	117·4	G.T.S. ○ B.M. On E. parapet of drain, near telegraph post No. 890/20.	754·149	753·660
91	BM.34/43 L	119·2	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge No. 186, near telegraph post No. 892/18.	761·707	761·205
92	BM.35/43 L	120·0	G.T.S. ○ B.M. On S. end of platform coping at Gujrat Railway Station.	767·520	767·014
a/92	BM.36/43 L	120·1	G.T.S. □ B.M. at Gujrat Railway Station. Embedded about 6 inches below ground level, S.W. of station building, close to wire fencing, 147 feet and 56° from N.W. and 158 feet and 87° from S.W. corners of station building, 8 feet from wire fencing, and 54 feet from telegraph post No. 893/16.	760·725	760·224
93	BM.37/43 L	120·1	G.T.S. ○ B.M. On N. end of platform coping at Gujrat Railway Station.	767·943	767·437
a/93	BM.38/43 L	121·2	G.T.S. ○ B.M. On S. wall of syphon on E. side of railway line, near telegraph post No. 894/20.	770·961	770·453
b/93	BM 39/43 L	123·0	G.T.S. ○ B.M. On upper surface of wall between S. abutments of railway and road bridges, near telegraph post No. 896/15.	786·201	785·683
c/93	BM.40/43 L	124·3	G.T.S. ○ B.M. On E. end of S. abutment of bridge No. 193, near telegraph post No. 898/2.	784·103	783·586
94	BM.1/43 H	126·2	G.T.S. ○ B.M. On S.E. parapet of rail opening, near telegraph post No. 899/20.	795·343	794·814
a/94	BM.2/43 H	127·5	G.T.S. ○ B.M. On E. end of pier next to N. abutment of bridge No. 199, near telegraph post No. 901/4.	802·172	801·638

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
95		BM.3 / 43 H	129·2	G.T.S. ○ B.M. On E. parapet of culvert No. 201, near telegraph post No. 902/19.	816·312	815·767
96		BM.4 / 43 H	130·5	G.T.S. ○ B.M. On N.E. parapet of drain, between telegraph posts Nos. 904/4 and 904/5.	826·505	825·951
	a/96	BM 5 / 43 H	131·7	G.T.S. ○ B.M. at Lala Musa Railway Station. On S. end of coping of main line platform opposite tank house.	836·742	836·181
97		BM.6 / 43 H	131·7	G.T.S. ○ B.M. On N. end of platform coping at Lala Musa Railway Station.	836·640	836·078
98		BM.7 / 43 H	131·8	G.T.S. □ B.M. at Lala Musa Railway Station. Embedded about 3 inches below ground level, N. of station building, in compound of drivers' running room nearly W., in prolongation of S. wall of block No. 32. It is 58 feet and 296° from N.W. corner of verandah of N. wing of block No. 31, and 53 feet and 204° from N.W. corner of block No. 32.	832·036	831·478
99		BM.8 / 43 H	133·1	G.T.S. ○ B.M. On E. wall of N. abutment of bridge, near telegraph post No. 906/18.	843·871	843·303
100		BM.9 / 43 H	134·6	G.T.S. ○ B.M. On E. parapet of culvert, near telegraph post No. 908/7.	842·910	842·342
101		BM.10 / 43 H	136·3	G.T.S. ○ B.M. On E. end of S. abutment of bridge, near telegraph post No. 910/2.	857·484	856·904
	a/101	BM.11 / 43 H	137·7	G.T.S. ○ B.M. On E. end of N. abutment of bridge, near telegraph post No. 911/3.	862·859	862·275
102		BM.12 / 43 H	138·7	G.T.S. ○ B.M. On E. end of N. abutment of bridge, near telegraph post No. 912/10.	886·619	886·016
103		BM.13 / 43 H	140·8	G.T.S. ○ B.M. On masonry base of S. distant signal at Kharian Railway Station.	940·829	940·188
104		BM.14 / 43 H	141·3	G.T.S. ○ B.M. On S. end of stone coping of platform at Kharian Railway Station.	958·471	957·819
	1/104	BM.15 / 43 H	151·5	G.T.S. ○ B.M. at Baddo Village. Embedded about 1 foot below ground level, ½ mile N.W. of village on a ridge, 4 chains E. of ravine called Bulakiwala Kas. It is 20 feet and 263° from forest boundary pillar No. 131 and about 10 chains from Tindala Pir's grave, to which it bears 109°.	956·745	956·093

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
	2/104	BM.16/43 H	*miles* 153·9	On upper mark-stone of Koar G.T. Survey Hill Station, lat. 32° 47′ 22″·70, long. 73° 41′ 43″·33. A principal station of Jogi-Tila Meridional Series. (For full description *see* Synoptical Volume).	*feet* 1360·440	*feet* 1359·513
105		BM.17/43 H	141·4	G.T.S. ○ B.M. On N. end of platform coping at Kharian railway station.	958·945	958·292
	a/105	BM.18/43 H	141·4	G.T.S. □ B.M. at Kharian Railway Station. Embedded about 6 inches below ground level in open space between Sub-Platelayer's and Assistant Station Master's quarters, almost due W. of former. It is 187 feet and 219° from W. corner of Sub-Platelayer's quarters No. 8, 177 feet and 12° from N.E. corner of Assistant Station Master's quarters No. 3, and 254 feet and 50° from B.M. No. 105.	954·520	953·870
106		BM.19/43 H	141·6	† On S.E. wall of culvert, near telegraph post No. 915/7 (Railway bench-mark).	955·953	955·302
	a/106	BM.20/43 H	142·3	G.T.S. ○ B.M. On outer wall of syphon on E. side of railway line, near telegraph post No. 916/1.	975·685	975·021
107		BM.21/43 H	144·1	G.T.S. ○ B.M. On wing of skew bridge on E. side of railway line, near telegraph post No. 917/19.	1016·664	1015·969
	a/107	BM.22/43 H	146·1	G.T.S. ○ B.M. On wall of syphon on E. side of railway line, near telegraph post No. 919/14.	895·127	894·516
	b/107	BM.23/43 H	146·8	G.T.S. ○ B.M. On E. parapet of culvert, near telegraph post No. 920/12.	867·362	866·770
108		BM.24/43 H	147·4	G.T.S. ○ B.M. On S. end of platform coping at Karyala railway station.	873·749	873·149
109		BM.25/43 H	147·5	G.T.S. ○ B.M. On N. end of platform coping at Karyala railway station.	873·336	872·737
	a/109	BM.26/43 H	149·1	† On parapet of well E. of Grand Trunk Road, 540 feet N. of mile-stone No. 99 from Lahore. (Irrigation bench-mark).	796·568	796·022
110		BM.27/43 H	149·7	G.T.S. ○ B.M. On N. parapet of culvert, near telegraph post No. 923/9.	774·116	773·583

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
a / 110	BM.28 / 43 H	150·4	↑ On S. parapet of culvert, near telegraph post No. 924/3 (Irrigation bench-mark).	757·873	757·352
111	BM.29 / 43 H	151·0	G.T.S. ○ B.M. On centre of S. abutment of Jhelum bridge, between road and rails.	769·523	768·993
112	BM.30 / 43 H	152·3	G.T.S. ○ B.M. On S.E. end of stone coping of platform at Jhelum railway station.	766·477	765·948
1 / 112	BM.31 / 43 H	152·4	G.T.S. □ B.M. at Jhelum Railway Station. Embedded 6 inches below ground level in compound of station master's quarters, 103 feet and 73° from S.E. corner of same, 58 feet and 103° from N.E. corner and 50 feet and 136° from S.E. corner of out-houses No. 9.	761·673	761·147
2 / 112	BM.32 / 43 H	152·5	G.T.S. ○ B.M. at N.W. Railway Rest House, Jhelum. On S.E corner of flooring of verandah on W. side of subordinates' room, 12 feet from centre of door of same.	780·216	779·678
3 / 112	BM 33 / 43 H	153·0	G.T.S. ○ B.M. at Cantonment Church, Jhelum. On lowest stone step in front of N. door leading into left aisle.	762·610	762·084
4 / 112	BM 34 / 43 H	153·0	G.T.S. ○ B.M. at Cantonment Church, Jhelum. On stone flooring, near S. side of door of main entrance under steeple tower.	763·272	762·746
4a / 112	BM.35 / 43 H	153·1	G.T.S. Standard Bench Mark 1906 at Jhelum. Situated near N.E. corner of compound of Cantonment Church, 278 feet and 229° to N.W. corner of church; 135 feet and 303° to centre of well N. of church, and 15 feet to N.E. corner pillar of wooden railing.	762·322	761·796
113	BM.36 / 43 H	152·4	G.T.S. ○ B.M. On stone coping at N.W. end of platform at Jhelum railway station.	766·439	765·910
a / 113	BM.37 / 43 H	152·8	G.T.S. ○ B.M. at N.W. Railway Examiner's Record Office, Jhelum. On flooring at S.E. corner of W. verandah.	766·540	766·010
b / 113	BM.38 / 43 H	152·9	G.T.S. ○B.M. On stone at plinth level at S.W. corner of fort, Jhelum.	767·049	766·519
c / 113	BM 39 / 43 H	152·9	G.T.S.B.M. ○ On stone at plinth level at N.W. corner of fort, Jhelum.	767·113	766·583
d / 113	BM.40 / 43 H	155·2	G.T.S. ○ B.M. On masonry pillar adjoining S.E. corner of gate lodge No. 3 at level crossing, near telegraph post No. 929/1.	798·324	797·773

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
	e/113	BM.41/43 H	*miles* 157·5	G.T.S. ○ B.M. On E. end of S. parapet of overbridge on railway, near telegraph post No. 931/7.	*feet* 908·833	*feet* 908·205
114		BM.42/43 H	157·8	⊼ On stone embedded on E. side of railway line, near telegraph post No. 931/13. (Railway bench-mark).	902·131	901·503
115		BM.43/43 H	157·9	⊼ On W. parapet of culvert, near telegraph post No. 931/17. (Railway bench-mark).	910·428	909·795
116		BM.1/43 G	158·5	G.T.S. ○ B.M. On E. parapet of bridge, near telegraph post No. 932/9.	935·520	934·868
	a/116	BM.2/43 G	159·6	⊼ On W. parapet of culvert, near telegraph post No. 933/10. (Railway bench-mark).	977·168	976·487
	b/116	BM.3/43 G	160·4	G.T.S. ○ B.M. On stone coping of N. parapet of bridge, opposite telegraph post No. 934/2.	942·157	941·500
117		BM.4/43 G	160·7	⊼ On S. parapet of bridge, near telegraph post No. 934/9. (Railway bench-mark).	932·506	931·855
	a/117	BM.5/43 G	161·8	G.T.S. ○ B.M. On N.E. return wall of drain, near telegraph post No. 935/15.	908·681	908·047
118		BM.6/43 G	163·1	G.T.S. □ B.M. at Dina Railway Station. Embedded flush with ground level, in prolongation of N. wall of gangmen's quarters No. 37, 18 feet and 133° from N.E. and 30 feet and 80° from S.E. corners of above quarters, and 255 feet and 16° from N.W. corner of pointsman's lodge.	899·118	898·490
119		BM.7/43 G	163·2	G.T.S. ○ B.M. On E. end of stone coping of platform at Dina railway station.	904·103	903·472
120		BM.8/43 G	163·4	G.T.S. ○ B.M. On W. end of stone coping of platform at Dina railway station.	904·105	903·474
	a/120	BM.9/43 G	164·2	G.T.S. ○ B.M. On stone coping of N. parapet of E. abutment of Dina bridge, near telegraph post No. 938/5.	875·129	874·518
121		BM.10/43 G	167·1	⊼ On S. parapet of culvert, near telegraph post No. 941/2. (Railway bench-mark).	1017·543	1016·831

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
122		BM.11 / 43 G	167·3	⊼ On S. parapet of culvert, near telegraph post No. 941/7. (Railway bench-mark).	1029·293	1028·575
123		BM.12 / 43 G	167·9	G.T.S. ○ B.M. On N.E. parapet of culvert, near telegraph post No. 941/18.	1062·396	1061·655
124		BM.13 / 43 G	169·1	⊼ On S. parapet of culvert, near telegraph post No. 943/1. (Railway bench-mark).	1112·257	1111·481
125		BM.14 / 43 G	169·6	⊼ On N. parapet of culvert, near telegraph post No. 943/13. (Railway bench-mark).	1132·462	1131·672
126		BM.15 / 43 G	170·3	⊼ On N. parapet of culvert, near telegraph post No. 944/7. (Railway bench-mark).	1173·086	1172·267
127		BM.16 / 43 G	171·4	G.T.S. ○ B.M. On E. end of stone coping of platform at Domeli railway station.	1191·014	1190·182
	a/127	BM.17 / 43 G	171·5	G.T.S. □ B.M. at Domeli Railway Station. Embedded to E. of station building, 2 inches below ground level, 158 feet and 62° from S. E. corner of station verandah, and 417 feet and 104° from B. M. No. 128.	1189·232	1188·400
128		BM.18 / 43 G	171·6	G.T.S. ○ B.M. On W. end of stone coping of platform at Domeli railway station.	1191·277	1190·445
129		BM.19 / 43 G	173·0	G.T.S. ○ B.M. On stone coping of E. parapet of culvert, near telegraph post No. 946/20.	1131·277	1130·486
130		BM.20 / 43 G	173·5	□ ↑ On W. parapet of culvert, near telegraph post No. 947/7. (Railway bench-mark).	1105·392	1104·619
131		BM.21 / 43 G	174·4	G.T.S. ○ B.M. On N. end of stone coping of E. parapet of Bakrala bridge, near telegraph post No. 948/8.	1074·927	1074·173
132		BM.22 / 43 G	176·1	G.T.S. ○ B.M. On stone coping of W. parapet of culvert, near telegraph post No. 950/2.	1127·673	1126·883
	a/132	BM.23 / 43 G	178·2	G.T.S. □ B.M. at Tarki Railway Station. Embedded to W. of station sidings, about 6 inches below ground level, 134 feet and 10° from N.W. corner of gangmen's quarters, 254 feet and 216° from centre of turn table, and 242° and 347° respectively from centre of W. gable of station building and forest boundary pillar No. 2.	1218·952	1218·096

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
133	BM.24 / 43 G	178·3	G.T.S. ○ B.M. On S. end of stone coping of platform at Tarki railway station.	1220·420	1219·565
134	BM.25 / 43 G	178·3	G.T.S. ○ B.M. On N. end of stone coping of platform at Tarki railway station.	1220·372	1219·517
135	BM.26 / 43 G	179·4	G.T.S. ○ B.M. On stone coping of E. parapet of culvert, near telegraph post No. 953/9.	1271·906	1271·013
136	BM.27 / 43 G	181·2	G.T.S. ○ B.M. On stone coping of E. parapet of culvert, near telegraph post No. 955/5.	1356·784	1355·828
137	BM.28 / 43 G	183·3	G.T.S. □ B.M. at Sohawa Railway Station. Embedded to N. of goods platform, flush with ground, 275 feet and 16° from N.E. corner of railway rest house, 178 feet and 67° from S.E. pillar of pakka well, and 347 feet and 109° from centre of N.E. parapet of bridge towards station.	1430·266	1429·256
138	BM.29 / 43 G	183·3	G.T.S. ○ B.M. On S.E. end of stone coping of platform at Sohawa railway station.	1430·201	1429·191
139	BM.30 / 43 G	183·5	G.T.S. ○ B.M. On N.W. end of stone coping of platform at Sohawa railway station.	1430·321	1429·311
140	BM.31 / 43 G	183·9	T On stone coping at N.E. parapet of drain, near telegraph post No. 957/21. (Railway bench-mark).	1441·367	1440·349
141	BM.32 / 43 G	184·5	G.T.S. ○ B.M. On stone coping of N.E. parapet of culvert, near telegraph post No. 958/11.	1464·722	1463·686
142	BM.33 / 43 G	185·5	T On N.E. parapet of culvert, near telegraph post No. 959/9. (Railway bench-mark).	1523·512	1522·432
143	BM.34 / 43 G	186·1	G.T.S. ○ B.M. On N.E. wall of drain, near telegraph post No. 960/4.	1530·349	1529·265
144	BM.35 / 43 G	187·8	G.T.S. ○ B.M. On E. cap of N. abutment of Bishendour bridge, near telegraph post No. 961/17.	1453·620	1452·587
145	BM.36 / 43 G	188·7	T On stone coping of W. parapet of culvert, near telegraph post No. 962/11. (Railway bench-mark).	1493·877	1492·814

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
146		BM 37 / 43 G	189·3	G.T.S. ○ B.M. On S.E. end of stone coping of platform at Missa Keswal railway station.	1521·228	1520·145
147		BM.38 / 43 G	189·4	G.T.S. ○ B.M. On N.W. end of stone coping of platform at Missa Keswal Railway Station.	1521·102	1520·019
148		BM.39 / 43 G	189·6	G.T.S. ○ B.M. On stone coping of N.E. parapet of culvert, near telegraph post No. 963/12.	1516·660	1515·579
149		BM.40 / 43 G	191·0	G.T.S. ○ B.M. On W. stone cap of S. abutment of Bhaikhan bridge, near telegraph post No. 965/1.	1450·194	1449·160
150		BM.41 / 43 G	191·0	E. rail at N. abutment of Bhaikhan bridge. (Railway bench-mark).	1449·395	1448·361
151		BM.42 / 43 G	191·3	⊤ On W. parapet of culvert, near telegraph post No. 965/5. (Railway bench-mark).	1450·320	1449·286
	a/151	BM.43 / 43 G	192·4	G.T.S. ○ B.M. On masonry pillar adjoining S.W. corner of gate lodge at level crossing, near telegraph post No. 966/10.	1496·277	1495·208
152		BM.44 / 43 G	195·1	G.T.S. ○ B.M. On S.E. end of platform coping at Gujar Khan railway station.	1505·245	1504·165
	a/152	BM.45 / 43 G	195·1	G.T.S. □ B.M. at Gujar Khan Railway Station. Embedded 3 inches below ground level, opposite E. end of platform, 187 feet and 105° from N.E. corner of goods shed, 170 feet and 99° from N.E. corner of goods office, 173 feet and 45° from B.M. No. 152, and 513 feet and 318° from S.W. corner of tank house.	1504·105	1503·024
153		BM.46 / 43 G	195·2	G.T.S. ○ B.M. On N.W. end of platform coping at Gujar Khan railway station.	1505·328	1504·248
	a/153	BM.47 / 43 G	196·6	G.T.S. ○ B.M. On stone coping at E. parapet of culvert, near telegraph post No. 970/13.	1564·233	1563·109
154		BM.48 / 43 G	197·8	⊤ On stone coping of W. parapet of culvert, near telegraph post No. 971/16. (Railway bench-mark).	1635·183	1634·007
	a/154	BM.49 / 43 G	197·8	G.T.S. ○ B.M. On stone coping of E. parapet of culvert, near telegraph post No. 971/16.	1635·117	1633·939

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
	b/154 BM.50/43 G	*miles* 199·1	G.T.S. ○ B.M. On stone coping of E. parapet of culvert, near telegraph post No. 973/5.	*feet* 1686·790	*feet* 1685·574
155	BM.51/43 G	200·6	G.T.S. ○ B.M. On stone coping of E. parapet of culvert, near telegraph post No. 974/18.	1709·834	1708·599
156	BM.52/43 G	201·5	⊤ On masonry pillar on E. side of railway line, near telegraph post No. 975/17. (Railway bench-mark).	1765·796	1764·518
157	BM.53/43 G	202·0	G.T.S. ○ B.M. On stone coping of E. parapet of culvert, near telegraph post No. 976/5.	1775·052	1773·766
158	BM.54/43 G	202·5	⊤ On masonry pillar on E. side of railway line, near telegraph post No. 976/14. (Railway bench-mark).	1757·874	1756·600
	1/158 BM.55/43 G	205·1	G.T.S. ○ B.M. On rock *in situ* at E. bank of Tutiband tank, about 2 chains W. of Chakwal road and about ¼ mile N.E. of Taragarh village.	1841·821	1840·485
	2/158 BM.56/43 G	207·4	B.OM. On rock *in situ* between Songwala tank and Chakwal road and about 200 feet N.E. of Mian Saman's *Khankah* on E. bank of tank.	1897·261	1895·885
	3/158 BM.57/43 G	209·4	On the ⊙ on upper surface of pillar of Jaoli G.T. Survey Hill Station, lat. 33° 16′ 48″·85, long. 73° 10′ 26″·50. A principal station of N.W. Himalaya Series. (For full description *see* Synoptical Volume).	1915·637	1914·247
	a/158 BM 58/43 G	203·4	□ ⊤ On masonry pillar on W. side of railway line, near telegraph post No. 977/11. (Railway bench-mark).	1714·588	1713·344
159	BM.59/43 G	203·7	G.T.S. ○ B.M. On S. end of stone coping of platform at Mandra railway station.	1698·367	1697·134
	a/159 BM.60/43 G	203·8	G.T.S. □ B.M. at Mandra Railway Station. Embedded 3 inches below ground level, 265 feet and 146° from S.E. corner of E. tank house, 131 feet and 65° from N.E. corner of gangmen's quarters, 166 feet and 43° from S.E. corner of same, 198 feet and 168° from S.E. corner of menial staff quarters, and 51 feet from centre of road to station.	1695·281	1694·048

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
160		BM 61 / 43 G	203·8	G.T.S. ○ B.M. On N. end of stone coping of platform at Mandra railway station.	1698·461	1697·228
161		BM.62 / 43 G	206·2	□ ↑ On masonry pillar on W. side of railway line, near telegraph post No. 980/10. (Railway bench-mark).	1723·731	1722·475
	a/161	BM.63 / 43 G	206·6	G.T.S. ○ B.M. On stone coping of E. parapet of culvert, near telegraph post No. 980/21.	1747·278	1746·003
162		BM.64 / 43 G	207·1	↑ On masonry pillar, near telegraph post No. 981/8. (Railway bench-mark).	1773·216	1771·923
163		BM.65 / 43 G	208·7	G.T.S. ○ B.M. On stone coping of E. parapet of culvert, near telegraph post No. 982/20.	1829·574	1828·235
	a/163	BM.66 / 43 G	209·0	□ ↑ On masonry pillar, near telegraph post No. 983/5. (Railway bench-mark).	1820·335	1819·002
164		BM.67 / 43 G	210·0	G.T.S. ○ B.M. On E. parapet of culvert, near telegraph post No. 984/6.	1824·199	1822·861
	1/164	BM.68 / 43 G	210·8	G.T.S. ○ B.M. On W. end of 2nd stone step on S. side of Mankiala *tope* (dome).	1882·151	1880·769
	2/164	BM.69 / 43 G	210·9	On the ⊙ on summit of dome of Mankiala *Tope* (Dome) G. T. Survey Intersected Point, lat. 33° 26′ 54″·75, long. 73° 14′ 38″·60. An intersected point of North-West Himalaya Series. (For full description *see* Synoptical Volume).	1955·190	1953·754
	a/164	BM.70 / 43 G	210·4	G.T.S. ○ B.M. On S. parapet of culvert E. of railway line, near telegraph post No. 984/16.	1801·616	1800·292
165		BM.71 / 43 G	211·9	G.T.S. ○ B.M. On S. end of stone coping of platform at Mankiala railway station.	1763·395	1762·097
166		BM 72 / 43 G	212·1	G.T.S. ○ B.M. On N. end of stone coping of platform at Mankiala railway station.	1763·421	1762·123
	a/166	BM.73 / 43 G	212·1	G.T.S. □ B.M. at Mankiala Railway Station. Embedded about 9 inches below ground level, 301 feet and 67° from B.M. No. 166, 174 feet and 58° from N.W. corner of Sub-Plate layers' quarters, 131 feet and 42° from N.E. corner of same, 261 feet and 36° from N.W. corner of station master's quarters No. 3, and 49 feet and 10° from centre of well.	1763·650	1762·349

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
167	BM.74 / 43 G	212·8	G.T.S. ○ B.M. On stone coping of E. parapet of culvert, near telegraph post No. 987/3.	1743·650	1742·364
168	BM 75 / 43 G	214·2	G.T.S. ○ B.M. On stone coping of E. parapet of culvert, near telegraph post No. 988/14.	1678·238	1676·999
169	BM 76 / 43 G	216·5	G.T.S. ○ B.M. On stone coping of E. cap of N. abutment of Ling bridge, near telegraph post No. 990/13.	1586·728	1585·551
170	BM.77 / 43 G	218·0	G.T.S. ○ B.M. On E. end of stone coping of platform at Sihala railway station.	1517·529	1516·402
171	BM 78 / 43 G	218·1	G.T.S. ○ B.M. On W. end of stone coping of platform at Sihala railway station.	1517·374	1516·248
172	BM 79 / 43 G	218·2	G.T.S. □ B.M. at Sihala Railway Station. Embedded S.W. of station building, about 3 inches below ground level, 296 feet and 257° from S W. corner of block No. 3 (Godown and Rest Room with water tank above), 276 feet and 280° from S.W. corner of walled enclosure of station staff quarters, and 241 feet and 209° from B.M. No. 171.	1506·912	1505·793
173	BM.80 / 43 G	218·6	S. rail of abutment at Sihala end of bridge, near telegraph post No. 992/22. (Railway bench-mark).	1515·189	1514·064
174	BM 81 / 43 G	219·7	G.T.S. ○ B.M. On N.W. wing wall of culvert opposite mile-plate No. 994.	1544·719	1543·571
175	BM 82 / 43 G	221·2	G.T.S. ○ B.M. On stone coping of S.W. parapet of culvert, near telegraph post No. 995/9.	1574·495	1573·323
a/175	BM 83 / 43 G	222·6	G.T.S. ○ B.M. On stone coping at E. nose of 1st pier at Peshawar end of Kurrang bridge, near telegraph post No. 996/14.	1544·342	1543·191
b/175	BM.84 / 43 G	223·9	G.T.S. ○ B.M. On stone coping of W. parapet of culvert, near telegraph post No. 998/5.	1586·114	1584·931
176	BM.85 / 43 G	225·3	G.T.S. ○ B.M. at Chak Lala Railway Station. On stone coping of platform, 116 feet from W. end of same, above ramp.	1663·012	1661·771
a/176	BM.86 / 43 G	227·0	G.T.S. ○ B.M. On stone coping at N. nose of 1st pier from Peshawar end of Leh bridge, near telegraph post No. 1001/10.	1641·540	1640·313

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks: Geodetic	Designation of Bench-marks: Topographic	Distance from Ferozepore	Description of Bench-marks	Corrected Elevation: Dynamic	Corrected Elevation: Orthometric
		miles		*feet*	*feet*
177	BM.87 / 43 G	227·1	S. rail at W. abutment of Leh bridge. (Railway bench-mark).	1649·925	1648·693
a / 177	BM.88 / 43 G	228·1	G.T.S. ○ B.M. at Rawalpindi Railway Station. On stone coping of platform, 40 feet from N.E. corner of station building.	1656·145	1654·907
178	BM 89 / 43 G	228·1	G.T.S. ○ B.M. at Rawalpindi Railway Station. On stone coping of platform in front of 1st class waiting room.	1656·129	1654·893
179	BM.90 / 43 G	228·3	G.T.S. □ B.M. at Rawalpindi Railway Station. Embedded about 6 inches below ground level, 259 feet and 300° from centre of E. entrance gate to troops siding, 278 feet and 112° from centre of W. entrance gate to same, 87 feet and 216° from S.W. corner of waiting shed on troops platform, 110 feet and 240° from S.E. corner of same, 107 feet from edge of platform, and 31 feet from boundary wall.	1654·029	1652·794
1 / 179	BM.91 / 43 G	228·4	G.T.S. ○ B.M. at District Traffic Superintendent's Office, N.W. Railway, Rawalpindi. On flooring of S. verandah of block No. 91, about 4 feet from centre of E. door of room.	1654·875	1653·638
2 / 179	BM.92 / 43 G	228·7	G.T.S. ○ B.M. at Executive Engineer's Office, N.W. Railway, Rawalpindi. On flooring of room on W. side of building, 4 feet from centre of inner door.	1646·537	1645·306
3 / 179	BM.93 / 43 G	228·9	G.T.S. ○ B.M. On 1st step on E. side of Lockhart memorial, Rawalpindi, just below the statue.	1666·342	1665·096
4 / 179	BM 94 / 43 G	229·3	G.T.S. ○ B.M. at Post Office, Rawalpindi. On stone flooring of N. verandah close to wall, and 4 feet from N.W. corner.	1668·529	1667·282
5 / 179	BM.95 / 43 G	229·3	G.T.S. ○ B.M. On stone flooring of E. verandah facing the wall of Office of Superintendent Government Telegraphs, Rawalpindi, 22 and 32 feet respectively from N.W. and S.W. corners of verandah.	1673·276	1672·025
6 / 179	BM 96 / 43 G	229·9	G.T.S. Standard Bench Mark 1904 at Rawalpindi. Situated in compound of Christ Church, 86 feet from centre of S. entrance door, 92 feet from S.W. corner of building, and 22 feet from compound wall.	1690·398	1689·134
6a / 179	BM.97 / 43 G	230·4	G.T.S. ○ B.M. at No. 1 Section, Station Hospital, Rawalpindi. On 3rd stone step at S.W. corner of block No. 4.	1677·721	1676·467
6b / 179	BM 98 / 43 G	230·7	G.T.S. ○ B.M. at Station Hospital, Rawalpindi. On stone flooring of verandah of block No. 3, near N.E. angle of walls.	1671·626	1670·376
6c / 179	BM.99 / 43 G	230·7	G.T.S. ○ B.M. at Station Hospital, Rawalpindi. On stone flooring of verandah of block No. 1, near N.W. angle of walls.	1674·383	1673·131

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
6d/179	BM.100/43 G	230·7	G.T.S. ○ B.M. at Station Hospital, Rawalpindi. On stone flooring in centre of N. verandah of block No. 2, near wall.	1673·478	1672·227
7/179	BM.101/43 G	229·9	G.T.S. ○ B.M. at Christ Church, Rawalpindi. On 2nd stone step in front of door on S. side of building, 16 feet W. from S.W. angle of same, and 81 feet from B.M. No. 6/179.	1689·076	1687·813
8/179	BM.102/43 G	230·7	G.T.S. ○ B.M. at Government Treasury, Rawalpindi. On stone flooring of main gate, near W. end of inner door of same.	1696·773	1695·504
9/179	BM.103/43 G	230·7	G.T.S. ○ B.M. at Deputy Commissioner's Court, Rawalpindi. On centre of stone step in front of verandah on W. side of building.	1696·971	1695·702
10/179	BM.104/43 G	231·5	G.T.S. ○ B.M. On S. cap of E. parapet wall of roadway, inside fort leading to entrance gate and block house, Rawalpindi.	1704·837	1703·562
11/179	BM.105/43 G	231·6	G.T.S. ○ B.M. at Fort, Rawalpindi. On N. cap of arch over underground roadway to entrance gate and block house.	1705·864	1704·589
12/179	BM.106/43 G	231·6	G.T.S. B.○M. at Fort, Rawalpindi. On flooring of S. verandah of block No. 1, in front of door No. 18, nearly in centre of block.	1705·648	1704·373
180	BM.107/43 G	228·8	G.T.S. ○ B.M. On N.W. end of N.E. parapet of bridge, near telegraph post No. 1003/5.	1662·300	1661·058
181	BM.108/43 G	230·5	G.T.S. ○ B.M. On N. end of 1st pier from E. end of bridge, near telegraph post No. 1004/20.	1721·710	1720·423
182	BM.9/43 C	232·2	G.T.S. ○ B.M. On N.W. parapet of culvert, near telegraph post No. 1006/15.	1811·491	1810·136
183	BM 10/43 C	233·4	G.T.S. ○ B.M. On N. parapet of culvert, near telegraph post No. 1007/17.	1870·948	1869 544
a/183	BM.11/43 C	235·1	G.T.S. ○ B.M. On N.E. parapet of culvert, near telegraph post No. 1009/7.	1949·821	1948·356
184	BM.12/43 C	236·8	G.T.S. □ B.M. at Golra Railway Station. Embedded about 6 inches below ground level, to S.E. of station building, on N.E. side of railway line within wire fencing, 170 feet and 163° to N. corner of pointsman's lodge No. 5, and 168 feet and 183° to up point's signal.	1994·275	1992·773

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
185	BM.13 / 43 C	237·0	G.T.S. ○ B.M. at Golra Railway Station. On stone coping of main platform, opposite S.E. name-board.	1999·960	1998·453
a / 185	BM.14 / 43 C	237·1	G.T.S. ○ B.M. at Golra Railway Station. On stone coping of main platform, nearly oppsite N.W. name-board.	1999·948	1998·439
b / 185	BM.15 / 43 C	237·8	G.T.S. ○ B.M. On N.E. wing wall of culvert, near telegraph post No. 1012/3.	1963·368	1961·887
186	BM.16 / 43 C	239·6	G.T.S. ○ B.M. On N.E. cap of bridge, near telegraph post No. 1013/16.	1884·566	1883·144
a / 186	BM.17 / 43 C	241·5	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 1015/15.	1810·497	1809·129
b / 186	BM.18 / 43 C	243·3	G.T.S. ○ B.M. On N.E. parapet of culvert, near telegraph post No. 1017/11.	1770·994	1769·656
187	BM.19 / 43 C	246·4	G.T.S. ○ B.M. On N.W. cap of bridge, near telegraph post No. 1020/14.	1718·969	1717·667
a / 187	BM.20 / 43 C	247·9	G.T.S. □ B.M. at Sarai Kala Railway Station. Embedded about 6 inches below ground level to S. of station building, on W. side of railway line, and within wire fencing; 310 feet and 133° to up point's signal, 87 feet and 75° to telegraph post No. 1022/6, and 457 feet and 7° to B.M. No. 188.	1689·927	1688·645
188	BM.21 / 43 C	248·0	G.T.S. ○ B.M. On stone coping at S. end of platform at Sarai Kala railway station.	1693·685	1692·399
a / 188	BM.22 / 43 C	248·0	G.T.S. ○ B.M. at Sarai Kala Railway Station. On stone coping of platform in front of station master's room.	1693·795	1692·507
b / 188	BM.23 / 43 C	248·4	G.T.S. ○ B.M. On stone base of down distant signal at Sarai Kala railway station.	1686·269	1684·986
189	BM.24 / 43 C	250·3	G.T.S. ○ B.M. On E. cap of bridge, near telegraph post No. 1024/7.	1597·130	1595·914
190	BM.25 / 43 C	251·4	G.T.S. ○ B.M. On E. cap of culvert, near telegraph post No. 1025/14.	1553·055	1551·871

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation *	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
191		BM.26 / 43 C	253·5	G.T.S. ○ B.M. On S. parapet of E. abutment of bridge, near telegraph post No. $\frac{1027}{16}$.	1513·664	1512·507
192		BM.27 / 43 C	254·9	G.T.S. ○ B.M. On S. end of 1st pier from W. end of bridge, near telegraph post No. $\frac{1029}{5}$.	1480·164	1479·031
193		BM.28 / 43 C	256·9	G.T.S. ○ B.M. On stone base of up distant signal at Hasan Abdal railway station.	1471·893	1470·765
194		BM.29 / 43 C	257·4	G.T.S. ○ B.M. On stone coping at E. end of platform at Hasan Abdal railway station.	1455·817	1454·701
195		BM.30 / 43 C	257·5	G.T.S. ○ B.M. On stone coping at W. end of platform at Hasan Abdal railway station.	1454·952	1453·837
	a / 195	BM.31 / 43 C	257·6	G.T.S. □ B.M. at Hasan Abdal Railway Station. Embedded about 6 inches below ground level, to W. of station building, on S. side of railway line, and within wire fencing; 25 feet and 353° to S.W. post of water tank scaffolding, 131 feet and 18° to W. end of coping of platform above ramp, 297 feet and 5° to S.W. corner of back verandah of station building, and 270° to N.E. corner of assistant station master's quarters.	1452·536	1451·421
	b / 195	BM.32 / 43 C	259·2	G.T.S. ○ B.M. On S.E. wing wall of culvert, near telegraph post No. $\frac{1033}{12}$.	1371·345	1370·292
	c / 195	BM.33 / 43 C	260·8	G.T.S. ○ B.M. On S.E. parapet of N.E. abutment of Chablat bridge, near telegraph post No. $\frac{1035}{5}$.	1303·738	1302·737
196		BM.34 / 43 C	262·4	G.T.S. ○ B.M. On S. parapet of E. abutment of bridge, near telegraph post No. $\frac{1036}{17}$.	1282·580	1281·598
	a / 196	BM.35 / 43 C	263·8	G.T.S. □ B.M. at Burhan Railway Station. Embedded about 6 inches below ground level, to E. of station building, on S. side of railway line, and within wire fencing; 74 feet and 254° to telegraph post No. $\frac{1038}{4}$, 189 feet and 95° to telegraph post No. $\frac{1038}{3}$, and 49 feet to centre of Grand Trunk Road.	1255·925	1254·962
	b / 196	BM.36 / 43 C	264·0	G.T.S. ○ B.M. On stone coping at E. end of platform at Burhan railway station.	1259·040	1258·075
197		BM.37 / 43 C	264·1	G.T.S. ○ B.M. On stone coping at W. end of platform at Burhan railway station.	1259·030	1258·067

Main-Line 56. (Ferozepore to Chach).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
198	BM.38 / 43 C	264·2	G.T.S. ○ B.M. On S. parapet of E. abutment of bridge, near telegraph post No. $\frac{1038}{13}$.	1255·708	1254·747
199	BM.39 / 43 C	266·0	G.T.S. ○ B.M. On S.E. parapet of culvert, near telegraph post No. $\frac{1040}{8}$.	1249·533	1248·576
200	BM.40 / 43 C	268·7	G.T.S. ○ B.M. On S. parapet of E. abutment of bridge, near telegraph post No. $\frac{1043}{3}$.	1290·075	1289·087
201	BM.41 / 43 C	269·2	G.T.S. ○ B.M. On stone coping at E. end of platform at Lawrencepur railway station.	1315·570	1314·562
202	BM.42 / 43 C	269·2	G.T.S. ○ B.M. at Lawrencepur Railway Station. On stone coping of platform, between station building and goods shed.	1315·579	1314·571
203	BM.43 / 43 C	269·4	G.T.S. □ B.M. at Lawrencepur Railway Station. Embedded about 6 inches below ground level, to W. of station building, on N. side of railway line, and within wire fencing; 240 feet and 238° to S.E. corner of station master's quarters, (block No. 2), and 154 feet and 110° to W. end above ramp of goods platform.	1298·592	1297·597
204	BM.44 / 43 C	270·6	G.T.S. ○ B.M. On N.E. parapet of culvert No. 232, near furlong-stone No. $\frac{209}{4}$, on Grand Trunk Road.	1234·393	1233·446
205	BM.45 / 43 C	272·8	G.T.S. ○ B.M. On N.W. wing wall of bridge No. 239, near encamping ground, about ¼ mile towards Lawrencepur from mile-stone No. 212, on Grand Trunk Road.	1105·858	1105·008
206	BM.46 / 43 C	275·0	G.T.S. ○ B.M. On N. parapet of bridge No. 243, about 8 chains E. of mile-stone No. 214, on Grand Trunk Road.	1049·495	1048·687
207	BM.47 / 43 C	275·9	G.T.S. ○ B.M. On W. end of N. parapet of bridge No. 248, near furlong-stone No. $\frac{215}{5}$, on Grand Trunk Road.	1020·916	1020·130
208	BM.48 / 43 C	278·0	G.T.S. ○ B.M. On N. W. wing wall of bridge over Chail river, near furlong-stone No. $\frac{216}{7}$, and about ¼ mile S. of S.W. end of Chach Base Line.	993·876	993·111
209	BM.8 / 43 C	278·3	On mark on surface of pillar of Chach Base-Line, S.W. End, G. T. Survey Station, lat. 33° 53′ 11″·75, long. 72° 22′ 53″·74. A principal station of Base-Line Figures of Great Indus Series. (For full description *see* Synoptical Volume).	1014·846	1014·063

Branch-Line 56A. (Chach to Peshawar).

Designation of Bench-marks			Distance from Chach	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.48 / 43 C	0·0	G.T.S. ⊙ B.M. On N.W. wing wall of bridge over Chail river, near furlong-stone No. 216/7, and about ¼ mile S. of S.W. end of Chach Base-Line.	993·876	993·111
2		BM.49 / 43 C	1·0	G.T.S. ⊙ B.M. On W. end of N. parapet of bridge No. 253, about 8 chains E. from mile-stone No. 218 on Grand Trunk Road.	998·037	997·266
3		BM.50 / 43 C	3·4	G.T.S. ⊙ B.M. On E. end of N. parapet of bridge No. 256, near furlong-stone No. 220/3, on Grand Trunk Road.	982·227	981·468
4		BM.51 / 43 C	6·5	G.T.S. ⊙ B.M. On W. cap of S. parapet of bridge No. 274, near furlong-stone No. 223/3, on Grand Trunk Road.	939·818	939·091
5		BM.52 / 43 C	8·4	G.T.S. Standard Bench Mark 1904 at Attock. Situated on road side between Fort and Roman Catholic Church, and to S. of Officers' quarters. It measures 99 feet and bears 355° to S W. corner of block No. 89, 73 feet and 165° to N.E. corner of compound wall of house No. 99, 197 feet and 217° to centre of semi-circular wall of Fort, 142 feet and 27° to S.E. corner of block No. 89, and 171 feet and 38° to S.W. corner of block No. 90.	1112·944	1112·084
	1/5	BM.53 / 43 C	8·5	G.T.S. ⊙ B.M. at Protestant Church, Attock. On stone flooring of small verandah, near door leading into choir.	1114·033	1113·172
	2/5	BM.54 / 43 C	8·5	G.T.S. ⊙ B.M. at Protestant Church, Attock. On N. end of lowest stone step, on W. side of Church, and in front of N. door.	1112·504	1111·644
	3/5	BM.55 / 43 C	8·5	Top of cannon embedded near S. end of inner main or E. gate of Attock fort.	1125·171	1124·301
	4/5	BM.56 / 43 C	8·6	G.T.S. ⊙ B.M. at Attock Fort. On turret of N.E. bastion near flag-staff. This is an intersected point of Great Indus Series, lat. 33° 53′ 28″·55, long. 72° 14′ 26″·99. The original mark was ⊙, the letters G.T.S. B.M. were added when the point was connected by levelling operations.	1193·280	1192·358
	a/5	BM.57 / 43 C	8·6	G.T.S. ⊙ B.M. at Roman Catholic Church, Attock. On stone flooring near main or W. door, under front porch.	1146·203	1145·317
	b/5	BM.58 / 43 C	8·6	G.T.S. ⊙ B.M. at Roman Catholic Church, Attock. On stone flooring near N.E. corner of S. verandah.	1146·170	1145·284
	c/5	BM.59 / 43 C	10·4	G.T.S. ⊙ B.M. On S. cap of E. abutment of Attock bridge over Indus, near down points signal of Attock railway station.	1005·682	1004·905

Branch-Line 56A. (Chach to Peshawar).

Designation of Bench-marks			Distance from Chach	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
	d/5	BM.60 / 43 C	*miles* 10·4	G.T.S. □ B.M. at Attock Railway Station. Embedded about 6 inches below ground level, to S. of station building, 130 feet and 352° to centre of above building, 151 feet and 327° to S.W. corner of same, 82 feet and 60° to N.W. corner of block No. 2, and 164 feet and 259° to N.E. corner of staff quarters No. 3.	*feet* 991·085	*feet* 990·319
	e/5	BM.61 / 43 C	10·5	G.T.S. ○ B.M. at Attock Railway Station. On stone coping at W. end of platform.	1007·717	1006·938
	f/5	BM.62 / 43 C	10·5	G.T.S. ○ B.M. at Attock Railway Station. On stone coping at E. end of platform.	1008·028	1007·249
	g/5	BM.63 / 43 C	12·4	G.T.S. ○ B.M. On N.E. cap of bridge, near telegraph post No. 1066/10.	972·995	972·243
6		BM.64 / 43 C	12·9	G.T.S. ○ B.M. at Khairabad Railway Station. On stone coping at S. end of platform.	988·051	987·286
7		BM.65 / 43 C	13·0	G.T.S. ○ B.M. at Khairabad Railway Station. On stone coping at N. end of platform.	987·930	987·165
8		BM.66 / 43 C	13·7	G.T.S. ○ B.M. On N. cap of bridge, between telegraph posts Nos. 1067/16 and 1067/17.	985·356	984·591
	a/8	BM.67 / 43 C	15·2	G.T.S. ○ B.M. On N.E. parapet of culvert, near telegraph post No. 1069/7.	971·983	971·229
9		BM.68 / 43 C	16·5	G.T.S. ○ B.M. On N. end of W. abutment of bridge, near telegraph post No. 1070/15.	995·281	994·506
	a/9	BM.69 / 43 C	17·6	G.T.S. □ B.M. at Jahangira Road Railway Station. Embedded about 6 inches below ground level, to E. of station building, on N. side of railway line, 158 feet and 265° to up distant signal, and 111 feet and 196° to telegraph post No. 1071/13.	991·565	990·793
10		BM.70 / 43 C	17·6	G.T.S. ○ B.M. On block of masonry, flush with ground level, near S.W. corner of block No. 4, between telegraph posts Nos. 1071/16 and 1071/17.	993·798	993·024
11		BM.71 / 43 C	17·7	G.T.S. ○ B.M. On block of masonry, flush with ground level, 88 feet E. of telegraph post No. 1071/19, and to N.W. of station building.	991·911	991·137

Branch-Line 56A. (Chach to Peshawar).

Designation of Bench-marks			Distance from Chach	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
	a/11	BM.72/43 C	*miles* 18·4	G.T.S. ○ B.M. On N. end of W. abutment of bridge, between telegraph posts Nos. 1072/10 and 1072/11.	*feet* 999·665	*feet* 998·885
	b/11	BM.73/43 C	20·0	G.T.S. ○ B.M. On N. end of W. abutment of bridge, near telegraph post No. 1074/2.	958·899	958·151
12		BM.74/43 C	21·4	G.T.S. ○ B.M. at Akora Khattak Railway Station. On stone coping at E. end of platform.	975·147	974·384
13		BM.75/43 C	21·5	G.T.S. ○ B.M. at Akora Khattak Railway Station. On stone coping at W. end of platform.	975·556	974·793
14		BM.76/43 C	21·8	G.T.S. ○ B.M. On N.W. cap of bridge, near mile-plate No. 1076.	976·414	975·650
15		BM.1/43 B	23·7	G.T.S. ○ B.M. On N.W. cap of bridge, near telegraph post No. 1077/19.	979·956	979·190
16		BM.2/43 B	25·6	G.T.S. ○ B.M. On N.W. cap of bridge, near telegraph post No. 1079/17.	992·840	992·064
	a/16	BM.3/43 B	27·0	G.T.S. ○ B.M. On N. parapet of bridge, near telegraph post No. 1081/5.	969·753	968·995
17		BM.4/43 B	28·8	G.T.S. ○ B.M. On N. end of W. abutment of bridge, near mile-plate No. 1083.	995·969	995·189
18		BM.5/43 B	29·5	G.T.S. □ B.M. at Nowshera Railway Station. Embedded about 6 inches below ground level, to E. of station building, 100 feet and 349° to centre of door of gate lodge No. 8, 84 feet and 18° to E. end of S. gate of level crossing, and 137 feet and 146° to centre of main or W. gate of house No. 35.	966·630	965·874
19		BM.2/38 O	29·7	G.T.S. ○ B.M. at Nowshera Railway Station. On stone coping at E. end of platform.	969·799	969·041
20		BM.3/38 O	29·8	G.T.S. ○ B.M. at Nowshera Railway Station. On stone coping at W. end of platform.	969·683	968·925
21		BM.4/38 O	30·6	G.T.S. ○ B.M. On N. end of W. abutment of bridge, near telegraph post No. 1084/16.	976·620	975·856
22		BM.5/38 O	32·7	G.T.S. ○ B.M. On N. end of W. abutment of bridge, near telegraph post No. 1086/19.	977·269	976·505

Branch-Line 56A. (Chach to Peshawar).

Designation of Bench-marks			Distance from Chach	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
23		BM.1 / 38 N	33·5	G.T.S. ○ B.M. at Nowshera Tahsil Railway Station. On stone coping at platform in front of station building.	986·332	985·560
24		BM.2 / 38 N	34·3	G.T.S. ○ B.M. On N. end of W. abutment of bridge, near telegraph post No. 1088/11.	973·036	972·274
	a/24	BM.3 / 38 N	35·7	G.T.S. ○ B.M. On block of masonry, flush with ground level, on N. side of railway line, near telegraph post No. 1089/18, and 47 feet N. of up distant signal of Pir Piai railway station.	953·454	952·708
25		BM.4 / 38 N	36·7	G.T.S. ○ B.M. On block of masonry, flush with ground level, on N. side of railway line, 36 feet from telegraph post No. 1090/20, and 34 feet from N.E. end of railway bridge.	953·512	952·765
26		BM.5 / 38 N	38·2	G.T.S. ○ B.M. On N.W. cap of bridge, near telegraph post No. 1092/10.	961·650	960·897
27		BM.6 / 38 N	39·8	G.T.S. ○ B.M. On block of masonry, on N. side of railway line, near E. end of railway bridge, and 53 feet from telegraph post No. 1094/1.	968·365	967·607
	a/27	BM.7 / 38 N	41·7	G.T.S. ○ B.M. On N. end of W. abutment of bridge, near telegraph post No. 1095/19.	976·374	975·610
	b/27	BM.8 / 38 N	42·7	G.T.S. □ B.M. at Pabbi Railway Station. Embedded about 6 inches below ground level, near extreme S.E. corner of station yard, and within wire fencing; 29 feet and 136° to S.E. corner of wire fencing, 238 feet and 49° to S.W. corner of gate lodge No. 6, and 315 feet and 313° to N.E. corner of railway staff quarters No. 4.	973·564	972·802
28		BM.9 / 38 N	42·7	G.T.S. ○ B.M. at Pabbi Railway Station. On stone coping at E. end of platform.	981·342	980·574
29		BM.10 / 38 N	42·8	G.T.S. ○ B.M. at Pabbi Railway Station. On stone coping at W. end of platform.	981·554	980·785
30		BM.11 / 38 N	43·3	G.T.S. ○ B.M. On N. end of W. abutment of bridge, near telegraph post No. 1097/13.	978·142	977·376
31		BM.12 / 38 N	44·9	G.T.S. ○ B.M. On N. end of W. abutment of bridge, near telegraph post No. 1099/3.	984·263	983·492

Branch-Line 56A. (Chach to Peshawar).

Designation of Bench-marks		Distance from Chach	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
32	BM.13 / 38 N	46·8	G.T.S. ○ B.M. On N. parapet of culvert, near telegraph post No. $\frac{1101}{3}$.	1002·305	1001·519
33	BM.14 / 38 N	48·4	G.T.S. ○ B.M. On N. parapet of culvert, near telegraph post No. $\frac{1102}{16}$.	1005·449	1004·661
34	BM.15 / 38 N	50·3	G.T.S. ○ B.M. On N. end of W. abutment of bridge, near telegraph post No. $\frac{1104}{13}$.	1023·973	1023·170
a / 34	BM.16 / 38 N	52·4	G.T.S. ○ B.M. On N. end of W. abutment of drain, near telegraph post No. $\frac{1106}{12}$.	1036·862	1036·049
35	BM.17 / 38 N	54·2	G.T.S. ○ B.M. On N. end of W. abutment of bridge, near telegraph post No. $\frac{1108}{12}$.	1049·024	1048·202
1 / 35	BM.18 / 38 N	55·0	G.T.S. ○ B.M. On stone coping of S. footing of Lahori gate, Peshawar City.	1067·726	1066·889
2 / 35	BM.19 / 38 N	55·5	G.T.S. ○ B.M. On S.W. stone footing, in passage, under W. or main gate leading into Gurkatri, Peshawar City.	1117·138	1116·262
3 / 35	BM 20 / 38 N	55·5	⊙ at Gurkatri G. T. Survey Station, Peshawar City, lat. 34° 0′ 32″·64, long. 71° 34′ 49″·68. On upper mark-stone built in circular pillar, on roof of Tahsildar's kachahri, above W. or main gate leading into Gurkatri grounds. A secondary station of Great Indus Series.	1158·320	1157·412
36	BM.21 / 38 N	55·9	G.T.S. ○ B.M. On N.W. parapet of bridge opposite up distant signal of Peshawar Cantonment railway station, near telegraph post No. $\frac{1110}{8}$.	1103·499	1102·634
1 / 36	BM.22 / 38 N	56·2	G.T.S. ○ B.M. at Memorial Hall, Peshawar Cantonment. On stone flooring in front of main entrance, near N.E. door.	1118·452	1117·575
1a / 36	BM.23 / 38 N	56·5	G.T.S. ○ B.M. On uppermost stone step on E. side of office of Commanding Royal Engineer and Secretary to Chief Commissioner, P.W.D., Peshawar Cantonment.	1106·216	1105·350
1b / 36	BM.24 / 38 N	56·5	G.T.S. ○ B.M. On 2nd stone step on E. side of office of Inspector General of Police, Peshawar Cantonment.	1105·181	1104·316
2 / 36	BM.25 / 38 N	56·2	G.T.S. ○ B.M. On stone flooring of small verandah, in front of centre door on S.W. side of Memorial Hall, Peshawar Cantonment.	1118·308	1117·431
3 / 36	BM.26 / 38 N	56·4	G.T.S. ○ B.M. On 7th stone step from bottom, at S.W. end of Government House, Peshawar Cantonment.	1134·701	1133·812

Branch-Line 56A. (Chach to Peshawar).

Designation of Bench-marks		Distance from Chach	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
4/36	BM.27 38 N	56·4	○ at Government House, Peshawar Cantonment. On 2nd marble step under porch, leading up to vestibule, on W. side of building.	1131·401	1130·514
37	BM.28 38 N	56·2	G.T.S. ○ B.M. On base of home signal at Peshawar Cantonment railway station.	1114·531	1113·658
a/37	BM.29 38 N	56·2	G.T.S. ○ B.M. at Peshawar Cantonment Railway Station. On stone flooring near N.E. corner of exit for 1st and 2nd class passengers, nearly in centre of station building.	1114·292	1113·420
b/37	BM.30 38 N	56·5	G.T.S. □ B.M. at Peshawar Cantonment Railway Station. Embedded about 6 inches below ground level, in extreme N.W. corner of station yard, and within wire fencing; 146 feet and 74° to N.W. corner of front verandah of platform sergeant's quarters (block No. 25), 120 feet and 139° to N.W. corner of servants' quarters (block No. 26), 28 feet and 274° to N.W. corner of wire fencing, and 128 feet and 257° to S.E. pillar of water reservoir.	1117·337	1116·462
c/37	BM.31 38 N	56·9	G.T.S. ○ B.M. at Section Hospital, Peshawar Cantonment. On stone flooring of N. verandah of block No. 41, between doors Nos. 7 and 8.	1151·757	1150·855
38	BM.32 38 N	57·0	B.M. ↑ at Mackeson Monument, Peshawar Cantonment. On S.E. corner of lowest stone step.	1153·784	1152·881
39	BM.33 38 N	57·1	G.T.S. ○ B.M. at Station Hospital, Peshawar Cantonment. On stone flooring of N. verandah of block No. 24, near door No. 23.	1159·079	1158·172
a/39	BM.34 38 N	57·2	G.T.S. ○ B.M. at Station Hospital, Peshawar Cantonment. On stone flooring of S. verandah of block No. 24, near door No. 4.	1159·168	1158·261
b/39	BM.35 38 N	57·2	G.T.S. ○ B.M. at Station Hospital, Peshawar Cantonment. On stone flooring of N. verandah of block No. 23, near door No. 22.	1159·084	1158·177
c/39	BM.36 38 N	57·5	G.T.S. ○ B.M. at Roman Catholic Church, Peshawar Cantonment. On stone flooring of sacristy, near inner door leading into chancel.	1157·099	1156·193
40	BM.37 38 N	57·6	○ On parapet of culvert, at junction of Mall and St. John's roads, Peshawar Cantonment, near sentry box.	1161·664	1160·756
1/40	BM.38 38 N	57·8	G.T.S. ○ B.M. at St. John's Church, Peshawar Cantonment. On 2nd stone step, in front of E. door on N.E. side of church.	1174·446	1173·528
2/40	BM.39 38 N	57·9	G.T.S. ○ B.M. at St. John's Church, Peshawar Cantonment. On 2nd stone step in front of main entrance under tower.	1174·656	1173·738
3/40	BM.40 38 N	58·0	G.T.S. ○ B.M. at Left British Infantry Lines, Peshawar Cantonment. On stone flooring of N. verandah of Barrack No. 7, between 1st and 2nd doors from W.	1183·692	1182·767

Branch-Line 56A. (Chach to Peshawar).

Designation of Bench-marks		Distance from Chach	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
4/40	BM.41 / 38 N	58·0	G.T.S. ○ B.M. at Left British Infantry Lines, Peshawar Cantonment. On stone flooring of N. verandah of Block No. 87, between N.E. corner of building and door No. 1.	1180·554	1179·631
5/40	BM.42 / 38 N	58·0	G.T.S. ○ B.M. at Wesleyan Church, Peshawar Cantonment. On upper stone step, in front of door in centre of E. side of church.	1177·717	1176·796
41	BM.43 / 38 N	57·9	G T.S. Standard Bench Mark 1907 at Peshawar Cantonment. Enclosed by an iron railing 11 feet square, within enclosure of Military Works Godown, near S.E. corner of same.	1152·225	1151·324

Main-Line 57. (Murghai to Ferozepore).

Designation of Bench-marks			Distance from Murghai	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.2 / 39 L	0·0	Murghai Bench Mark, lat. 28° 55′ 8″·6, long. 70° 15′ 57″·8. A secondary point of Great Indus Series. (For full description *see* Synoptical Volume).	293·409	293·303
2		BM.3 / 39 L	5·1	On ground level mark-stone of Gola G.T. Survey Tower Station, lat. 28° 53′ 39″·16, long. 70° 20′ 22″·97. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	294·806	294·700
3		BM.4 / 39 L	15·4	Tibi Bench Mark. Stone B.M. embedded 100 yards E. of Post road from Mithankot to Khanpur, on high ground at S.W. corner of hamlet of Tibi (Yarowala), which is in kardari of Sirdargarh, as included in bounds of Hajipur village.	295·221	295·115
	1/3	BM.5 / 39 L	19·2	On ground level mark-stone of Lanjiwar G.T. Survey Tower Station, lat. 28° 48′ 21″·00, long. 70° 29′ 22″·27. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	290·003	289·899
	1a/3	BM.6 / 39 L	27·1	On ground level mark-stone of Shahpur G.T. Survey Tower Station, lat. 28° 43′ 16″·46, long. 70° 19′ 19″·25. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	288·129	288·026
	2/3	BM.7 / 39 L	31·3	On ground level mark-stone of Laluwali G.T. Survey Tower Station, lat. 28° 43′ 19″·37, long. 70° 39′ 31″·96. A principal station of Great Indus Series. (For full description *see* Synoptical Volume).	295·951	295·845
	2a/3	BM.8 / 39 L	41·8	On ground level mark-stone of Kandani G.T. Survey Tower Station, lat. 28° 49′ 38″·62, long. 70° 47′ 5″·16. A principal station of Sutlej Series. (For full description *see* Synoptical Volume).	299·687	299·580
	2b/3	BM.9 / 39 L	53·3	On ground level mark-stone of Magreja G.T. Survey Tower Station, lat. 28° 57′ 24″·70, long. 70° 54′ 8″·62. A principal station of Sutlej Series. (For full description *see* Synoptical Volume).	306·503	306·393
4		BM.10 / 39 L	32·3	Khanbela Bench Mark. Stone B.M. embedded under a large *peepul* tree on S.W. edge of Khanbela town, in Bahawalpur territory.	305·227	305·115
	1/4	BM.11 / 39 L	34·2	On ground level mark-stone of Khanbela G.T. Survey Tower Station, lat. 28° 59′ 14″·18, long. 70° 44′ 21″·95. A principal station of Sutlej Series. (For full description *see* Synoptical Volume).	309·373	309·259
	1a/4	BM.7 / 39 K	41·7	On ground level mark-stone of Paphra G.T. Survey Tower Station, lat. 29° 5′ 49″·37, long. 70° 49′ 45″·82. A principal station of Sutlej Series. (For full description *see* Synoptical Volume).	316·060	315·944

Main-Line 57. (Murghai to Ferozepore).

Designation of Bench-marks			Distance from Murghai	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
5		BM.1 / 39 O	56·8	Chanikhan Bench Mark, lat. 29° 5′ 10″·96, long. 71° 3′ 50″·03. A secondary station of Sutlej Series. (For full description *see* Synoptical Volume).	326·775	326·652
	1 / 5	BM.2 / 39 O	60·1	On ground level mark-stone of Chanikhan G.T. Survey Tower Station, lat. 29° 5′ 14″·61, long. 71° 0′ 46″·74. A principal station of Sutlej Series. (For full description *see* Synoptical Volume).	319·186	319·066
	1a / 5	BM.3 / 39 O	66·0	On ground level mark-stone of Pirhar G.T. Survey Tower Station, lat. 29° 10′ 34″·87, long. 71° 7′ 41″·48. A principal station of Sutlej Series. (For full description *see* Synoptical Volume).	347·812	347·681
	1b / 5	BM.4 / 39 O	75·6	On ground level mark-stone of Nurkanch G.T. Survey Tower Station, lat. 29° 13′ 55″·15, long. 71° 16′ 10″·84. A principal station of Sutlej Series. (For full description *see* Synoptical Volume).	348·504	348·373
	1c / 5	BM.5 / 39 O	84·0	On mark-stone on surface of pakka pillar of Dateh Khan G.T. Survey Platform Station, lat. 29° 15′ 27″·92, long. 71° 24′ 20″·85. A principal station of Sutlej Series. (For full description *see* Synoptical Volume).	396·789	396·639
6		BM.6 / 39 O	70·9	Ahmadpur Bench Mark. Stone B.M. embedded E. of town on a mound called Kumman Tibba, attached to a ruined dwelling, Kumman Haveli, surrounded by tombs. The mound lies 50 yards N. of Ahmadpur and Bahawalpur road.	347·752	347·619
7		BM.7 / 39 O	86·5	Jamrani Bench Mark. Stone B.M. embedded near mosque in Jamrani village, on W. edge of road from Ahmadpur to Bahawalpur.	366·802	366·659
8		BM.8 / 39 O	99·1	Bahawalpur Bench Mark, lat. 29° 22′ 52″·37, long. 71° 39′ 12″·49. A secondary station of Sutlej Series. (For full description *see* Synoptical Volume).	374·650	374·500
9		BM.9 / 39 O	112·9	Bakhidera Bench Mark, lat. 29° 26′ 43″·80, long. 71° 51′ 29″·25. A secondary station of Sutlej Series. (For full description *see* Synoptical Volume).	389·721	389·563
	a / 9	BM.1 / 44 O	125·4	Nur Muhammad Bench Mark, lat. 29° 30′ 16″·79, long. 72° 3′ 5″·52. A secondary station of Sutlej Series. (For full description *see* Synoptical Volume).	407·027	406·863
10		BM.2 / 44 O	137·6	Khairpur Bench Mark, lat. 29° 35′ 9″·37, long. 72° 14′ 26″·26. A secondary station of Sutlej Series. (For full description *see* Synoptical Volume).	418·387	418·213
11		BM.3 / 44 O	150·7	Kaim Rais-ki-got Bench-Mark. Stone B.M. embedded S. of the town, and 167 yards, and bears N. 261° from N.W. angle of fort. The northern minaret of Kaim Rais Mosque is distant about 172 yards, and bears N. 17° from bench-mark.	434·550	434·366

Main-Line 57. (Murghai to Ferozepore).

Designation of Bench-marks			Distance from Murghai	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
12		BM.4 / 44 C	161·7	Ismailpur Bench Mark. Stone B.M. embedded by road side, 1 mile S. of village of Ismailpur, and 300 yards E. of a ruined dwelling, and 3 miles N.E. of town of Hasilpur.	451·855	451·663
13		BM.5 / 44 C	172·2	Golam Ali Bench Mark. Stone B.M. embedded N.E. of canal, and adjoining small hamlet of Golam Ali, situated about 2 miles W. of Shuhur Farid, and same distance S.W. of Sialanka village.	464·073	463·872
14		BM.6 / 44 C	186·3	Nur Shah Bench Mark. Stone B.M. embedded by road side to east of it, opposite Nur Shah's khangah.	481·454	481·240
15		BM.1 / 44 G	195·4	Kasimka Bench Mark. Stone B.M. embedded near road side, about 300 yards N. of Kasimka village.	492·011	491·790
16		BM.1 / 44 F	208·5	Mukhdum Bench Mark. Stone B.M. embedded on road side, about ½ mile W. of Mukhdum village, and 300 yards S. of well of Sirdara Baluche.	510·128	509·895
17		BM.2 / 44 F	219·0	Bunga Alum Shah Bench Mark. Stone B.M. embedded 100 yards S. of well of Golam Hussein at Bunga Alum Shah, which is about 6 miles S.W. of Bhawalgarh.	520·039	519·800
	1/17	BM.3 / 44 F	221·7	On ground level mark-stone of Akbar-da-bunga G.T. Survey Tower Station, lat. 30° 12′ 32″·43, long. 73° 28′ 51″·60. A principal station of Jogi-Tila Meridional Series. (For full description *see* Synoptical Volume).	537·944	537·697
18		BM.4 / 44 F	232·8	Pir Khalis Bench Mark. Stone B.M. embedded in the northern slope of a mound called Pakka Kot, 350 yards S.W. of Pir Khalis khangah, and about 7 miles N.E. of town of Bhawalgarh.	548·320	548·062
19		BM.5 / 44 F	245·3	Gourdana Bench Mark. Stone B.M. embedded on N. side of road, about 2 miles N.W. of Gourdana fort. The village of Soonam Rai is distant ¾ mile, and bears N. 303° from bench-mark.	555·574	555·312
20		BM.6 / 44 F	253·8	Jaga-ki Aihli Bench Mark. Stone B.M. embedded by road side on Bahawalpur boundary.	570·311	570·039
21		BM.20 / 44 J	262·5	Summit of mile-stone at Fazilka, embedded in masonry, and designated "249 miles to Delhi". It is situated on Ferozepore road, just opposite hospital, and on E. side of town of Fazilka, about ¼ mile N.E. of kachahri.	584·888	584·606
	a/21	BM.21 / 44 J	262·8	Fazilka Bench Mark, lat. 30° 24′ 27″·21, long. 74° 1′ 41″·78. A secondary station of Sutlej Series. (For full description *see* Synoptical Volume).	581·898	581·617
22		BM.22 / 44 J	266·6	Bodla Nur Shah G. T. Survey Station, lat. 30° 27′ 26″·78, long. 74° 4′ 24″·36. A secondary station of Sutlej Series. (For full description *see* Synoptical Volume).	585·761	585·477

Main-Line 57. (Murghai to Ferozepore).

Designation of Bench-marks		Distance from Murghai	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
23	BM.23 / 44 J	270·9	Muhammad Khan Vutu Bench Mark. Stone B.M. embedded about 2 miles S.W. of village of Vutu.	588·321	588·033
24	BM 24 / 44 J	283·7	Amira Bench Mark. Stone B.M. embedded in a mound on S. side of road in centre of Amira village.	613·063	612·756
25	BM.25 / 44 J	297·1	Lukha Dogur Bench Mark. Stone B.M. embedded on S. side of road about midway between wells of Lukha Dogur and Dudhia.	624·863	624·542
26	BM.26 / 44 J	302·4	Naia Kila Bench Mark. Stone B.M. embedded on N. edge of halting ground opposite Mumdot, and facing Naia Kila.	635·771	635·440
27	BM.1 / 44 J	312·0	G.T.S. Bench Mark at Ferozepore. Embedded due W. of Volunteer Instructor's quarters, on S. side of Grand Trunk Road near a tank. It is 298 feet and 100° to base of a well, 343 feet and 78° to N.W. corner of out-offices of Volunteer Instructor's house, and 86° to S.W. corner of house itself. The old sentry box still exists 10 feet S.E. of bench-mark.	645·017	644·679

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.1 / 44 J	0·0	G.T.S. Bench Mark at Ferozepore. Embedded due W. of Volunteer Instructor's quarters, on S. side of Grand Trunk Road near a tank. It is 298 feet and 100° to base of a well, 343 feet and 78° to N.W. corner of out-offices of Volunteer Instructor's house, and 86° to S.W. corner of house itself. The old sentry box still exists 10 feet S.E. of bench-mark.	645·017	644·679
	a / 1	BM.27 / 44 J	1·7	G.T.S. □ B.M. at Ferozepore Cantonment Railway Station. Embedded 2 feet below ground level, in front of office of Sub-Divisional Officer, N.W. Railway, on S. side of railway line, 79 feet and 190° to N.E. corner of above office, and 91 feet and 221° to N.W. corner of same. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	646·514	646·175
	1 / 1	BM.28 / 44 J	15·6	G.T.S. B.M. On upper plinth of S.W. boundary pillar of Kasur encamping ground.	672·909	672·556
	2 / 1	BM.29 / 44 J	16·0	G.T.S. ○ B.M. On upper plinth of N.W. boundary pillar of Kasur encamping ground.	662·685	662·338
2		BM.30 / 44 J	2·1	B.M. ○ On E. parapet of culvert, near telegraph post No. 833/9.	649·166	648·827
3		BM.31 / 44 J	4·0	B. ○ M. On S.E. wing wall of culvert, between telegraph posts Nos. 835/5 and 835/6.	643·641	643·305
4		BM.32 / 44 J	8·8	B. ○ M. On N.W. parapet of culvert, near telegraph post No. 840/1.	653·341	653·003
5		BM.33 / 44 J	11·8	G.T.S. □ B.M. at Golehwala Railway Station. Embedded about 2 feet below ground level, on W. side of railway line, almost touching E. face of railway staff quarters No. 6, 34 and 32 feet respectively from S.E. and N.E. corners of above quarters, and 176 feet from B.M. No. a/5. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	656·266	655·930
	a / 5	BM.34 / 44 J	11·9	G.T.S. ○ B.M. On N. end of platform coping at Golehwala railway station.	662·109	661·770
6		BM.35 / 44 J	11·9	G.T.S. ○ B.M. On S. end of platform coping at Golehwala railway station.	662·367	662·028
7		BM.36 / 44 J	12·8	G.T.S. ○ B.M. On masonry block, 8 feet from mile-plate No. 844.	660·418	660·081

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
8		BM.37 / 44 J	16·7	G.T.S. ○ B.M. On upper surface of railway boundary pillar, E. of railway line, near telegraph post No. 847/23.	663·310	662·974
	a/8	BM.38 / 44 J	19·2	G.T.S. ○ B.M. On upper surface of railway boundary pillar, E. of railway line, near telegraph post No. 850/1.	663·005	662·669
9		BM.39 / 44 J	20·1	G.T.S. ○ B.M. On N. end of platform coping at Faridkot railway station.	670·909	670·571
10		BM.40 / 44 J	20·3	G.T.S. □ B.M. at Faridkot Railway Station. Embedded 2 feet below ground level, on W. side of railway line, almost touching E. face of railway staff quarters No. 7, 35 and 32 feet respectively from N.E. and S.E. corners of above quarters, and 110 feet from B.M. No. a/10. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	664·601	664·266
	a/10	BM.41 / 44 J	20·3	G.T.S. ○ B.M. On S. end of platform coping at Faridkot railway station.	670·979	670·641
	1a/10	BM.42 / 44 J	21·9	On the ⊙ on ground floor mark-stone of Faridkot G.T. Survey Tower Station, lat. 30° 40′ 3″·87, long. 74° 15′ 21″·55. A principal station of Sutlej Series. (For full description *see* Synoptical Volume).	692·083	691·734
11		BM.43 / 44 J	21·3	G.T.S. ○ B.M. On E. parapet of bridge, near telegraph post No. 852/13.	680·408	680·066
12		BM.44 / 44 J	23·1	G.T.S. ○ B.M. On E. parapet of bridge, near telegraph post No. 854/7.	677·639	677·299
	a/12	BM.45 / 44 J	25·2	G.T.S. ○ B.M. On S.E. wing wall of bridge, near telegraph post No. 856/5.	691·590	691·243
18		BM.46 / 44 J	26·8	G.T.S. ○ B.M. On upper surface of railway boundary pillar, E. of railway line, near telegraph post No. 857/22.	688·591	688·249
14		BM.47 / 44 J	27·9	G.T.S. □ B.M. at Kot Kapura Railway Station. Embedded 2 feet below ground level, near N.W. railway rest house, almost touching W. face of building, 16 feet from N.W. corner of N. verandah of rest house, 8 feet from N.W. corner of most westerly room of same building, and 186 feet from N. points signal of station. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	682·480	682·142

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
15		BM 48 / 44 J	28·0	G.T.S. ○ B.M. On N. end of platform coping at Kot Kapura railway station.	686·107	685·766
	a / 15	BM.49 / 44 J	28·4	G.T.S. ○ B.M. On S. end of platform coping at Kot Kapura railway station.	686·039	685·699
	b / 15	BM.50 / 44 J	29·2	G.T.S. ○ B.M. On E. end of S. abutment of bridge over canal, near telegraph post No. 860/8.	688·800	688·458
16		BM.51 / 44 J	29·9	G.T.S. ○ B.M. On upper surface of railway boundary pillar, E. of railway line, near telegraph post No. 860/23.	684·039	683·701
17		BM.52 / 44 J	32·4	G.T.S. ○ B.M. On centre cap of N. abutment, between the two bridges over canal, near telegraph post No. 863/10.	694·897	694·556
18		BM.53 / 44 J	33·5	G.T.S. ○ B.M. On E. end of S. abutment of culvert over canal, near telegraph post No. 864/12.	683·305	682·970
19		BM.54 / 44 J	35·5	G.T.S. ○ B.M. On E. end of N. abutment of bridge over canal, near telegraph post No. 866/12.	690·125	689·788
20		BM.55 / 44 J	37·1	G.T.S. ○ B.M. On E. end of N. abutment of bridge, between telegraph posts Nos. 868/3 and 868/4.	689·638	689·303
21		BM.56 / 44 J	37·7	B.○M. On centre parapet of S. abutment, common to the two bridges, between telegraph posts Nos. 868/17 and 868/18.	685·645	685·312
	1 / 21	BM.57 / 44 J	38·6	On the ⊙ on mark-stone at top of pillar of Alkwala G.T. Survey Station, lat. 30° 27′, 26″·33, long. 74° 53′ 26″·97. A principal station of Gurhagarh Meridional Series. (For full description *see* Synoptical Volume).	715·163	714·816
22		BM.58 / 44 J	38·1	G.T.S. ○ B.M. at Jaitu Railway Station. On coping at N. end of main platform.	687·512	687·178
23		BM.59 / 44 J	38·2	G.T.S. ○ B.M. at Jaitu Railway Station. On coping at S. end of main platform.	687·468	687·135
	a / 23	BM.60 / 44 J	38·2	G.T.S. □ B.M. at Jaitu Railway Station. Embedded about 2 feet below ground level, on E. side of railway line, almost touching W. face of railway staff quarters No. 6, 35 and 32 feet respectively to N.W. and S.W. corners of above quarters, and 184 feet to B.M. No. 23. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	683·448	683·117

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
24		BM 61 / 44 J	38·8	G.T.S. ○ B.M. On E. end of bridge over canal, near telegraph post No. 869/22.	688·155	687·822
25		BM 62 / 44 J	40·1	G.T.S. ○ B.M. On E. end of bridge over canal, between telegraph posts Nos. 871/2 and 871/3.	684·889	684·558
26		BM 63 / 44 J	41·0	G.T.S. ○ B.M. On upper surface of railway boundary pillar, E. of railway line, between telegraph posts Nos. 872/1 and 872/2.	681·970	681·641
27		BM 64 / 44 J	42·8	G.T.S. ○ B.M. On E. end of S. abutment of culvert, near telegraph post No. 873/20.	684·309	683·981
28		BM 65 / 44 J	45·0	G.T.S. ○ B.M. On upper surface of railway boundary pillar, E. of railway line, near telegraph post No. 875/24.	682·077	681·751
29		BM.66 / 44 J	46·5	B.O.M. On W. end of bridge over canal, near telegraph post No. 877/13.	682·018	681·693
	a/29	BM.67 / 44 J	47·1	G.T.S. ○ B.M. On coping at N. end of platform at Goniana railway station.	682·810	682·484
30		BM.68 / 44 J	47·1	G.T.S. ○ B.M. On coping at S. end of platform at Goniana railway station.	682·781	682·456
	a/30	BM.69 / 44 J	47·3	G.T.S. □ B.M. at Goniana Railway Station. Embedded 2 feet below ground level, near railway staff quarters No. 3, almost touching W. face of building, 31 and 35 feet respectively to N.W. and S.W. corners of above building, and 171 feet to B.M. No. 30. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	677·365	677·043
31		BM.70 / 44 J	51·4	B.O.M. On W. end of bridge over canal, near telegraph post No. 882/10.	680·866	680·546
32		BM 71 / 44 J	53·1	B.O.M. On W. end of N. abutment of bridge over canal, near telegraph post No. 884/3.	685·255	684·935
33		BM.72 / 44 J	54·4	G.T.S. ○ B.M. On W. coping at N. end of main platform at Bhatinda railway station.	677·053	676·738
	a/33	BM.73 / 44 J	54·7	G.T.S. ○ B.M. On E. coping at S. end of main platform at Bhatinda railway station.	677·069	676·754

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
34	BM.74 / 44 J	54·7	G.T.S. □ B.M. at Bhatinda Railway Institute. Embedded about 2 feet below ground level, N W. of railway institute, close to compound fencing, 44 feet to S.W. end of N.W. wall of building, and 85 feet to N.E. end of same wall. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	670·242	669·930
35	BM 75 / 44 J	59·6	B.O.M. On E. end of centre pier of bridge over canal, between telegraph posts Nos. 372/5 and 372/6.	675·520	675·208
36	BM.76 / 44 J	60·3	B.O.M. On E. end of S. abutment of drain, near telegraph post No. 371/13.	670·258	669·949
37	BM 77 / 44 J	61·8	B.O.M. On E. end of N. abutment of drain, between telegraph posts Nos. 370/2 and 370/3.	666·139	665·833
38	BM.78 / 44 J	63·0	B.O.M. On W. end of S. abutment of drain, near telegraph post No. 368/21.	667·497	667·192
39	BM.79 / 44 J	65·0	B.O.M. On base of home signal at Sangat railway station.	662·115	661·813
40	BM.80 / 44 J	65·1	G.T.S. ○ B.M. On coping of water reservoir to S. of Sangat railway station.	659·155	658·854
41	BM 81 / 44 J	65·5	B.O.M. On base of S. distant signal at Sangat railway station.	660·197	659·896
42	BM 82 / 44 J	66·6	B.O.M. On W. end of N. abutment of bridge over canal, between telegraph posts Nos. 365/5 and 365/6.	664·958	664·655
43	BM.83 / 44 J	70·3	G.T.S. □ B.M. at Bagwali Railway Station. Embedded 2 feet below ground level, on E. side of railway line, and 240 feet to N.E. corner of station building. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	658·508	658·211
44	BM 84 / 44 J	71·9	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Mandi Dabwali railway station from mile-stone No. 360.	659·198	658·901
45	BM 1 / 44 K	73·9	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Mandi Dabwali railway station from mile-stone No. 358.	650·988	650·696
46	BM.2 / 44 K	74·3	B.O.M. On W. cap of N. abutment of bridge, between telegraph posts Nos. 357/14 and 357/15.	654·304	654·010

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
47	BM 3 / 44 K	75·9	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Mandi Dabwali railway station from mile-stone No. 356.	647·139	646·849
48	BM.4 / 44 K	76·8	B.○M. On base of home signal at Mandi Dabwali railway station.	647·977	647·687
49	BM 5 / 44 K	77·0	G.T.S. □ B.M. at Mandi Dabwali Railway Station. Embedded 2 feet below ground level, at extreme S.E. corner of station yard, and 10 feet to S.E. corner of wire fencing. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	643·941	643·652
50	BM.6 / 44 K	77·9	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Birang Khera railway station from mile-stone No. 354.	644·731	644·443
51	BM 7 / 44 K	79·9	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Birang Khera railway station from mile-stone No. 352.	641·448	641·162
52	BM 8 / 44 K	81·9	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Birang Khera railway station from mile-stone No. 350.	636·368	636·086
53	BM 9 / 44 K	82·3	G.T.S. □ B.M. at Birang Khera Railway Station. Embedded 2 feet below ground level, to N.E. of station building, 452 feet to N. corner of same, and 215 feet to telegraph post No. 349/16. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	635·417	635·135
54	BM 10 / 44 K	83·9	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Chautala Road railway station from mile-stone No. 348.	636·256	635·974
55	BM.11 / 44 K	85·9	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Chautala Road railway station from mile-stone No. 346.	636·002	635·722
56	BM.12 / 44 K	88·0	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Chautala Road railway station from mile-stone No. 344.	632·060	631·782
57	BM.13 / 44 K	90·0	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Chautala Road railway station from mile-stone No. 342.	626·842	626·567
58	BM.14 / 44 K	92·0	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Chautala Road railway station from mile-stone No. 340.	621·385	621·114
59	BM.15 / 44 K	94·0	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Chautala Road railway station from mile-stone No. 338.	619·668	619·399

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
60	BM.16 / 44 K	95·5	G.T.S. □ B.M. at Chantala Road Railway Station. Embedded 2 feet below ground level, to N. of station building, 725 feet to E. corner of same, and 213 feet to telegraph post No. 336/13. A rail post bearing inscription G.T.S. / B.M. marks position of bench-mark.	617·037	616·770
61	BM.17 / 44 K	98·0	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Padampura railway station from mile-stone No. 334.	621·469	621·202
62	BM.18 / 44 K	100·0	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Padampura railway station from mile-stone No. 332.	613·492	613·230
63	BM.19 / 44 K	102·0	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Padampura railway station from mile-stone No. 330.	611·303	611·043
64	BM.20 / 44 K	104·0	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Padampura railway station from mile-stone No. 328.	606·092	605·836
65	BM.21 / 44 K	104·8	G.T.S. □ B.M. at Padampura Railway Station. Embedded about 2 feet below ground level, to N.E. of station building, 858 feet to centre of N.E. face of same, 280 feet to telegraph post No. 327/7, and 354 feet to telegraph post No. 327/6. A rail post bearing inscription G.T.S. / B.M. marks position of bench-mark.	613·831	613·572
66	BM.22 / 44 K	106·0	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Hanumangarh railway station from mile-stone No. 326.	610·495	610·238
67	BM.23 / 44 K	108·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Hanumangarh railway station from mile-stone No. 324.	608·526	608·271
68	BM.24 / 44 K	110·0	B.O.M. On W. end of S.W. abutment of skew bridge, near telegraph post No. 322/2.	611·120	610·865
69	BM.25 / 44 K	110·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Hanumangarh railway station from mile-stone No. 322.	606·091	605·838
70	BM.26 / 44 K	112·2	B.O.M. On base of home signal at Hanumangarh railway station.	598·103	597·854
71	BM.27 / 44 K	112·4	G.T.S. □ B.M. at Hanumangarh Railway Station. Embedded about 2 feet below ground level, on right side of railway line facing Bikaner, and S.W. of station building; 579 feet to S.W. corner of railway hospital, 319 feet to telegraph post No. 319/20, and 362 feet to telegraph post No. 319/21. A rail post bearing inscription G.T.S. / B.M. marks position of bench-mark.	593·876	593·629

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
72	BM.28 / 44 K	112·9	B.↑M. On W. cap of S.W. abutment of culvert, near telegraph post No. 319/6.	596·795	596·547
73	BM.29 / 44 K	114·1	G.T.S. ○ B.M. On block of masonry, 6 feet towards Dabhli railway station from mile-stone No. 318.	598·465	598·217
74	BM.30 / 44 K	114·7	↑ On W. cap of S.W. abutment of culvert, near telegraph post No. 317/11.	597·512	597·264
75	BM.31 / 44 K	115·8	↑ On W. cap of N.E. abutment of bridge, near telegraph post No. 316/9.	594·065	593·819
76	BM.32 / 44 K	116·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Dabhli railway station from mile-stone No. 316.	589·733	589·489
77	BM.33 / 44 K	117·8	B.↑M. On W. cap of S.W. abutment of culvert, near telegraph post No. 314/9.	591·393	591·150
78	BM.34 / 44 K	118·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Dabhli railway station from mile-stone No. 314.	591·281	591·038
79	BM.35 / 44 K	119·9	G.T.S. □ B.M. at Dabhli Railway Station. Embedded about 2 feet below ground level, to N. of station building, 674 feet to N.E. corner of same, 207 feet to telegraph post No. 312/8, and 295 feet to telegraph post No. 312/7. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	583·519	583·279
80	BM.36 / 44 K	120·2	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Lakhuwali railway station from mile-stone No. 312.	585·762	585·521
81	BM.37 / 44 K	122·2	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Lakhuwali railway station from mile-stone No. 310.	586·135	585·895
82	BM.38 / 44 K	124·2	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Lakhuwali railway station from mile-stone No. 308.	582·689	582·451
83	BM.39 / 44 K	125·1	↑ On W. cap of S.W. abutment of bridge, near telegraph post No. 307/4.	581·588	581·351
84	BM.40 / 44 K	126·2	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Lakhuwali railway station from mile-stone No. 306.	579·983	579·748

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
85		BM.41 / 44 K	127·6	↑ On W. cap of N.E. abutment of culvert, between telegraph posts Nos. 304/14 and 304/15.	578·484	578·250
	a/85	BM.42 / 44 K	128·3	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Lakhuwali railway station from mile-stone No. 304.	577·176	576·942
86		BM.43 / 44 K	128·6	↑ On base of N.E. distant signal at Lakhuwali railway station.	578·047	577·813
87		BM 44 / 44 K	128·9	G.T.S. □ B.M. at Lakhuwali Railway Station. Embedded about 2 feet below ground level, to N.E. of station building, 886 feet to centre of same, 250 feet to telegraph post No. 303/7, and 234 feet to telegraph post No. 303/8. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	573·968	573·736
88		BM.45 / 44 K	129·1	↑ On base of home signal at Lakhuwali railway station.	578·042	577·808
89		BM.46 / 44 K	130·2	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Rangmahal railway station from mile-stone No. 302.	574·768	574·536
90		BM.47 / 44 K	131·6	↑ On W. cap of N.E. abutment of bridge, between telegraph posts Nos. 300/15 and 300/16.	575·961	575·729
91		BM.48 / 44 K	132·2	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Rangmahal railway station from mile-stone No. 300.	571·999	571·769
92		BM.2 / 44 G	134·3	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Rangmahal railway station from mile-stone No. 298.	569·885	569·656
93		BM.3 / 44 G	135·5	↑ On W. cap of S.W. abutment of bridge, near telegraph post No. 296/18.	570·835	570·606
94		BM.4 / 44 G	136·3	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Rangmahal railway station from mile-stone No. 296.	567·209	566·982
95		BM.5 / 44 G	137·1	↑ On W. cap of N.E. abutment of bridge, near telegraph post No. 295/4.	566·052	565·825
96		BM.6 / 44 G	137·7	↑ On W. cap of S.W. abutment of bridge, near telegraph post No. 294/13.	565·751	565·525

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
97		BM.7 / 44 G	137·8	G.T.S. □ B.M. at Rangmahal Railway Station. Embedded about 2 feet below ground level, to N. of station building, 481 feet to centre of same, 213 feet to telegraph post No. 294/12, and 371 feet to B.M. No. 96. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	561·910	561·685
98		BM.8 / 44 G	138·4	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Suratgarh railway station from mile-stone No. 294.	564·407	564·181
99		BM.9 / 44 G	139·4	↑ On top of mile-stone No. 293.	564·367	564·142
100		BM.10 / 44 G	140·4	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Suratgarh railway station from mile-stone No. 292.	559·683	559·460
101		BM.11 / 44 G	142·4	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Suratgarh railway station from mile-stone No. 290.	556·727	556·506
102		BM.12 / 44 G	143·1	↑ On W. cap of N. abutment of bridge, near telegraph post No. 289/8.	559·238	559·017
	1/102	BM.13 / 44 G	143·8	On the ⊙ on roof of N. turret of fort of Suratgarh G.T. Survey Station, now used as kachahri, lat. 29° 19′ 37″·65, long. 73° 54′ 3″·77. A secondary station of Gurhagarh Meridional Series. The letters G.T.S. B.M. were cut round the ⊙.	602·696	602·458
103		BM.14 / 44 G	143·4	↑ On base of home signal at Suratgarh railway station.	559·5[illegible]	559·376
104		BM.15 / 44 G	143·5	G.T.S. □ B.M. at Suratgarh Railway Station. Embedded about 2 feet below ground level, on E. side of railway line in front of station building, 326 feet to S.E. corner of same, 308 feet to home signal, and 376 feet to N.E. corner of latrines. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	556·026	555·806
105		BM.16 / 44 G	144·4	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Rayanwali railway station from mile-stone No. 288.	564·694	564·473
	a/105	BM.17 / 44 G	146·4	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Rayanwali railway station from mile-stone No. 286.	573·059	572·835
106		BM.18 / 44 G	148·4	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Rayanwali railway station from mile-stone No. 284.	581·777	581·551

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
107	BM.19 / 44 G	150·4	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Rayanwali railway station from mile-stone No. 282.	586·159	585·932
108	BM.20 / 44 G	152·4	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Rayanwali railway station from mile-stone No. 280.	621·978	621·737
109	BM.21 / 44 G	154·4	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Rayanwali railway station from mile-stone No. 278.	626·849	626·608
110	BM 22 / 44 G	154·6	G.T.S. □ B.M. at Rayanwali Railway Station. Embedded about 2 feet below ground level, 228 feet to N.W. corner of station building, and 164 feet to telegraph post No. $\frac{277}{22}$. A rail post bearing inscription $\frac{\text{G.T.S.}}{\text{B.M.}}$ marks position of bench-mark.	619·278	619·040
111	BM 23 / 44 G	155·4	B.○M. On E. cap of N. abutment of bridge, near telegraph post No. $\frac{277}{1}$.	627·124	626·884
112	BM.24 / 44 G	156·4	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Rajisar railway station from mile-stone No. 276.	610·829	610·596
113	BM.25 / 44 G	158·4	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Rajisar railway station from mile-stone No. 274.	627·790	627·551
114	BM.26 / 44 G	160·4	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Rajisar railway station from mile-stone No. 272.	621·629	621·394
115	BM.27 / 44 G	162·4	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Rajisar railway station from mile-stone No. 270.	626·461	626·226
116	BM.28 / 44 G	162·9	G.T.S. □ B.M. at Rajisar Railway Station. Embedded about 2 feet below ground level, on E. side of railway line, 177 feet to S.E. corner of station building, and 361 feet to telegraph post No. $\frac{269}{15}$. A rail post bearing inscription $\frac{\text{G.T.S.}}{\text{B.M.}}$ marks position of bench-mark.	634·954	634·716
117	BM.29 / 44 G	163·2	G.T.S. ○ B.M. On base of S. distant signal at Rajisar railway station.	635·288	635·050
118	BM.30 / 44 G	164·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Mahajan railway station from mile-stone No. 268.	661·659	661·412
119	BM.1 / 44 H	166·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Mahajan railway station from mile-stone No. 266.	675·829	675·579

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
120	BM.2 / 44 H	168·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Mahajan railway station from mile-stone No. 264.	635·988	635·754
121	BM.3 / 44 H	170·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Mahajan railway station from mile-stone No. 262.	670·081	669·836
122	BM.4 / 44 H	172·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Mahajan railway station from mile-stone No. 260.	653·597	653·360
123	BM.5 / 44 H	174·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Mahajan railway station from mile-stone No. 258.	656·900	656·663
124	BM.6 / 44 H	176·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Mahajan railway station from mile-stone No. 256.	662·025	661·787
125	BM.7 / 44 H	178·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Mahajan railway station from mile-stone No. 254.	665·730	665·492
126	BM.8 / 44 H	180·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Mahajan railway station from mile-stone No. 252.	648·106	647·877
a / 126	BM.9 / 44 H	182·7	G.T.S. □ B.M. at Mahajan Railway Station. Embedded about 2 feet below ground level, on W. side of railway line, and to S. of station building; 121 feet to N.W. corner of subplatelayer's quarters, and 391 feet to S.W. corner of station master's quarters. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	644·333	644·105
b / 126	BM.10 / 44 H	184·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Malkisar railway station from mile-stone No. 248.	651·846	651·615
127	BM.11 / 44 H	186·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Malkisar railway station from mile-stone No. 246.	648·947	648·721
128	BM.12 / 44 H	188·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Malkisar railway station from mile-stone No. 244.	646·233	646·009
129	BM.13 / 44 H	190·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Malkisar railway station from mile-stone No. 242.	650·250	650·026
130	BM.14 / 44 H	192·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Malkisar railway station from mile-stone No. 240.	648·207	647·985

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
131	BM 15 / 44 H	193·5	G.T.S. □ B.M. at Malkisar Railway Station. Embedded about 2 feet below ground level, on E. side of railway line, 224 feet to N.E. corner of station building (No. T.1), and 241 feet to S.E. corner of railway menials' quarters (No. T.2). A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	646·445	646·225
132	BM.16 / 44 H	194·1	B.O.M. On base of S. distant signal at Malkisar railway station.	651·792	651·570
133	BM.17 / 44 H	194·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Lunkaransar railway station from mile-stone No. 238.	652·736	652·514
134	BM.18 / 44 H	196·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Lunkaransar railway station from mile-stone No. 236.	648·638	648·419
135	BM.19 / 44 H	198·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Lunkaransar railway station from mile-stone No. 234.	645·496	645·279
136	BM.20 / 44 H	200·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Lunkaransar railway station from mile-stone No. 232.	653·482	653·264
137	BM.21 / 44 H	202·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Lunkaransar railway station from mile-stone No. 230.	641·858	641·644
138	BM.22 / 44 H	204·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Lunkaransar railway station from mile-stone No. 228.	646·542	646·328
139	BM.23 / 44 H	207·0	G.T.S. □ B.M. at Lunkaransar Railway Station. Embedded about 2 feet below ground level, on left side of railway line facing Bikaner, 213 feet to S. corner of station building, and 395 feet to home signal. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	634·700	634·491
140	BM.24 / 44 H	208·6	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Dulmera railway station from mile-stone No. 224.	650·771	650·557
141	BM 25 / 44 H	210·6	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Dulmera railway station from mile-stone No. 222.	665·806	665·588
142	BM.26 / 44 H	212·6	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Dulmera railway station from mile-stone No. 220.	667·265	667·048
143	BM.27 / 44 H	214·6	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Dulmera railway station from mile-stone No. 218.	647·195	646·985

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
144	BM.28 / 44 H	215·3	G.T.S. □ B.M. at Dulmera Railway Station. Embedded about 2 feet below ground level, on E. side of railway line, 312 feet to N.E. corner of railway staff quarters No. T3 and 373 feet to N.E. corner of station master's quarters No. T2. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	656·310	656·097
145	BM.29 / 44 H	216·7	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Jagdeowala railway station from mile-stone No. 216.	630·535	630·331
a / 145	BM 30 / 44 H	218·5	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Jagdeowala railway station from mile-stone No. 214.	635·465	635·260
146	BM.31 / 44 H	220·6	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Jagdeowala railway station from mile-stone No. 212.	613·750	613·552
147	BM.32 / 44 H	222·6	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Jagdeowala railway station from mile-stone No. 210.	644·923	644·716
148	BM.33 / 44 H	224·6	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Jagdeowala railway station from mile-stone No. 208.	646·049	645·842
149	BM.34 / 44 H	226·6	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Jagdeowala railway station from mile-stone No. 206.	617·774	617·577
150	BM.35 / 44 H	228·6	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Jagdeowala railway station from mile-stone No. 204.	620·673	620·476
151	BM.36 / 44 H	230·6	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Jagdeowala railway station from mile-stone No. 202.	614·143	613·948
a / 151	BM.37 / 44 H	231·5	G.T.S. □ B.M. at Jagdeowala Railway Station. Embedded about 2 feet below ground level, on left side of railway line facing Bikaner, 280 feet to S.E. corner of station building, and 325 feet to telegraph post No. $\frac{201}{4}$. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	636·667	636·465
152	BM.38 / 44 H	232·6	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Jamsar railway station from mile-stone No. 200.	611·520	611·327
153	BM.39 / 44 H	234·7	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Jamsar railway station from mile-stone No. 198.	624·571	624·375
154	BM.40 / 44 H	236·7	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Jamsar railway station from mile-stone No. 196.	617·272	617·079

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
155	BM.41 / 44 H	237·9	G.T.S. □ B.M. at Jamsar Railway Station. Embedded about 2 feet below ground level, on right side of railway line facing Bikaner, near railway staff quarters No. E1, 32 feet to S. corner of same building, and 281 feet to N. corner of pointsman's quarters No. T2. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	592·225	592·040
156	BM.42 / 44 H	238·7	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Kanasar railway station from mile-stone No. 194.	600·274	600·087
157	BM.43 / 44 H	240·7	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Kanasar railway station from mile-stone No. 192.	631·981	631·786
158	BM.44 / 44 H	242·7	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Kanasar railway station from mile-stone No. 190.	638·319	638·123
159	BM.45 / 44 H	244·7	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Kanasar railway station from mile-stone No. 188.	649·960	649·762
160	BM.46 / 44 H	246·8	G.T.S. □ B.M. at Kanasar Railway Station. Embedded about 2 feet below ground level, 223 feet to N.W. corner of station building, and 270 feet to telegraph post No. 185/24. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	684·898	684·690
161	BM.47 / 44 H	248·8	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Bikaner railway station from mile-stone No. 184.	712·567	712·352
162	BM.48 / 44 H	250·8	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Bikaner railway station from mile-stone No. 182.	749·683	749·459
163	BM.49 / 44 H	252·8	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Bikaner railway station from mile-stone No. 180.	745·554	745·332
164	BM.50 / 44 H	254·8	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Bikaner railway station from mile-stone No. 178.	741·951	741·732
165	BM.51 / 44 H	256·6	G.T.S. ○ B.M. On S.W. wing wall of bridge, near telegraph post No. 176/3.	751·383	751·163
a/165	BM.52 / 44 H	256·8	G.T.S. ○ B.M. On plinth, near N.E. corner of State Zenana railway station, N. of Bikaner railway station.	752·135	751·915
166	BM.53 / 44 H	256·8	G.T.S. ○ B.M. On coping at N. end of platform at Bikaner railway station.	750·385	750·166

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
167	BM.54 / 44 H	256·9	G.T.S. ○ B.M. On coping at S. end of platform at Bikaner railway station.	750·116	749·897
168	BM.1 / 45 E	257·5	G.T.S. Standard Bench Mark 1906 at Bikaner. Situated on open ground within Municipal limits, to W. of railway line opposite *shutar khana*, 12 chains to S. distant signal, 15 chains to N W. corner of Jodhpur Dhabai's tomb, and 14 chains to N.E. corner of compound of Bagri's temple and dharmshala.	755·630	755·409
169	BM.2 / 45 E	258·7	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Gigasar railway station from mile-stone No. 174.	748·660	748·442
170	BM.3 / 45 E	260·7	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Gigasar railway station from mile-stone No. 172.	688·288	688·088
171	BM.4 / 45 E	262·7	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Gigasar railway station from mile-stone No. 170.	707·814	707·610
172	BM.5 / 45 E	264·7	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Gigasar railway station from mile-stone No. 168.	759·259	759·041
173	BM.6 / 45 E	266·7	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Gigasar railway station from mile-stone No. 166.	794·265	794·038
174	BM.7 / 45 E	268·8	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Gigasar railway station from mile-stone No. 164.	815·097	814·866
175	BM.8 / 45 E	270·8	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Gigasar railway station from mile-stone No. 162.	854·593	854·352
176	BM.9 / 45 E	272·8	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Gigasar railway station from mile-stone No. 160.	901·223	900·971
177	BM.10 / 45 E	273·2	G.T.S. □ B.M. at Gigasar Railway Station. Embedded about 2 feet below ground level, on right side of railway line facing Jodhpur, 561 feet to home signal, 290 feet to N.E. corner of *Musafir-khana* or *Sarai*, 168 feet to edge of pakka (hexagonal) well platform, and 116 feet to telegraph post No. $\frac{159}{10}$. A rail post bearing inscription $\frac{\text{G.T.S.}}{\text{B.M.}}$ marks position of bench-mark.	889·197	888·948
178	BM.11 / 45 E	274·8	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Surpura railway station from mile-stone No. 158.	903·980	903·729
179	BM.12 / 45 E	276·8	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Surpura railway station from mile-stone No. 156.	918·165	917·912

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
180	BM.13 / 45 E	278·8	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Surpura railway station from mile-stone No. 154.	918·745	918·494
181	BM.14 / 45 E	280·8	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Surpura railway station from mile-stone No. 152.	928·836	928·585
182	BM.15 / 45 E	282·0	G.T.S. □ B.M. at Surpura Railway Station. Embedded about 2 feet below ground level, on left side of railway line facing Jodhpur, and to N. of station building; 321 feet to telegraph post No. $\frac{150}{16}$, and 451 feet to telegraph post No. $\frac{150}{15}$. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	929·850	929·601
183	BM.16 / 45 E	282·9	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Bikasar railway station from mile-stone No. 150.	935·347	935·097
184	BM.17 / 45 E	284·9	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Bikasar railway station from mile-stone No. 148.	957·227	956·973
185	BM.18 / 45 E	286·9	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Bikasar railway station from mile-stone No. 146.	999·533	999·270
186	BM.19 / 45 E	289·0	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Bikasar railway station from mile-stone No. 144.	1009·003	1008·740
187	BM.20 / 45 E	291·0	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Bikasar railway station from mile-stone No. 142.	1026·456	1026·189
188	BM.21 / 45 E	292·8	G.T.S. □ B.M. at Bikasar Railway Station. Embedded about 2 feet below ground level, to N. of station building at a distance of 16 chains from it, and on left side of railway line facing Jodhpur; 319 feet to telegraph post No. $\frac{140}{4}$, and 322 feet to telegraph post No. $\frac{140}{5}$. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	1040·758	1040·488
189	BM.22 / 45 E	293·0	G.T.S. ○ B.M. On base of home signal at Bikasar railway station.	1050·290	1050·018
190	BM.23 / 45 E	295·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Bhagu railway station from mile-stone No. 138.	1016·918	1016·657
191	BM.24 / 45 E	297·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Bhagu railway station from mile-stone No. 136.	1021·541	1021·280

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
192		BM.25 / 45 E	299·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Bhagu railway station from mile-stone No. 134.	1017·771	1017·514
193		BM.26 / 45 E	301·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Bhagu railway station from mile-stone No. 132.	996·767	996·518
194		BM.27 / 45 E	303·6	G.T.S. □ B.M. at Bhagu Railway Station. Embedded about 2 feet below ground level, to N. of station building, 485 feet to N.E. corner of pakka dharmshala, and 341 feet to telegraph post No. 129/11. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	965·591	965·351
195		BM.28 / 45 E	305·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Alai railway station from mile-stone No. 128.	960·545	960·309
196		BM 29 / 45 E	307·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Alai railway station from mile-stone No. 126.	955·912	955·679
197		BM.30 / 45 E	309·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Alai railway station from mile-stone No. 124.	966·465	966·232
	a / 197	BM.31 / 45 E	310·9	G.T.S. □ B.M. at Alai Railway Station. Embedded about 2 feet below ground level, on left side of railway line facing Jodhpur, 322 feet to N.E. corner of station building, and 290 feet to telegraph post No. 122/5. A rail post bearing inscription G T S. B M. marks position of bench-mark.	950·836	950·607
198		BM.32 / 45 E	313·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Badwasi railway station from mile-stone No. 120.	947·489	947·262
199		BM 33 / 45 E	315·2	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Badwasi railway station from mile-stone No. 118.	923·706	923·485
200		BM.34 / 45 E	317·7	G.T.S. □ B.M. at Badwasi Railway Station. Embedded about 2 feet below ground level, to N. of station building, 284 feet to N.E. corner of same, and 291 feet to telegraph post No. 115/9. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	917·446	917·227
201		BM.35 / 45 E	319·2	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Nagaur railway station from mile-stone No. 114.	935·533	935·311
202		BM.36 / 45 E	321·2	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Nagaur railway station from mile-stone No. 112.	953·705	953·481

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
203		BM 37 / 45 E	323·2	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Nagaur railway station from mile-stone No. 110.	950·536	950·314
204		BM.38 / 45 E	325·1	G.T.S. ○ B.M. On base of home signal at Nagaur railway station.	970·478	970·254
	a / 204	BM.39 / 45 E	325·2	G.T.S. ○ B.M. On S.E. corner of flooring of 3rd class passenger shed at Nagaur railway station.	970·604	970·380
205		BM.40 / 45 E	325·3	G.T.S. □ B.M. at Nagaur Railway Station. Embedded about 2 feet below ground level, 136 feet to N.W. corner of *Idgah*, 253 feet to mile-stone No. 108, and 343 feet to S.E. corner of railway staff quarters No. 4 T. A rail post bearing inscription G.T.S. / B.M. marks position of bench-mark.	967·909	967·685
206		BM.41 / 45 E	325·4	G.T.S. ○ B.M. at Railway Rest House, Nagaur. On flooring, near S. wall of southern large room of Block No. D. 1.	972·944	972·719
207		BM.42 / 45 E	327·6	G.T.S. ○ B.M. On block of masonry, 6 feet towards Marwar Mundwa railway station from mile-stone No. 106.	974·299	974·076
208		BM 43 / 45 E	329·6	G.T.S. ○ B.M. On block of masonry, 6 feet towards Marwar Mundwa railway station from mile-stone No. 104.	966·606	966·386
209		BM 44 / 45 E	331·6	G.T.S. ○ B.M. On block of masonry, 6 feet towards Marwar Mundwa railway station from mile-stone No. 102.	987·308	987·086
210		BM.45 / 45 E	333·6	G.T.S. ○ B.M. On block of masonry, 6 feet towards Marwar Mundwa railway station from mile-stone No. 100.	1015·290	1015·064
211		BM 46 / 45 E	336·4	G.T.S. □ B.M. at Marwar Mundwa Railway Station. Embedded about 2 feet below ground level on W. side of railway line, 267 feet and 80° to N.W. corner of station building, 245 feet and 95° to home signal, and 264 feet and 8° to telegraph post No. 97/4. A rail post bearing inscription G.T.S. / B.M. marks position of bench-mark.	1092·426	1092·185
212		BM.47 / 45 E	337·6	G.T.S. ○ B.M. On block of masonry, 6 feet towards Khajwana railway station from mile-stone No. 96.	1113·440	1113·195
213		BM.48 / 45 E	339·6	G.T.S. ○ B.M. On block of masonry, 6 feet towards Khajwana railway station from mile-stone No. 94.	1123·514	1123·270
214		BM.1 / 45 F	341·7	G.T.S. ○ B.M. On block of masonry, 6 feet towards Khajwana railway station from mile-stone No. 92.	1102·346	1102·109

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
215		BM.2 / 45 F	343·7	G.T.S. ○ B.M. On block of masonry, 6 feet towards Khajwana railway station from mile-stone No. 90.	1093·634	1093·401
216		BM.3 / 45 F	345·6	G.T.S. ○ B.M. On block of masonry, 6 feet towards Khajwana railway station from mile-stone No. 88.	1084·333	1084·104
217		BM.4 / 45 F	346·7	G.T.S. □ B.M. at Khajwana Railway Station. Embedded about 2 feet below ground level, on S. side of railway line, 258 feet and 342° to S.E. corner of *Musafirkhana*, 451 feet and 308° to S.E. corner of station building, and 220 feet and 248° to mile-stone No. 87. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	1074·012	1073·786
218		BM.5 / 45 F	347·7	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Deswal railway station from mile-stone No. 86.	1078·155	1077·930
219		BM.6 / 45 F	349·7	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Deswal railway station from mile-stone No. 84.	1077·418	1077·195
220		BM.7 / 45 F	352·3	G.T.S. □ B.M. at Deswal Railway Station. Embedded about 2 feet below ground level, on E side of railway line in front of station building, 294 feet to S.E. corner of same building, and 418 feet to telegraph post No. $\frac{81}{8}$. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	1079·731	1079·510
221		BM.8 / 45 F	353·7	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Merta Road railway station from mile-stone No. 80.	1084·402	1084·182
222		BM.9 / 45 F	355·7	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Merta Road railway station from mile-stone No. 78.	1056·377	1056·166
223		BM.10 / 45 F	357·7	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Merta Road railway station from mile-stone No. 76.	1045·941	1045·734
224		BM.11 / 45 F	359·7	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Merta Road railway station from mile-stone No. 74.	1055·626	1055·419
	a / 224	BM.12 / 45 F	360·7	G.T.S. □ B.M. at Merta Road Railway Station. Embedded about 2 feet below ground level, on right side of railway line facing Jodhpur, 421 feet and 166° to N.E. corner of Railway Police quarters (Block No. T. 8), and 220 feet and 111° to telegraph post No. $\frac{72}{8}$. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	1048·863	1048·657
225		BM.13 / 45 F	362·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Gotan railway station from mile-stone No. 74.	1058·835	1058·628

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
226		BM.14 / 45 F	364·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Gotan railway station from mile-stone No. 76.	1060·588	1060·382
227		BM.15 / 45 F	366·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Gotan railway station from mile-stone No. 78.	1075·861	1075·653
228		BM.16 / 45 F	368·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Gotan railway station from mile-stone No. 80.	1106·831	1106·618
229		BM.17 / 45 F	370·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Gotan railway station from mile-stone No. 82.	1129·799	1129·583
230		BM.18 / 45 F	372·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Gotan railway station from mile-stone No. 84.	1070·867	1070·664
231		BM.19 / 45 F	373·1	G.T.S. □ B.M. at Gotan Railway Station. Embedded about 2 feet below ground level, on left side of railway line facing Jodhpur, 696 feet and 265° to S.E. corner of railway staff quarters (Block No. T. 3), and 219 feet and 343° to mile-stone No. 85. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	1059·568	1059·367
232		BM.20 / 45 F	374·0	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Khangta railway station from mile-stone No. 86.	1060·632	1060·431
233		BM.21 / 45 F	376·0	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Khangta railway station from mile-stone No. 88.	1029·158	1028·966
234		BM.22 / 45 F	378·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Khangta railway station from mile-stone No. 90.	1019·942	1019·753
235		BM.23 / 45 F	380·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Khangta railway station from mile-stone No. 92.	987·882	987·701
	a / 235	BM.24 / 45 F	382·6	G.T.S. □ B.M. at Khangta Railway Station. Embedded about 2 feet below ground level, on left side of railway line facing Jodhpur, 271 feet and 332° to telegraph post No. 94/10, 343 feet and 10° to S. corner post of water reservoir, and 248 feet and 52° to W. corner of *Musafirkhana*. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	983·413	983·233
236		BM.25 / 45 F	384·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Pipar Road railway station from mile-stone No. 96.	1003·318	1003·135
237		BM.26 / 45 F	386·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Pipar Road railway station from mile-stone No. 98.	988·070	987·891

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
238	BM.27 / 45 F	388·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Pipar Road railway station from mile-stone No. 100.	962·618	962·445
239	BM.28 / 45 F	390·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Pipar Road railway station from mile-stone No. 102.	936·630	936·463
240	BM.29 / 45 F	392·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Pipar Road railway station from mile-stone No. 104.	914·813	914·651
241	BM.30 / 45 F	394·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Pipar Road railway station from mile-stone No. 106.	896·509	896·351
242	BM.31 / 45 F	395·9	G.T.S. □ B.M. at Pipar Road Railway Station. Embedded about 2 feet below ground level, on left side of railway line facing Jodhpur, 280 feet and 333° to telegraph post No. 107/15, and 532 feet and 238° to N.E. corner of *Musafirkhana*. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	885·506	885·352
243	BM.32 / 45 F	398·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Banar railway station from mile-stone No. 110.	881·359	881·207
244	BM.33 / 45 F	400·2	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Banar railway station from mile-stone No. 112.	886·755	886·602
245	BM.34 / 45 F	402·2	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Banar railway station from mile-stone No. 114.	860·065	859·917
246	BM.35 / 45 F	404·2	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Banar railway station from mile-stone No. 116.	846·999	846·854
247	BM.36 / 45 F	406·2	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Banar railway station from mile-stone No. 118.	817·272	817·133
248	BM.37 / 45 F	408·2	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Banar railway station from mile-stone No. 120.	796·669	796·534
249	BM.38 / 45 F	410·2	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Banar railway station from mile-stone No. 122.	765·010	764·881
250	BM.39 / 45 F	412·2	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Banar railway station from mile-stone No. 124.	741·016	740·892
251	BM.40 / 45 F	414·2	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Banar railway station from mile-stone No. 126.	722·491	722·371

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
252	BM.41 / 45 F	416·2	G.T.S. □ B.M. at Banar Railway Station. Embedded about 2 feet below ground level, on right side of railway line facing Jodhpur, and opposite station building; 283 feet and 151° to N.E. corner of station building, and 335 feet and 99° to telegraph post No. 127/18. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	695·622	695·506
253	BM.42 / 45 F	418·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Jodhpur railway station from mile-stone No. 130.	692·899	692·785
254	BM.43 / 45 F	420·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Jodhpur railway station from mile-stone No. 132.	719·763	719·645
255	BM.44 / 45 F	422·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Jodhpur railway station from mile-stone No. 134.	739·280	739·160
256	BM.45 / 45 F	424·1	G.T.S. ○ B.M. On block of masonry, about 6 feet towards Jodhpur railway station from mile-stone No. 136.	768·370	768·246
a/256	BM.46 / 45 F	425·0	G.T.S. ○ B.M. On block of masonry, about 2 chains E. of N. gate of Jodhpur railway station yard, on E. side of railway line, and opposite telegraph post No. 136/16.	778·814	778·688
b/256	BM.47 / 45 F	425·1	G.T.S. □ B.M. at Jodhpur Railway Station. Embedded about 2 feet below ground level, due E. of station building, and close to E. compound wall of station yard; 255 feet and 333° to S.W. corner of flour mills compound wall, and 750 feet and 266° to S.E. corner of station building. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	772·834	772·709
c/256	BM.48 / 45 F	425·1	G.T.S. ○ B.M. at Jodhpur Railway Station. On flooring, near S. wall of 1st and 2nd class passengers exit in centre of station building.	783·133	783·006
d/256	BM.49 / 45 F	425·4	G.T.S. ○ B.M. On block of masonry, at extreme S.W. corner of Jodhpur railway station yard, behind Petroleum Oil Company's godown.	783·407	783·280
257	BM.50 / 45 F	426·1	G.T.S. ○ B.M. On block of masonry, 12 feet W. of mile-stone No. 138.	759·612	759·490
1/257	BM.51 / 45 F	428·0	On the ⊙ on rock *in situ* of Massuria G.T. Survey Hill Station, lat. 26° 16′ 32″·04, long. 72° 59′ 40″·02. A secondary station of Jodhpur Meridional Series. (For full description *see* Synoptical Volume).	1051·104	1050·935

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
2/257	BM.52/45 F	*miles* 432·6	G.T.S. Standard Bench Mark 1907 at Jodhpur. Situated on top of Bara Bhakar hill, locally known as Jodhpur Abu, about 5 miles W. of Jodhpur city, and 240 feet from N.W. corner of northern of the two large houses on top of the hill, to which it bears 115°. It is also 267 feet and 127° to S.W. corner of same building.	*feet* 1296·107	*feet* 1295·898
258	BM.53/45 F	428·0	G.T.S. ○ B.M. On block of masonry, 21 feet E. of mile-stone No. 140.	734·751	734·634
259	BM.54/45 F	430·1	G.T.S. ○ B.M. On block of masonry, 21 feet E. of mile-stone No. 142.	699·653	699·543
260	BM.55/45 F	432·2	G.T.S. ○ B.M. On block of masonry, 21 feet E. of mile-stone No. 144.	663·673	663·570
261	BM.56/45 F	434·2	G.T.S. ○ B.M. On block of masonry, 22 feet N.E. of mile-stone No. 146.	633·377	633·281
262	BM.57/45 F	435·2	G.T.S. □ B.M. at Salawas Railway Station. Embedded about 2 feet below ground level, due W. of station building, 413 feet and 124° to N.W. corner of above building, and 300 feet and 14° to S.W. corner of dharmshala. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	627·712	627·617
263	BM.58/45 F	436·1	G.T.S. ○ B.M. On block of masonry, 19 feet E. of mile-stone No. 148.	634·402	634·307
264	BM.59/45 F	438·1	G.T.S. ○ B.M. On block of masonry, 19 feet E. of mile-stone No. 150.	623·080	622·988
265	BM.60/45 F	440·1	G.T.S. ○ B.M. On block of masonry, 17 feet E. of mile-stone No. 152.	615·159	615·069
266	BM.61/45 F	442·1	G.T.S. ○ B.M. On block of masonry, 12 feet E. of mile-stone No. 154.	609·058	608·970
267	BM.62/45 F	444·1	G.T.S. ○ B.M. On block of masonry, 19 feet E. of mile-stone No. 156.	595·237	595·153
268	BM.1/45 G	444·9	G.T.S. □ B.M. at Luni Railway Station. Embedded about 2 feet below ground level, to W. of station building, 605 feet and 42° to N.W. corner of goods godown, and 818 feet and 86° to N.W. corner of station building. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	591·031	590·947

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
269	BM.2 / 45 G	446·2	G.T.S. ○ B.M. On block of masonry, 19 feet E. of mile-stone No. 158.	589·137	589·054
270	BM.3 / 45 G	448·2	G.T.S. ○ B.M. On block of masonry, 20 feet N.E. of mile-stone No. 160.	602·343	602·259
271	BM.4 / 45 G	450·2	G.T.S. ○ B.M. On block of masonry, 13 feet N.E. of mile-stone No. 162.	603·943	603·860
272	BM.5 / 45 G	452·2	G.T.S. ○ B.M. On block of masonry, 22 feet N.E. of mile-stone No. 164.	602·181	602·099
273	BM.6 / 45 G	452·7	G.T.S. □ B.M. at Rohat Railway Station. Embedded about 2 feet below ground level, on E. side of railway line, 220 feet and 197° to N.E. corner of station building, and 190 feet and 257° to S.E. corner of gangmen's quarters. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	601·509	601·427
274	BM.7 / 45 G	454·2	G.T.S. ○ B.M. On block of masonry, 12 feet S.E. of mile-stone No. 166.	606·356	606·274
275	BM.8 / 45 G	456·2	G.T.S. ○ B.M. On block of masonry, 17 feet N.E. of mile-stone No. 168.	609·575	609·493
276	BM.9 / 45 G	458·2	G.T.S. ○ B.M. On block of masonry, 13 feet N.E. of mile-stone No. 170.	635·756	635·671
277	BM.10 / 45 G	460·2	G.T.S. ○ B.M. On block of masonry, 12 feet E. of mile-stone No. 172.	676·563	676·474
278	BM.11 / 45 G	461·3	G.T.S. □ B.M. at Kairla Railway Station. Embedded about 2 feet below ground level, on E. side of railway line, 246 feet and 253° to S.E. corner of station master's quarters, 477 feet and 272° to S.E. corner of station building, and 328 feet and 296° to S.E. corner of dharmshala. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	698·529	698·437
279	BM.12 / 45 G	462·2	G.T.S. ○ B.M. On block of masonry, 21 feet N.E. of mile-stone No. 174.	696·978	696·887
280	BM.13 / 45 G	464·2	G.T.S. ○ B.M. On block of masonry, 16 feet N.E. of mile-stone No. 176.	679·062	678·975
281	BM.14 / 45 G	466·2	G.T.S. ○ B.M. On block of masonry, 21 feet N.E. of mile-stone No. 178.	699·285	699·196

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
282		BM.15 / 45 G	468·2	G.T.S. ○ B.M. On block of masonry, 21 feet N.E. of mile-stone No. 180.	711·686	711·595
283		BM.16 / 45 G	470·2	G.T.S. ○ B.M. On block of masonry, 21 feet N.E. of mile-stone No. 182.	715·750	715·659
	a / 283	BM.17 / 45 G	470·5	G.T.S. □ B.M. at Marwar Pali Railway Station. Embedded about 2 feet below ground level, 406 feet and 195° to N.E. corner of goods shed, and 234 feet and 285° to S.E. corner of State dak bungalow. A rail post bearing inscription G T.S. / B.M. marks position of bench-mark.	714·291	714·200
284		BM.18 / 45 G	472·5	G T.S. ○ B.M. On block of masonry, 16 feet N.E. of mile-stone No. 184.	732·794	732·701
285		BM.19 / 45 G	474·5	G.T.S. ○ B.M. On block of masonry, 22 feet N.E. of mile-stone No. 186.	749·079	748·984
286		BM.20 / 45 G	476·5	G T.S. ○ B.M. On block of masonry, 35 feet N.E. of mile-stone No. 188.	766·967	766·870
287		BM.21 / 45 G	477·6	G.T.S. □ B.M. at Bomadra Railway Station. Embedded about 2 feet below ground level, 134 feet and 352° to S.E. corner of station building, 187 feet and 41° to S.W. corner of tank house, and 220 feet to telegraph post No. $\frac{189}{2}$. A rail post bearing inscription G.T.S. / B.M. marks position of bench-mark.	771·919	771·822
288		BM.22 / 45 G	478·5	G.T.S. ○ B.M. On block of masonry, 3 feet S.E. of mile-stone No. 190.	765·124	765·028
289		BM.23 / 45 G	480·5	G.T.S. ○ B.M. On block of masonry, 22 feet N.E. of mile-stone No. 192.	779·884	779·786
290		BM.24 / 45 G	482·5	G.T.S. ○ B.M. On block of masonry, 8 feet S.E. of mile-stone No. 194.	799·848	799·748
291		BM.25 / 45 G	484·5	G.T.S. ○ B.M. On block of masonry, 5 feet N.E. of mile-stone No. 196.	820·298	820·196
292		BM.26 / 45 G	486·5	G.T.S. ○ B.M. On block of masonry, 22 feet N.E. of mile-stone No. 198.	843·856	843·751
293		BM.27 / 45 G	488·5	G.T.S. ○ B.M. On block of masonry, 4 feet S.E. of mile-stone No. 200.	866·404	866·297

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
294		BM.28 / 45 G	489·1	G.T.S. □ B.M. at Marwar Junction Railway Station. Embedded about 2 feet below ground level, on right side of railway line facing Abu, and nearly opposite station building; 165 feet and 71° to N.W. corner of dharmshala, and 182 feet and 219° to N.E. corner of out houses of station master's quarters. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	872·182	872·076
295		BM.29 / 45 G	489·3	G.T.S. ○ B.M. On stone coping at N.E. end of platform at Marwar Junction railway station.	881·944	881·836
	a / 295	BM.30 / 45 G	489·4	G.T.S. □ B.M. at Marwar Junction Railway Station. Embedded about 2 feet below ground level, between railway station and Government telegraph office; 223 feet and 300° to N E. corner of waiting and refreshment rooms, 93 feet and 252° to N. corner of refreshment room manager's quarters, and 311° to home signal. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	873·836	873·729
296		BM.31 / 45 G	489·4	G.T.S. ○ B.M. On stone coping at S.W. end of platform at Marwar Junction railway station.	881·299	881·192
297		BM.32 / 45 G	489·9	G.T.S. ○ B.M. On block of masonry, 3 feet N.E. of mile-stone No. 322, Delhi.	874·912	874·806
298		BM.33 / 45 G	491·9	G.T.S. ○ B.M. On block of masonry, 3 feet N.E. of mile-stone No. 324, Delhi.	866·077	865·973
299		BM.34 / 45 G	493·9	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 326, Delhi.	863·476	863·374
300		BM.35 / 45 G	494·7	G.T.S. ○ B.M. On block of masonry at N. end of platform at Auwa railway station.	871·077	870·975
	a / 300	BM.36 / 45 G	494·8	G.T.S. □ B.M. at Auwa Railway Station. Embedded about 2 feet below ground level, in front of station building, and on E. side of railway line; 155 feet and 299° to centre of station building, and 277 feet and 355° to S.E. corner of tank house. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	866·310	866·209
	b / 300	BM.37 / 45 G	494·8	G.T.S. ○ B.M. On block of masonry at S. end of platform at Auwa railway station.	871·000	870·898
301		BM.38 / 45 G	495·8	G.T.S. ○ B.M. On coping at S. end of E. parapet of bridge, near telegraph post No. 327/22.	875·709	875·607

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
302		BM.39 / 45 G	497·9	G.T.S. ○ B.M. On block of masonry, 4 feet N.E. of mile-stone No. 330, Delhi.	877·507	877·407
303		BM.40 / 45 G	499·9	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 332, Delhi.	871·063	870·965
304		BM.41 / 45 G	501·9	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 334, Delhi.	875·587	875·490
305		BM.42 / 45 G	502·9	G.T.S. ○ B.M. On block of masonry, at N.E. end of platform at Bhinwalia railway station.	883·751	883·653
	a / 305	BM.43 / 45 G	503·1	G.T.S. □ B.M. at Bhinwalia Railway Station. Embedded about 2 feet below ground level, opposite station building, 160 feet and 259° to B.M. No. b/305, and 126 feet and 314° to extreme S.E corner of station building. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	876·049	875·952
	b / 305	BM.44 / 45 G	503·1	G.T.S. ○ B.M. On block of masonry, at S.W. end of platform at Bhinwalia railway station.	883·516	883·418
306		BM.45 / 45 G	503·9	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 336, Delhi.	883·663	883·567
307		BM.46 / 45 G	505·9	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 338, Delhi.	884·238	884·143
	a / 307	BM.47 / 45 G	506·8	G.T.S. ○ B.M. On block of masonry to N.E. of Somesar railway station.	881·628	881·533
308		BM.48 / 45 G	506·8	G.T.S. ○ B.M. On block of masonry to S.W. of Somesar railway station.	880·965	880·871
309		BM.49 / 45 G	507·9	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 340, Delhi.	880·662	880·569
310		BM.50 / 45 G	509·9	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 342, Delhi.	883·638	883·545
311		BM.51 / 45 G	511·9	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 344, Delhi.	887·122	887·031

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
312		BM.52 / 45 G	512·0	G.T.S. □ B.M. at Jawali Railway Station. Embedded about 2 feet below ground level, on left side of railway line facing Ahmedabad, 338 feet and 237° to S.E. corner of station building, and 100 feet and 44° to telegraph post No. 314/2. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	882·996	882·905
313		BM.53 / 45 G	512·1	G.T.S. ○ B.M. On block of masonry at N.E. end of platform at Jawali railway station.	890·698	890·606
	a / 313	BM.54 / 45 G	512·1	G.T.S. ○ B.M. On block of masonry at S.W. end of platform at Jawali railway station.	890·230	890·138
314		BM.55 / 45 G	513·9	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 346, Delhi.	889·340	889·250
315		BM.56 / 45 G	515·9	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 348, Delhi.	898·241	898·151
316		BM.57 / 45 G	518·0	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 350, Delhi.	904·056	903·967
317		BM.58 / 45 G	520·0	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 352, Delhi.	911·576	911·488
318		BM.59 / 45 G	521·6	G.T.S. ○ B.M. On block of masonry at N.E. end of platform at Rani railway station.	923·531	923·443
	a / 318	BM.60 / 45 G	521·7	G.T.S. □ B.M. at Rani Railway Station. Embedded about 2 feet below ground level, on left side of railway line facing Ahmedabad, and opposite station building; 210 feet and 309° to N.E. corner of station building, and 144 feet and 247° to N.E. corner of goods shed. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	917·787	917·700
	b / 318	BM.61 / 45 G	521·7	G.T.S. ○ B.M. On block of masonry at S.W. end of platform at Rani railway station.	923·457	923·369
319		BM.62 / 45 G	522·0	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 354, Delhi.	918·899	918·813
320		BM.63 / 45 G	524·0	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 356, Delhi.	908·961	908·876

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
321		BM.64 / 45 G	526·0	G.T.S. ○ B.M. On S.E. parapet of bridge, near mile-stone No. 358, Delhi.	910·168	910·085
322		BM.65 / 45 G	528·0	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 360, Delhi.	917·730	917 648
323		BM.66 / 45 G	530·0	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 362, Delhi.	919·488	919·407
324		BM.67 / 45 G	530·7	G.T.S. ○ B.M. On block of masonry at N.E. end of platform at Falna railway station.	925·766	925·685
	a / 324	BM.68 / 45 G	530·8	G.T.S. □ B.M. at Falna Railway Station. Embedded about 2 feet below ground level, to E. of station building, 114 feet and 246° to S.E. corner of station building, 220 feet and 223° to S.E. corner of station master's quarters, and 53 feet and 346° to S.E. corner of sweepers' quarters. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	920·031	919·951
325		BM.69 / 45 G	530·8	G.T.S. ○ B.M. On block of masonry, near S.W. end of platform at Falna railway station.	923·923	923·843
326		BM.70 / 45 G	532·0	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 364, Delhi.	931·166	931·086
327		BM.71 / 45 G	534·0	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 366, Delhi.	948·054	947·974
	a / 327	BM.72 / 45 G	535·7	G.T.S. ○ B.M. at Sanderao Railway Station. On block of masonry, N.E. of station building, and opposite telegraph post No. 367/17.	959·764	959·683
328		BM.73 / 45 G	535·8	G.T.S. ○ B.M. at Sanderao Railway Station. On block of masonry, S.W. of station building, and opposite telegraph post No. 367/18.	960·816	960·736
329		BM.74 / 45 G	536·0	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 368, Delhi.	964·917	964·837
330		BM.75 / 45 G	538·0	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 370, Delhi.	991·482	991·402
331		BM.76 / 45 G	540·0	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 372, Delhi.	960·820	960·744

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
332		BM.77 / 45 G	540·8	G.T.S. □ B.M. at Erinpura Road Railway Station. Embedded about 2 feet below ground level, to N.E. of station building, and near turn-table; 214 feet and 251° to N.E. corner of station building, 118 feet and 270° to B.M. No. a/332, 158 feet and 294° to N.W. corner of latrines, 47 feet and 57° to southernmost edge of turn-table coping, and 57 feet and 141° to telegraph post No. 372/19. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	951·775	951·701
	a/332	BM 78 / 45 G	540·9	G.T.S. ○ B.M. On stone coping at N.E. end of platform at Erinpura Road railway station.	956·293	956·218
333		BM.79 / 45 G	540·9	G.T.S. ○ B.M. On stone coping at S.W. end of platform at Erinpura Road railway station.	956·297	956·222
334		BM.80 / 45 G	542·1	G.T.S. ○ B.M. On E. end of N. abutment of Jawai bridge, near mile-stone No. 374, Delhi.	938·770	938·698
335		BM 81 / 45 G	544·1	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 376, Delhi.	990·926	990·852
	a/335	BM 82 / 45 G	546·1	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 378, Delhi.	1050·587	1050·508
336		BM 83 / 45 G	546·6	G.T.S. ○ B.M. On block of masonry, about 3 chains N.E. of Mori Bera railway station.	1055·691	1055·614
	a/336	BM.84 / 45 G	546·7	G.T.S. ○ B.M. On block of masonry, about 3 chains S.W. of Mori Bera railway station.	1056·694	1056·617
337		BM 85 / 45 G	548·1	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 380, Delhi.	1102·412	1102·334
338		BM.1 / 45 H	550·1	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 382, Delhi.	1153·213	1153·133
339		BM 2 / 45 H	552·2	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 384, Delhi.	1137·095	1137·019
340		BM 3 / 45 H	554·2	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 386, Delhi.	1159·036	1158·961
341		BM.4 / 45 H	554·6	G.T.S. ○ B.M. On stone coping at N.E. end of platform at Nana railway station.	1172·219	1172·143

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
	a/341	BM.5/45 H	*miles* 554·6	G.T.S. □ B.M. at Nana Railway Station. Embedded about 2 feet below ground level, on W. side of railway line in front of station building, 234 feet and 127° to S.W. corner of station building, and 70 feet and 41° to S.W. corner of tank house. A rail post bearing inscription G.T.S. / B.M. marks position of bench-mark.	*feet* 1169·213	*feet* 1169·137
	b/341	BM.6/45 H	554·6	On top of remains of pillar of Nana Railway Station G. T. Survey Station, lat. 24° 55′ 26″ 05, long. 73° 6′ 37″ 53. A secondary station of Jodhpur Meridional Series. (For full description *see* Synoptical Volume).	1172·731	1172·655
342		BM 7/45 H	554·7	G.T.S. ○ B.M. On stone coping at S.W. end of platform at Nana railway station.	1172·242	1172·166
343		BM 8/45 H	555·7	G.T.S. ○ B.M. On N.E. abutment of bridge, near telegraph post No. 387/12.	1185·357	1185·281
344		BM.9/45 H	557·5	G.T.S. ○ B.M. On N.W. parapet of bridge, between telegraph posts Nos. 389/12 and 389/13.	1217·235	1217·160
345		BM.10/45 H	560·0	G.T.S. ○ B.M. On N.W. parapet of bridge, near telegraph post No. 391/20, and to N. of Keshavganj railway station building.	1295·529	1295·451
346		BM.11/45 H	561·7	G.T.S. ○ B.M. On N.W. parapet of bridge, near telegraph post No. 393/14.	1260·994	1260·921
347		BM.12/45 H	564·0	G.T.S. ○ B.M. On N.W. parapet of bridge, near telegraph post No. 395/20.	1230·883	1230·814
	a/347	BM.13/45 H	565·1	G.T.S. ○ B.M. On coping at N. end of platform at Pindwara railway station.	1215·465	1215·397
348		BM.14/45 H	565·1	G.T.S. □ B.M. at Pindwara Railway Station. Embedded about 2 feet below ground level, on W. side of railway line, 176 feet and 121° to N.W. corner of station building, and 240 feet and 160° to N.W. corner of waiting room. A rail post bearing inscription G.T.S. / B.M. marks position of bench-mark.	1211·144	1211·077
	a/348	BM.15/45 H	565·2	G.T.S. ○ B.M. On coping at S. end of platform at Pindwara railway station.	1215·703	1215·636
349		BM.16/45 H	565·9	G.T.S. ○ B.M. On N.W. parapet of bridge, between telegraph posts Nos. 397/17 and 397/18.	1202·255	1202·190

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
	a/349	BM.17/45 II	*miles* 568·0	G.T.S. ○ B.M. On N.W. parapet of bridge, near telegraph post No. 399/18.	*feet* 1186·161	*feet* 1186·097
	b/349	BM.1/45 D	571·1	G.T.S. ○ B.M. On N.W. parapet of bridge, near telegraph post No. 402/20.	1138·907	1138·845
350		BM.2/45 D	571·4	G.T.S. ○ B.M. On block of masonry, near telegraph post No. 403/4.	1139·157	1139·100
351		BM.3/45 D	571·7	G.T.S. ○ B.M. On N.W. parapet of bridge, near telegraph post No. 403/13.	1131·790	1131·733
352		BM.4/45 D	574·2	G.T.S. ○ B.M. On N.W. parapet of bridge, near telegraph post No. 405/22.	1101·782	1101·729
353		BM.5/45 D	575·7	G.T.S. ○ B.M. On N.W. parapet of bridge, near telegraph post No. 407/11.	1085·923	1085·872
354		BM.6/45 D	576·6	G.T.S. ○ B.M. On coping at N. end of platform at Rohira railway station.	1089·801	1089·751
355		BM.7/45 D	576·6	G.T.S. ○ B.M. On coping at S. end of platform at Rohira railway station.	1089·845	1089·795
356		BM.8/45 D	576·7	G.T.S. □ B.M. at Rohira Railway Station. Embedded about 2 feet below ground level, on W. side of railway line, 305 feet and 44° to S.W. corner of station building, and 122 feet and 63° to S.E. corner of latrines. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	1085·866	1085·816
357		BM.9/45 D	577·6	G.T.S. ○ B.M. On N.W. parapet of bridge, near telegraph post No. 409/10.	1078·783	1078·734
358		BM.10/45 D	579·5	G.T.S. ○ B.M. On N.W. parapet of bridge, near telegraph post No. 411/7.	1055·689	1055·643
359		BM.11/45 D	581·8	G.T.S. ○ B.M. On N.W. parapet of bridge, near telegraph post No. 413/12.	1031·364	1031·321
360		BM.12/45 D	581·9	G.T.S. ○ B.M. On coping of well, between telegraph posts Nos. 413/16 and 413/17 at Bhimana railway station.	1031·141	1031·098

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
361	BM.13 / 45 D	582·8	○ On rock *in situ*, near telegraph post No. $\frac{414}{12}$.	1002·909	1002·868
362	BM.14 / 45 D	583·9	G.T.S. ○ B.M. On N.W. parapet of bridge, near telegraph post No. $\frac{415}{15}$.	978·220	978·181
363	BM.15 / 45 D	586·1	G.T.S. ○ B.M. On W. parapet at N.W. end of bridge, between telegraph posts Nos. $\frac{417}{21}$ and $\frac{417}{22}$.	933·250	933·215
364	BM.16 / 45 D	586·8	G.T.S. ○ B.M. On coping at N.E. end of platform at Kivarli railway station.	926·392	926·358
a / 364	BM.17 / 45 D	587·0	G.T.S. ○ B.M. On coping at S.W. end of platform at Kivarli railway station.	925·789	925·755
365	BM.18 / 45 D	587·0	G.T.S. □ B.M. at Kivarli Railway Station. Embedded about 2 feet below ground level, to S.W. of station building, and on W. side of railway line; 269 feet and 28° to W. corner of projection of railway staff quarters, 234 feet and 119° to telegraph post No. $\frac{418}{18}$, and 330 feet and 200° to S.W. Points signal. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	917·213	917·179
366	BM.19 / 45 D	588·1	G.T.S. ○ B.M. On S.W. parapet of bridge, near telegraph post No. $\frac{419}{20}$.	906·835	906·801
a / 366	BM 20 / 45 D	589·9	G.T.S. ○ B.M. On S.W. cap of bridge, near telegraph post No. $\frac{421}{11}$.	896·118	896·085
367	BM.21 / 45 D	591·3	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 423, Delhi.	873·944	873·914
368	BM 22 / 45 D	592·4	G.T.S. ○ B.M. On coping at N.E. end of platform at Abu Road railway station.	861·611	861·583
a / 368	BM.23 / 45 D	592·4	B.O.M. at District Traffic Superintendent's Office, R. M. Railway, Abu Road Railway Station. On plinth on N.W. side of office, 34 feet from N. corner of building.	861·517	861·489
b / 368	BM.24 / 45 D	592·4	G.T.S. ○ B.M. at District Pay Clerk's office, R. M. Railway, Abu District. On stone flooring of verandah at S.W. corner of office.	861·274	861·246

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
369	BM.25 / 45 D	592·5	G.T.S. ○ B.M. On stone coping at S.W. end of platform at Abu Road railway station.	861·445	861·417
370	BM.26 / 45 D	592·6	G.T.S. □ B.M. at Abu Road Railway Station. Embedded about 2 feet below ground level, to S.E. of station building, 183 feet and 252° to E. gate pillar of S.W. level crossing, 259 feet and 3° to S. corner of permanent way inspector's office, 262 feet and 192° to telegraph post No. $\frac{424}{7}$, and 227 feet and 115° to S. corner of R. M. railway volunteer sergeant instructor's quarters (Block No. 84). A rail post bearing inscription $\frac{\text{G.T.S.}}{\text{B.M.}}$ marks position of bench-mark.	855·771	855·743
a / 370	BM.27 / 45 D	592·8	B.○M. at Roman Catholic Chapel, Abu Road. On plinth, at N. end of N.W. enclosed verandah, near N.W. door leading into sacristy of chapel.	865·162	865·133
371	BM.28 / 45 D	593·5	G.T.S. ○ B.M. On W. wing wall of S.W. abutment of bridge, near telegraph post No. $\frac{425}{5}$.	845·848	845·821
372	BM.29 / 45 D	595·3	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 427, Delhi.	826·520	826·494
373	BM.30 / 45 D	597·3	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 429, Delhi.	801·909	801·885
374	BM.31 / 45 D	598·3	G.T.S. ○ B.M. On N.W. parapet of culvert, near telegraph post No. $\frac{429}{25}$.	802·215	802·191
a / 374	BM.32 / 45 D	598·4	G.T.S. ○ B.M. On kerb of station well at Maval railway station.	804·007	803·983
375	BM.33 / 45 D	599·3	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 431, Delhi.	776·176	776·153
376	BM.34 / 45 D	600·0	G.T.S. ○ B.M. On N.W. parapet of bridge, near telegraph post No. $\frac{431}{17}$.	760·724	760·701
a / 376	BM.35 / 45 D	601·7	G.T.S. ○ B.M. On N.W. parapet of bridge, between telegraph posts Nos. $\frac{433}{6}$ and $\frac{433}{7}$.	735·131	735·109
377	BM.36 / 45 D	603·4	G.T.S. ○ B.M. On coping at N.E. end of platform at Roho railway station.	743·522	743·501

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
378	BM.37 / 45 D	603·5	G.T.S. ○ B.M. On coping at S.W. end of platform at Roho railway station.	743·510	743·489
379	BM.38 / 45 D	603·6	G.T.S. □ B.M. at Roho Railway Station. Embedded about 2 feet below ground level, to S.W. of station building, and to W. of railway line; 138 feet and 210° to N. corner of S.W. pointsman's lodge, 214 feet and 219° to S.W Points signal, and 99° to W. corner of tank house. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	735·860	735·839
380	BM.39 / 45 D	603·7	G.T.S. ○ B.M. On N.W. parapet of bridge, near telegraph post No. $\frac{435}{9}$.	742·150	742·129
381	BM.40 / 45 D	605·4	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 437, Delhi.	722·718	722·698
382	BM.41 / 45 D	607·4	G.T.S. ○ B.M. On N. wing wall of bridge, near mile-stone No. 439, Delhi.	703·318	703·300
383	BM.42 / 45 D	609·4	G.T.S. ○ B.M. On block of masonry, near mile-stone No. 441, Delhi.	660·345	660·328
384	BM.43 / 45 D	611·5	G.T.S. ○ B.M. On coping at N.E. end of platform at Sarotra railway station.	684·961	684·945
385	BM.44 / 45 D	611·6	G.T.S. ○ B.M. On coping at S.W. end of platform at Sarotra railway station.	684·822	684·806
386	BM.45 / 45 D	611·7	G.T.S. □ B.M. at Sarotra Railway Station. Embedded about 2 feet below ground level, to S.W. of station building, and to W. of railway line; 347 feet and 24° to S. corner of main block of pointsmen's quarters, 145 feet and 118° to telegraph post No. $\frac{443}{7}$, 174 feet and 179° to N. corner of S.W. pointsman's lodge, and 407 feet and 193° to S.W. Points signal. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	677·963	677·947
387	BM.46 / 45 D	611·8	G.T.S. ○ B.M. On N.W. parapet of bridge, near telegraph post No. $\frac{443}{10}$.	683·072	683·056
388	BM.47 / 45 D	614·2	G.T.S. ○ B.M. On W. parapet of S.W. abutment of bridge, near telegraph post No. $\frac{445}{20}$.	679·380	679·366
a / 388	BM.48 / 45 D	616·7	G.T.S. ○ B.M. On W. parapet wall at S.W. end of bridge, between telegraph post No. $\frac{447}{22}$ and mile-stone No. 448, Delhi.	696·823	696·808

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
389	BM.49 / 45 D	618·1	G.T.S. ○ B.M. On coping at N.E. end of platform at Chitrasani railway station.	742·876	742·863
a 389	BM.50 / 45 D	618·1	G.T.S. □ B.M. at Chitrasani Railway Station. Embedded about 2 feet below ground level, 65 feet and 21° to W. corner of station building, 29 feet and 273° to E. corner of telegraph signallers' quarters (Block No. 6), 215 feet and 238° to N. corner of railway menials' quarters (Block No. 3), and 299 feet and 212° to E. corner of tank house (Block No. 4). A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	739·319	739·306
390	BM.51 / 45 D	618·1	G.T.S. ○ B.M. On coping at S.W. end of platform at Chitrasani railway station.	742·677	742·664
391	BM.52 / 45 D	618·4	G.T.S. ○ B.M. On E. end of N.E. abutment of bridge, near telegraph post No. $\frac{449}{23}$.	736·311	736·298
392		619·4	Destroyed.	745·724	745·711
393	BM.53 / 45 D	621·3	G.T.S. ○ B.M. On S.E. parapet of bridge, near telegraph post No. $\frac{452}{21}$.	765·653	765·642
394	BM.54 / 45 D	623·8	G.T.S. ○ B.M. On E. parapet of S.W. abutment of bridge, between telegraph posts Nos. $\frac{455}{7}$ and $\frac{455}{8}$.	710·015	710·006
395	BM.55 / 45 D	625·2	G.T.S. ○ B.M. On coping at N. end of platform at Palanpur railway station.	709·547	709·538
a 395	BM.56 / 45 D	625·3	G.T.S. □ B.M. at Palanpur Railway Station. Embedded about 2 feet below ground level, to S. of station building, and to E. of platform; 91 feet and 217° to B.M. No. 396, 94 feet and 198° to N.W. corner of pointsmen's quarters (Block No. 3), 135 feet and 160° to S.W. corner of pointsmen's quarters (Block No. 4), and 71 feet and 104° to N.W. corner of telegraph signallers' quarters. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	705·056	705·048
396	BM.57 / 45 D	625·4	G.T.S. ○ B.M. On coping at S. end of platform at Palanpur railway station.	709·522	709·513
397	BM.58 / 45 D	625·7	G.T.S. ○ B.M. On S.E. parapet of bridge, near telegraph post No. $\frac{457}{6}$.	705·234	705·226
398	BM.59 / 45 D	627·4	G.T.S. ○ B.M. On E parapet of bridge, near telegraph post No. $\frac{458}{23}$.	694·750	694·743

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
399		BM.60 / 45 D	629·4	G.T.S. ○ B.M. $\frac{460}{23}$ and $\frac{460}{24}$.	629·995	629·990
	a / 399	BM 61 / 45 D	630·3	G.T.S. ○ B.M. $\frac{461}{20}$ and $\frac{461}{21}$.	607·409	607·404
	b / 399	BM.62 / 45 D	630·6	G.T.S. ○ B.M. On stone coping of parapet of well, about 4 chains S. of Umardeshi railway station.	610·849	610·844
400		BM.63 / 45 D	631·7	G.T.S. ○ B.M. $\frac{463}{4}$ and $\frac{463}{5}$.	592·124	592·120
401		BM.64 / 45 D	634·2	G.T.S. ○ B.M. $\frac{465}{16}$.	580·010	580·008
402		BM.65 / 45 D	635·3	G.T.S. ○ B.M. On coping at N. end of platform at Chhapi railway station.	550·335	550·334
403		BM.66 / 45 D	635·4	G.T.S. ○ B.M. On coping at S. end of platform at Chhapi railway station.	550·031	550·030
	a / 403	BM.67 / 45 D	635·6	G.T.S. □ B.M. at Chhapi Railway Station. Embedded about 2 feet below ground level, to S. of station building, and to E. of railway line; 84 feet and 339° to B.M. No. 403, 332 feet and 15° to S.E. corner of station building, 68 feet and 49° to S.W. corner of pointsmen's quarters (Block No. 3). A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	543·071	543·070
404		BM.68 / 45 D	635·6	G.T.S. ○ B.M. $\frac{467}{2}$.	542·417	542·416
405		BM.69 / 45 D	637·6	G.T.S. ○ B.M. $\frac{469}{2}$.	513·269	513·269
406		BM.32 / 46 A	639·5	G.T.S. ○ B.M. $\frac{470}{23}$.	478·001	478·002
	a / 406	BM.33 / 46 A	641·4	G.T.S. ○ B.M. $\frac{472}{18}$.	465·974	465·975
407		BM.34 / 46 A	643·0	G.T.S. ○ B.M. $\frac{474}{10}$.	434·569	434·571

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
a/407	BM.35/46 A	643·7	G.T.S. ○ B.M. On coping at N. end of platform at Siddhpur railway station.	437·687	437·689
408	BM 36/46 A	643·7	G.T.S. ○ B.M. On coping at S. end of platform at Siddhpur railway station.	437·668	437·670
409	BM.37/46 A	643·8	G.T.S. □ B.M. at Siddhpur Railway Station. Embedded about 2 feet below ground level, on E. side of railway line, 98 feet and 281° to N.E. corner of S. pointsman's lodge, 113 feet and 227° to N.E. corner of tank house, and 32 feet and 116° to N.W. corner of gangmen's quarters (Block No. 9). A rail post bearing inscription G T S. / B M. marks position of bench-mark.	436·214	436·217
410	BM 38/46 A	645·6	G.T.S. ○ B.M. On E. parapet of bridge, near telegraph post No. 476/23.	413·587	413·590
411	BM.39/46 A	648·0	G.T.S. ○ B.M. On E. parapet of bridge, near telegraph post No. 479/6.	409·810	409·814
412	BM.40/46 A	649·7	G.T.S. ○ B.M. On E. parapet of bridge, near telegraph post No. 481/1.	395·003	395·007
413	BM.41/46 A	651·7	G.T.S. ○ B.M. On N. end of E. parapet of bridge, near telegraph post No. 482/24.	379·920	379·925
414	BM.42/46 A	652·2	G.T.S. ○ B.M. On coping at N. end of platform at Unjha railway station.	375·187	375·192
415	BM.43/46 A	652·3	G.T.S. ○ B.M. On coping at S. end of platform at Unjha railway station.	375·404	375·409
a/415	BM.44/46 A	652·3	G.T.S. □ B.M. at Unjha Railway Station. Embedded about 2 feet below ground level, on E. side of railway line, 34 feet and 87° to S.W. corner of gangmen's quarters (northern block), 191 feet and 347° to well in station yard, and 283 feet and 336° to B.M. No. 415. A rail post bearing inscription G T S. / B.M. marks position of bench-mark.	367·359	367·364
416	BM.45/46 A	653·9	G.T.S. ○ B.M. On E. parapet of bridge, between telegraph posts Nos. 485/3 and 485/4.	359·111	359·116
417		656·5	Destroyed.	347·656	347·662
418		658·3	Destroyed.	326·857	326·864

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
419		BM.46 / 46 A	659·5	G.T.S. ○ B.M. On block of masonry at N. end of platform at Bhandu railway station.	322·658	322·665
	a / 419	BM.47 / 46 A	659·6	G.T.S. ○ B.M. On block of masonry at S. end of platform at Bhandu railway station.	321·354	321·361
420			660·2	Destroyed.	311·488	311·495
421		BM.48 / 46 A	663·7	G.T.S. ○ B.M. On E. end of 2nd pier, from S. end of bridge, between telegraph posts Nos. $\frac{494}{21}$ and $\frac{494}{22}$.	307·164	307·172
422		BM.49 / 46 A	664·1	G.T.S. ○ B.M. On E. cap of N. abutment of bridge, between telegraph posts Nos. $\frac{495}{6}$ and $\frac{495}{7}$.	309·403	309·411
423		BM.50 / 46 A	665·8	G.T.S. ○ B.M. On coping at N. end of main platform at Mehsana railway station.	306·039	306·047
424		BM.51 / 46 A	665·9	G.T.S. ○ B.M. On coping at S. end of main platform at Mehsana railway station.	306·136	306·144
425		BM.52 / 46 A	666·0	G.T.S. □ B.M. at Mehsana Railway Station. Embedded about 2 feet below ground level, to E. of railway line, 17 feet and 5° to S.W. corner of 1st class waiting room, 106 feet and 189° to N.W. corner of tank house, and 118 feet and 168° to N. edge of well. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	305·352	305·360
	a / 425	BM.53 / 46 A	667·3	G.T.S. ○ B.M. On W. cap of N. abutment of bridge, near telegraph post No. $\frac{498}{11}$.	300·297	300·305
426		BM.54 / 46 A	669·4	G.T.S. ○ B.M. On N.E. parapet of bridge, near telegraph post No. $\frac{500}{11}$.	286·914	286·923
427		BM.55 / 46 A	671·2	G.T.S. ○ B.M. On N.E. end of centre pier of bridge, near telegraph post No. $\frac{502}{5}$.	283·794	283·803
	a / 427	BM.56 / 46 A	672·2	G.T.S. ○ B.M. On coping at N. end of platform at Jagudan railway station.	293·692	293·701
428		BM.57 / 46 A	672·2	G.T.S. ○ B.M. On coping at S. end of platform at Jagudan railway station.	293·849	293·859

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
	a/428	BM.58/46 A	*miles* 672·2	G.T.S. □ B.M. at Jagudan Railway Station. Embedded about 2 feet below ground level, on E. side of railway line, 371 feet and 340° to B.M. No. 428, 97 feet and 181° to N.E. corner of pointsman's lodge, and 92 feet and 104° to N.W. corner of gangmen's quarters (No. 6). A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	*feet* 287·798	*feet* 287·808
429		BM.59/46 A	673·6	G.T.S. ○ B.M. On E. parapet of bridge, near telegraph post No. 504/15.	299·291	299·301
430		BM.60/46 A	675·0	G.T.S. ○ B.M. On E. parapet of bridge, near mile-stone No. 506, Delhi.	295·448	295·459
	a/430	BM.61/46 A	676·9	G.T.S. ○ B.M. at Ambliyasan Railway Station. On block of masonry, about 1 chain E. of N. end of platform, and 69 feet from N.W. corner of block No. 3.	293·287	293·298
	b/430	BM.62/46 A	676·9	G.T.S. ○ B.M. On block of masonry, about 1 chain E. of S. end of platform at Ambliyasan railway station.	291·313	291·323
431		BM.63/46 A	677·1	G.T.S. ○ B.M. On E. end of S. abutment of bridge, near mile-stone No. 508, Delhi.	294·198	294·209
432		BM.64/46 A	679·8	G.T.S. ○ B.M. On E. end of N. abutment of bridge, near telegraph post No. 510/17.	283·527	283·538
433		BM.65/46 A	681·4	G.T.S. ○ B.M. On E. parapet of bridge, near telegraph post No. 512/10.	270·161	270·172
434		BM.66/46 A	681·9	G.T.S. ○ B.M. On coping at N. end of platform at Dangarwa railway station.	271·133	271·144
	a/434	BM.67/46 A	681·9	G.T.S. □ B.M. at Dangarwa Railway Station. Embedded about 2 feet below ground level, on station platform, and to S. of station building; 210 feet and 339° to S.W. corner of station building, 47 feet and 202° to B.M. No. 435, and 99 feet and 167° to N.W. corner of latrines. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	269·818	269·829
435		BM.68/46 A	681·9	G.T.S. ○ B.M. On coping at S. end of platform at Dangarwa railway station.	271·066	271·077
436		BM.69/46 A	683·0	G.T.S. ○ B.M. On E. end of S. abutment of bridge, near telegraph post No. 513/24.	263·634	263·645

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
437		BM.70 / 46 A	684·4	G.T.S. ○ B.M. On E. end of S. abutment of bridge, near telegraph post No. 515/8.	258·257	258·268
438		BM.71 / 46 A	686·1	G.T.S. ○ B.M. On block of masonry, 67 feet from N.W. corner of Pansar railway station.	249·886	249·898
	a / 438	BM.72 / 46 A	686·1	G.T.S. ○ B.M. On block of masonry, 76 feet from S.W. corner of Pansar railway station.	250·339	250·351
439		BM.73 / 46 A	686·4	G.T.S. ○ B.M. On E. parapet of bridge, near telegraph post No. 517/8.	250·299	250·311
	a / 439	BM.74 / 46 A	688·3	G.T.S. ○ B.M. On W. parapet of bridge, between telegraph posts Nos. 519/3 and 519/4.	242·996	243·007
	b / 439	BM.75 / 46 A	690·7	G.T.S. ○ B.M. On E. parapet of culvert, near telegraph post No. 521/13.	230·892	230·903
	c / 439	BM.76 / 46 A	692·1	G.T.S. □ B.M. at Kalol Railway Station. Embedded about 2 feet below ground level, at extreme N.W. corner of station platform, 54 feet and 63° to B.M. No. 440, and 50 feet and 153° to N.W. corner of waiting room. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	228·573	228·584
440		BM.77 / 46 A	692·1	G.T.S. ○ B.M. On stone coping at N. end of main platform at Kalol railway station.	231·100	231·112
441		BM.78 / 46 A	692·2	G.T.S. ○ B.M. On stone coping at S. end of main platform at Kalol railway station.	231·022	231·034
442		BM.79 / 46 A	692·7	G.T.S. ○ B.M. On E. end of S. abutment of bridge, near telegraph post No. 523/10.	229·004	229·016
	a / 442	BM 80 / 46 A	694·3	G.T.S. ○ B.M. On E. parapet of bridge, near telegraph post No. 525/4.	224·027	224·039
443		BM.81 / 46 A	695·7	G.T.S. ○ B.M. On E. parapet of bridge, between telegraph posts Nos. 526/14 and 526/15.	221·043	221·055
444		BM.82 / 46 A	697·8	G.T.S. ○ B.M. On E. parapet of bridge, between telegraph posts Nos. 528/17 and 528/18.	208·058	208·070

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
445	BM.83 / 46 A	698·8	G.T.S. ○ B.M. On block of masonry at N. end of platform at Khodiar railway station.	206·974	206·986
a / 445	BM.84 / 46 A	698·8	G.T.S. ○ B.M. On block of masonry at S. end of platform at Khodiar railway station.	206·190	206·202
446	BM.85 / 46 A	699·9	G.T.S. ○ B.M. On E. end of S. abutment of bridge, near telegraph post No. 530/20.	201·178	201·190
447	BM.86 / 46 A	701·8	G.T.S. ○ B.M. On E. parapet of culvert, near telegraph post No. 532/16.	189·096	189·107
448	BM.87 / 46 A	703·5	B.M.201·26 On E. cap of N. abutment of bridge, near telegraph post No. 534/6. (Railway bench-mark).	189·379	189·391
449	BM.88 / 46 A	704·0	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge, near telegraph post No. 534/20.	184·023	184·034
450	BM.89 / 46 A	704·6	G.T.S. ○ B.M. On coping at N. end of platform at Sabarmati railway station (R. M. Railway).	181·377	181·388
1 / 450	BM.90 / 46 A	704·7	G.T.S. □ B.M. at Sabarmati Railway Station (R. M. Railway). Embedded about 2 feet below ground level, on station platform, 185 feet and 319° to S.W. corner of station building, 40 feet and 192° to B.M. No. 1a/450, 201 feet and 185° to N.W. corner of R.M. railway goods office and 232 feet and 196° to N.E. corner of B.B. and C.I. railway goods office. A rail post bearing inscription G.T.S. B.M. marks position of bench-mark.	180·414	180·425
1a / 450	BM.91 / 46 A	704·7	G.T.S. ○ B.M. On coping at S. end of platform at Sabarmati railway station (R. M. Railway).	181·386	181·397
451	BM.92 / 46 A	705·8	G.T.S. ○ B.M. On S.W. corner of pointsman's lodge at N. end of Sabarmati bridge.	178·458	178·469
452	BM.93 / 46 A	706·9	B.○M. On centre of lower ledge of S. abutment of culvert, near telegraph post No. 310/19.	161·184	161·194
1 / 452	BM.94 / 46 A	708·0	G.T.S. ○ B.M. On S. end of uppermost step in front of main entrance to Ramchodlal Chotalal High School, Ahmedabad.	159·697	159·707

Branch-Line 57A. (Ferozepore to Ahmedabad).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
2/452	BM.95/46 A	708·9	G.T.S. Standard Bench Mark 1907 at Ahmedabad. Situated to S. of Executive Engineer's office, Ahmedabad Division (P. W .D.), 10 feet from S. compound wall of same, at a point 31 feet from S.E. corner of compound. It is enclosed by an iron railing 11 feet square.	161·858	161·869
453	BM.96/46 A	707·4	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge, between telegraph posts Nos. 310/8 and 310/9.	163·807	163·818
454	BM.97/46 A	708·3	G.T.S. ○ B.M. On W. coping at N. end of R.M. railway platform under road overbridge at Ahmedabad railway station.	168·719	168·730
455	BM.98/46 A	708·4	G.T.S. ○ B.M. On W. coping at S. end of R.M. railway platform at Ahmedabad railway station.	168·847	168·858
a/455	BM.99/46 A	708·5	B. × M. On coping of fountain, between two minarets of an old gateway W. of platform, and to S. of station building at Ahmedabad railway station.	171·691	171·702
456	BM.31/46 A	708·5	G.T.S. □ B.M. at Ahmedabad Railway Station. Embedded 1 foot below ground level, about 200 feet S. of railway station, between two minarets of an old gateway, and 5 feet from S. minaret on which letters G.T.S./B.M. are inscribed.	167·714	167·725

Branch-Line 57B. (Palanpur to Deesa).

Designation of Bench-marks		Distance from Palanpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1	BM 58 / 45 D	0·0	G.T.S. ○ B.M. On S.E. parapet of bridge, near telegraph post No. 457 / 6.	705·234	705·226
2	BM 70 / 45 D	1·6	G.T.S. ○ B.M. On S. parapet of S.E. abutment of bridge, near telegraph post No. P.D. 2 / 1.	662·047	662·039
3	BM.71 / 45 D	3·5	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. P.D. 3 / 22.	664·080	664·071
4	BM.72 / 45 D	5·8	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. P.D. 6 / 6.	602·001	601·993
5	BM.73 / 45 D	7·7	G.T.S. ○ B.M. On S. cap of N.W. abutment of bridge, near telegraph post No. P.D. 8 / 3.	546·627	546·619
6	BM.74 / 45 D	7·9	G.T.S. ○ B.M. On block of masonry at S.E. end of platform at Chandisar railway station.	547·432	547·424
a / 6	BM.75 / 45 D	7·9	G.T.S. □ B.M. at Chandisar Railway Station. Embedded about 2 feet below ground level, to S. of station building, 112 feet and 352° to B.M. No. 7, 118 feet and 38° to S.W. corner of station building, 163 feet and 74° to B.M. No. 6, and 104 feet and 122° to N.W. corner of station master's quarters (Block No. 2). A rail post bearing inscription G T S. / B.M. marks position of bench-mark.	542·936	542·928
7	BM 76 / 45 D	7·9	G.T.S. ○ B.M. On block of masonry at N.W. end of platform at Chandisar railway station.	546·588	546·580
8	BM.77 / 45 D	9·8	G.T.S. ○ B.M. On S.W. cap of bridge, near telegraph post No. P.D. 10 / 4.	516·740	516·732
9	BM.78 / 45 D	11·9	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. P.D. 12 / 7.	517·621	517·613

Branch-Line 57B. (Palanpur to Deesa).

Designation of Bench-marks			Distance from Palanpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
10		BM.79 / 45 D	13·8	G.T.S. ○ B.M. On S. cap of N.W. abutment of bridge, near telegraph post No. P.D. 14/4.	483·523	483·515
11		BM.80 / 45 D	15·5	G.T.S. ○ B.M. On S. cap of E. abutment of bridge, near telegraph post No. P.D. 15/20.	469·635	469·627
12		BM.81 / 45 D	16·8	G.T.S. ○ B.M. On coping at E. end of platform at Deesa railway station.	454·354	454·347
	a/12	BM.82 / 45 D	16·9	G.T.S. ○ B.M. On coping at W. end of platform at Deesa railway station.	454·341	454·334
	b/12	BM.83 / 45 D	17·0	G.T.S. ○ B.M. On S. cap of E. abutment of bridge, about 15 chains W. of Deesa railway station.	453·353	453·346
13		BM.84 / 45 D	18·9	G.T.S. Standard Bench Mark 1908 at Deesa Cantonment. Situated close to meteorological observatory, 33 feet and 45° from it, to E. of road, 162 feet in a direct line from same, and enclosed by an iron railing 11 feet square.	465·599	465·591
14		BM.85 / 45 D	19·5	On upper mark-stone of Deesa Hospital G.T. Survey Station, lat. 24° 15′ 42″·07, long. 72° 11′ 51″·27. A secondary station of Abu Meridional Series. (For full description *see* Synoptical Volume).	470·052	470·044
15		BM.86 / 45 D	20·4	On upper mark-stone of Deesa Telegraph Office G. T. Survey Station, lat. 24° 15′ 30″·23, long. 72° 11′ 5″·46. A secondary station of Abu Meridional Series. (For full description *see* Synoptical Volume).	442·428	442·420

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks			Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.8 / 64 J	0·0	G.T.S. B.M. □ at Bilaspur Railway Station. Embedded in foundation of station building, at S.W. corner of 2nd pillar (counting from W.) of verandah, about 4 inches below pavement level, 27 feet and 126° from S.W. corner of station building, 42 feet and 100° from centre of base of home signal, and 13 feet from centre of door of station master's office. The letters B.M. are cut on base of pillar.	883·441	883·556
	a / 1	BM 71 / 64 J	0·2	G.T.S. B.↓M. at Bilaspur Railway Institute. On stone coping of end or 1st newel of flight of steps on S. side of institute and water tank.	883·975	884·090
2		BM.72 / 64 J	0·8	G.T.S. ○ B.M. On coping of W. parapet of culvert on N. side of railway line, and close to level crossing No. 1 from Bilaspur.	882·509	882·623
	a / 2	BM.73 / 64 J	5·6	G.T.S. ○ B.M. On E.N.E. parapet of bridge No. 2, between telegraph posts Nos. $\frac{261}{8}$ and $\frac{261}{9}$.	897·763	897·879
3		BM.74 / 64 J	9·4	G.T.S. ○ B.M. On N. end of base of S. distant signal at Ghutku railway station.	933·139	933·253
4		BM.75 / 64 J	9·9	G.T.S. ○ B.M. On coping at S.S.E. end of platform above ramp at Ghutku railway station.	937·294	937·408
5		BM.76 / 64 J	10·0	G.T.S. □ B.M. at Ghutku Railway Station. Embedded 6 inches below level of platform, at centre of S.S.E. side of station building, 18 feet from each of the two corners, 10 feet from E.N.E. corner of S.S.E. arch of front verandah, and 1 foot from wall. The letters B.M. are cut on S.S.E. face of building.	937·017	937·131
6		BM.77 / 64 J	10·0	G.T.S. ○ B.M. On platform coping opposite booking office at Ghutku railway station.	937·458	937·572
7		BM.78 / 64 J	10·0	G.T.S. ○ B.M. On coping at N. N.W. end of platform at Ghutku railway station.	937·542	937·656
8		BM.79 / 64 J	10·6	G.T.S. ○ B.M. On base of N. N.W. distant signal at Ghutku railway station.	938·846	938·960
9		BM.80 / 64 J	11·3	G.T.S. ○ B.M. On coping at W. end of S. abutment of bridge No. 5, between telegraph posts Nos. $\frac{267}{2}$ and $\frac{267}{3}$.	946·204	946·318
10		BM.81 / 64 J	11·8	G.T.S. ○ B.M. On coping at W. end of S. abutment of bridge No. 6, between telegraph posts Nos. $\frac{267}{11}$ and $\frac{267}{12}$.	946·200	946·314

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks			Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
11		BM.82 / 64 J	12·5	G.T.S. ○ B.M. On coping at W. end of S. abutment of bridge No. 7, between telegraph posts Nos. 268/5 and 268/6.	953·956	954·070
12		BM.83 / 64 J	14·2	G.T.S. ○ B.M. On coping at W. end of S. abutment of bridge No. 8, near telegraph post No. 269/18, and 1 chain S. of mile-post No. 270 from Nagpur.	967·896	968·010
13		BM.84 / 64 J	15·2	G.T.S. ○ B.M. On coping at W. end of N. abutment of bridge No. 9, between telegraph posts Nos. 270/17 and 270/18.	978·506	978·621
14		BM.85 / 64 J	15·7	G.T.S. ○ B.M. On coping at W. end of N. abutment of bridge No. 10, near telegraph post No. 271/9.	978·931	979·046
15		BM.86 / 64 J	17·3	G.T.S. ○ B.M. On coping at W. end of S. abutment of bridge No. 11, near telegraph post No. 273/3.	992·027	992·142
16		BM.87 / 64 J	18·2	G.T.S. ○ B.M. On coping at W. end of S. abutment of bridge No. 12, near telegraph post No. 274/1, and 2 chains N. of mile-post No. 274 from Nagpur.	1010·473	1010·589
17		BM.88 / 64 J	19·2	G.T.S. ○ B.M. On coping at S.W. end of S.E. abutment of bridge No. 13, near E. distant signal of Kota railway station, at mile-post No. 275 from Nagpur.	1042·592	1042·711
18		BM.89 / 64 J	19·4	G.T.S. ○ B.M. On coping at S.W. end of S.E. abutment of bridge No. 14, near telegraph post No. 275/5.	1047·781	1047·900
19		BM.90 / 64 J	19·7	G.T.S. ○ B.M. On coping at S.E. end of platform at Kota railway station.	1050·958	1051·078
20		BM.91 / 64 J	19·8	G.T.S. □ B.M. at Kota Railway Station. Embedded 13 inches below level of station platform, at S.E. side of station building, 7 and 21 feet respectively from E. and S. corners of building, 11 feet from N.E. corner of S.E. arch of front verandah, 2 feet from wall, and 21 feet from home semaphore. The letters B.M. are cut on S.E. face of building.	1050·498	1050·618
	1/20	BM.92 / 64 J	22·8	On top of protecting pillar of Dalea G.T. Survey Hill Station, lat. 22° 19′ 33″·62, long. 82° 1′ 31″·25. A principal station of Bilaspur Meridional Series. (For full description *see* Synoptical Volume).	1629·471	1629·657
21		BM.93 / 64 J	19·8	G.T.S. ○ B.M. On platform coping in front of booking office at Kota railway station.	1051·077	1051·197

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks		Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
22	BM.94 / 64 J	19·9	G.T.S. ○ B.M. On platform coping at N.W. end at Kota railway station.	1051·198	1051·318
23	BM.95 / 64 J	20·1	G.T.S. ○ B.M. On S.W. end of S.E. abutment of drain No. 15, near telegraph post No. 275/16.	1052·645	1052·765
a/23	BM.96 / 64 J	21·6	G.T.S. ○ B.M. On plinth at N. corner of railway gangmen's quarters No. 8, near level crossing No. 18, and between telegraph posts Nos. 277/6 and 277/7.	1084·100	1084·224
24	BM.97 / 64 J	22·0	G.T.S. ○ B.M. On coping at W. end of N. abutment of bridge No. 16, near telegraph post No. 277/15.	1080·092	1080·213
25	BM.98 / 64 J	23·2	G.T.S. ○ B.M. On coping at W. end of N. abutment of bridge No. 17, near telegraph post No. 278/18.	1087·729	1087·850
26	BM.99 / 64 J	23·9	G.T.S. ○ B.M. On coping at W. end of N. abutment of bridge No. 18, near telegraph post No. 279/14.	1077·067	1077·185
27	BM.100 / 64 J	24·4	G.T.S. ○ B.M. On coping at W. end of N. abutment of bridge No. 19, between telegraph posts Nos. 280/4 and 280/5.	1079·147	1079·266
28	BM.101 / 64 J	25·8	G.T.S. ○ B.M. On coping at W. end of S. abutment of bridge No. 20 over Gaila nala, between telegraph posts Nos. 281/11 and 281/12.	1053·367	1053·481
29	BM.102 / 64 J	27·3	G.T.S. ○ B.M. On coping at W. end of N. abutment of bridge No. 22 over Raila nala, near telegraph post No. 283/3.	1078·528	1078·643
30	BM.103 / 64 J	28·0	G.T.S. ○ B.M. On W. pilaster cap of N. abutment of bridge No. 23 over Pathri nala, near telegraph post No. 283/15.	1080·146	1080·260
31	BM.104 / 64 J	28·7	G.T.S. ○ B.M. On W. pilaster cap of S. abutment of bridge No. 24 over Ama nala, near telegraph post No. 284/10.	1089·866	1089·982
32	BM.105 / 64 J	29·5	G.T.S. ○ B.M. On platform coping at S. end of Belghana railway station.	1086·723	1086·837

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks		Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
33	BM.106 / 64 J	29·5	G.T.S. □ B.M. at Belghana Railway Station. Embedded 7 inches below level of station platform, at S. side of station building, 14 feet from S.E corner of verandah, 22 feet from S.W. corner of building, 2 feet from wall, and 20 feet N.W. of home semaphore. The letters B.M. are cut on S. face of building.	1086·614	1086·728
34	BM.107 / 64 J	29·6	G.T.S. ○ B.M. On platform coping at N. end of Belghana railway station.	1086·783	1086·897
35	BM 108 / 64 J	30·1	G.T.S. ○ B.M. On W. pilaster cap of N. abutment of bridge No. 26 over Donga nala, between telegraph posts Nos. $\frac{285}{16}$ and $\frac{285}{17}$.	1086·531	1086·644
36	BM.109 / 64 J	31·3	G.T.S. ○ B.M. On W. pilaster cap of N. abutment of bridge No. 27 over Lupa nala, between telegraph posts Nos. $\frac{287}{1}$ and $\frac{287}{2}$.	1099·357	1099·470
37	BM.110 / 64 J	31·9	G.T.S. ○ B.M. On W. pilaster cap of S. abutment of bridge No. 28, near telegraph post No. $\frac{287}{12}$.	1105·699	1105·813
38	BM.111 / 64 J	32·8	G.T.S. ○ B.M. On W. pilaster cap of N. abutment of bridge No. 29, near telegraph post No. $\frac{288}{12}$.	1123·360	1123·475
39	BM.112 / 64 J	33·7	G.T.S. ○ B.M. On S.W. pilaster cap of S.E. abutment of bridge No. 30, near telegraph post No. $\frac{289}{10}$.	1141·550	1141·666
40	BM.113 / 64 J	34·4	G.T.S. ○ B.M. On S.W. pilaster cap of N.W. abutment of bridge No. 31, near telegraph post No. $\frac{290}{3}$.	1158·466	1158·583
41	BM.114 / 64 J	35·3	G.T.S. ○ B.M. On S.W. pilaster cap of N.W. abutment of bridge No. 32, near telegraph post No. $\frac{291}{2}$.	1190·182	1190·302
42	BM.1 / 64 F	36·1	G.T.S. ○ B.M. On S.W. pilaster cap of S.E. abutment of bridge No. 33, near telegraph post No. $\frac{291}{16}$.	1190·260	1190·379
43	BM.2 / 64 F	36·6	G.T S. ○ B.M. On S.E. pilaster cap of N.W. abutment of bridge No. 34, near telegraph post No. $\frac{292}{7}$.	1200·311	1200·430
44	BM.3 / 64 F	37·0	G.T.S. ○ B.M. On W. pilaster cap of S. abutment of bridge No. 35, near telegraph post No. $\frac{292}{15}$.	1192·937	1193·055

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks		Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
45	BM.4 / 64 F	37·8	G.T.S. ○ B.M. On S.W. pilaster cap of S.E. abutment of bridge No. 36 over Suknai nala, near telegraph post No. 293/11.	1176·644	1176·761
46	BM.5 / 64 F	39·0	G.T.S. ○ B.M. On S.W. pilaster cap of N.W. abutment of bridge No. 37, near telegraph post No. 294/15.	1207·591	1207·709
47	BM.6 / 64 F	39·4	G.T.S. ○ B.M. On S. pilaster cap of W. abutment of bridge No. 38, near telegraph post No. 295/4.	1212·546	1212·665
48	BM.7 / 64 F	40·1	G.T.S. ○ B.M. On S. pilaster cap of E. abutment of bridge No. 40 over Sagor nala, near telegraph post No. 295/18, 1 chain E. of mile-post No. 296, and near E. distant signal of Khongsara railway station.	1210·994	1211·113
49	BM.8 / 64 F	40·8	G.T.S. ○ B.M. On platform coping at E. end of Khongsara railway station.	1218·520	1218·638
50	BM.9 / 64 F	40·8	G.T.S. □ B.M. at Khongsara Railway Station. Embedded 5 inches below level of station platform, on E. side of station building, 13 and 21 feet respectively from N.E. and S.E. corners, 2 feet from wall, 20 feet S W. of home semaphore, and 18 feet W. of water tap. The letters B.M. are cut on E. face of building.	1219·067	1219·185
51	BM.10 / 64 F	40·8	G.T S. ○ B.M. On platform coping opposite centre of station building at Khongsara railway station.	1218·506	1218·624
52	BM.11 / 64 F	40·9	G.T.S. ○ B.M. On platform coping at W. end of Khongsara railway station.	1218·533	1218·651
53	BM.12 / 64 F	42·8	B.M. On S.W. pilaster cap of S.E. abutment of bridge No. 41, near telegraph post No. 298/11. (Railway bench-mark).	1218·319	1218·437
54	BM.13 / 64 F	43·5	B.M. On W. pilaster cap of S. abutment of bridge No. 43 over Matinara nala, near telegraph post No. 299/7. (Railway bench-mark).	1232·265	1232·383
55	BM.14 / 64 F	45·3	B.M. On coping at S. end of E. abutment of bridge No. 44, between telegraph posts Nos. 301/2 and 301/3. (Railway bench-mark).	1320·914	1321·039
56	BM.15 / 64 F	45·8	B.M. On W. pilaster cap of S. abutment of bridge No. 45 over Anjnai nala, between telegraph posts Nos. 301/11 and 301/12. (Railway bench-mark).	1347·841	1347·969

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks		Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
57	BM.16 / 64 F	46·8	⩚B.M. On N.W. pilaster cap of S.W. abutment of bridge No. 47, near telegraph post No. 302/12. (Railway bench-mark).	1400·909	1401·041
58	BM.17 / 64 F	49·3	⩚B.M. On W. pilaster cap of S. abutment of bridge No. 49, near telegraph post No. 305/2, and about 6 chains N.N.W. of mile-post No. 305. (Railway bench-mark).	1511·379	1511·521
59	BM.18 / 64 F	49·5	B.M. ⩚ On N.W. pilaster cap of S.W. abutment of bridge No. 50, near telegraph post No. 305/7. (Railway bench-mark).	1521·859	1522·002
60	BM.19 / 64 F	49·7	B.M. ⩚ On N. pilaster cap of W. abutment of bridge No. 51, between telegraph posts Nos. 305/11 and 305/12. (Railway bench-mark).	1534·069	1534·213
61	BM.20 / 64 F	50·4	G.T.S. ○ B.M. On coping at N.W. end of S.W. abutment of bridge No. 52, near telegraph post No. 306/5.	1575·160	1575·306
62	BM 21 / 64 F	51·0	G.T.S. ○ B.M. On N.E. corner of E. drain, 141 feet N. of N. opening of Khodri tunnel, and 7 feet E. of railway line.	1596·277	1596·425
63	BM 22 / 64 F	51·4	⩚B.M. On N.N.W. pilaster cap of W.S.W. abutment of bridge No. 57, near telegraph post No. 307/1. (Railway bench-mark).	1619·050	1619·201
64	BM.23 / 64 F	51·7	G.T.S. ○ B.M. On S.E. pilaster cap of N.E. abutment of bridge No. 58, between telegraph posts Nos. 307/6 and 307/7.	1636·037	1636·189
65	BM.24 / 64 F	53·8	B.○M. On rock *in situ* on W. margin of railway line, in the cutting, 4 chains N. of gangmen's quarters No. 19, and 36 chains S. of mile-post No. 310.	1746·978	1747·137
66	BM.25 / 64 F	54·0	B.⩚M. On coping at N.W. end of S W. abutment of culvert No. 61, near telegraph post No. 309/15. (Railway bench-mark).	1756·497	1756·657
67	BM.26 / 64 F	55·1	⩚B.M. On coping at S.W. end of S.E. abutment of bridge No. 63, near telegraph post No. 310/15. (Railway bench-mark).	1813·755	1813·918
68	BM.27 / 64 F	55·5	G.T.S. ○ B.M. On platform coping at S.E. end of Khodri railway station.	1818·028	1818·192

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks		Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
69	BM.28 / 64 F	55·5	G.T.S. □ B.M. at Khodri Railway Station. Embedded 6 inches below level of platform at S.E. side of station building, 14 and 21 feet respectively from E. and S. corners, 2 feet from wall, 20 feet S.W. of home semaphore, and 25 feet from water tap. The letters B.M. are cut on S.E. face of building.	1818·478	1818·642
70	BM.29 / 64 F	55·5	G.T.S. ○ B.M. On platform coping opposite third class waiting room at Khodri railway station.	1818·326	1818·490
71	BM.30 / 64 F	55·6	G.T.S. ○ B.M. On platform coping at N.W. end of Khodri railway station.	1818·576	1818·740
72	BM.31 / 64 F	55·8	⩚ B.M. On S.W. pilaster cap of S.E. abutment of bridge No. 66 over Malania nala, near telegraph post No. $\frac{311}{10}$. (Railway bench-mark).	1819·596	1819·760
73	BM.32 / 64 F	56·9	G.T.S. ○ B.M. On W.S.W. pilaster cap of S.S.E. abutment of bridge No. 68, between telegraph posts Nos. $\frac{312}{11}$ and $\frac{312}{12}$.	1848·313	1848·477
74	BM.33 / 64 F	57·9	G.T.S. ○ B.M. On S.W. pilaster cap of N.W. abutment of bridge No. 69, near telegraph post No. $\frac{313}{13}$.	1882·209	1882·376
75	BM.34 / 64 F	58·5	G.T.S. ○ B.M. On S.W. pilaster cap of S.E. abutment of bridge No. 70, near telegraph post No. $\frac{314}{4}$.	1889·391	1889·557
76	BM.35 / 64 F	59·3	G.T.S. ○ B.M. On W. pilaster cap of S. abutment of bridge No. 71, near telegraph post No. $\frac{314}{17}$, and 1 chain N. of mile-post No. 315 from Nagpur.	1919·992	1920·159
77	BM.36 / 64 F	60·5	G.T.S. ○ B.M. On W. pilaster cap of S. abutment of bridge No. 73, near telegraph post No. $\frac{316}{5}$.	1954·274	1954·442
78	BM.37 / 64 F	62·6	G.T.S. ○ B.M. On platform coping at S. end of Pendra Road railway station.	2028·906	2029·076
79	BM.38 / 64 F	62·6	G.T.S. □ B.M. at Pendra Road Railway Station. Embedded 6 inches below level of platform on S. side of station building, 2 feet from wall, and 17 feet from each of the two corners. The letters B.M. are cut on S. face of building.	2029·221	2029·391
80	BM.39 / 64 F	62·6	G.T.S. ○ B.M. On platform coping opposite booking office at Pendra Road railway station.	2028·990	2029·160
81	BM.40 / 64 F	62·7	G.T.S. ○ B.M. On platform coping at N. end of Pendra Road railway station.	2028·897	2029·067
82	BM.41 / 64 F	63·2	G.T.S. ○ B.M. On base of N. distant signal at Pendra Road railway station.	2019·675	2019·845

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks			Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
83		BM.42 / 64 F	64·4	G.T.S. ○ B.M. On W. pilaster cap of N. abutment of bridge No. 75, between telegraph posts Nos. $\frac{320}{2}$ and $\frac{320}{3}$.	1977·340	1977·504
84		BM.43 / 64 F	66·7	G.T.S. ○ B.M. On W. parapet wall of S. abutment of bridge No. 76, near telegraph post No. $\frac{322}{8}$.	1946·759	1946·917
85		BM.44 / 64 F	69·0	G.T.S. ○ B.M. On W. parapet wall of S. abutment of bridge No. 77, near level crossing No. 39, and between telegraph posts Nos. $\frac{324}{14}$ and $\frac{324}{15}$.	1904·021	1904·170
86		BM.45 / 64 F	70·4	G.T.S. ○ B.M. On coping at W. end of N. abutment of bridge No. 78, near telegraph post No. $\frac{326}{3}$.	1862·205	1862·348
87		BM.46 / 64 F	74·2	G.T.S. ○ B.M. On platform coping at S. end of Khairi railway station.	1795·402	1795·533
88		BM.47 / 64 F	74·3	G.T.S. ○ B.M. On platform coping opposite booking office at Khairi railway station.	1795·282	1795·413
	a / 88	BM.48 / 64 F	74·3	G.T.S. □ B.M. at Khairi Railway Station. Embedded a few inches below level of platform at S. side of station building, 2 feet from wall, 14 and 21 feet respectively from S.W. and S.E. corners, and 32 feet from mile-post No. 330 from Nagpur. The letters B.M. are cut on S. face of building.	1794·975	1795·106
89		BM.49 / 64 F	74·3	G.T.S. ○ B.M. On platform coping at N. end of Khairi railway station.	1795·053	1795·184
90		BM.50 / 64 F	74·9	G.T.S. ○ B.M. On base of N. distant signal at Khairi railway station.	1787·023	1787·152
91		BM.51 / 64 F	76·8	G.T.S. ○ B.M. On coping of S.E. wing wall of N.E. abutment of bridge No. 81, near telegraph post No. $\frac{332}{10}$.	1739·810	1739·932
92		BM.52 / 64 F	77·7	G.T.S. ○ B.M. On W. pilaster cap of N. abutment of bridge No. 82, near telegraph post No. $\frac{333}{9}$.	1762·681	1762·803
93		BM.53 / 64 F	78·4	G.T.S. ○ B.M. On W. pilaster cap of S. abutment of bridge No. 83, near telegraph post No. $\frac{334}{3}$.	1762·572	1762·694
94		BM.54 / 64 F	79·3	G.T.S. ○ B.M. On W. pilaster cap of N. abutment of bridge No. 84, near telegraph post No. $\frac{335}{1}$, and 1 chain S. of mile-post No. 335 from Nagpur.	1770·420	1770·540
95		BM.1 / 64 E	80·1	G.T.S. ○ B.M. On S.W. pilaster cap of N.W. abutment of bridge No. 85, near telegraph post No. $\frac{335}{14}$.	1748·951	1749·068

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks		Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
96	BM.2 / 64 E	80·5	G.T.S. ○ B.M. On S.W. pilaster cap of N.W. abutment of bridge No. 86, between telegraph posts Nos. 336/5 and 336/6.	1736·758	1736·874
97	BM.3 / 64 E	81·5	G.T.S. ○ B.M. On S.W. pilaster cap of N.W. abutment of bridge No. 87, between telegraph posts Nos. 337/4 and 337/5.	1737·402	1737·517
98	BM.4 / 64 E	82·8	G.T.S. ○ B.M. On coping at S.S.W. end of E.S.E. abutment of bridge No. 88, near telegraph post No. 338/11.	1735·449	1735·564
99	BM.5 / 64 E	84·6	G.T.S. ○ B.M. On S.S.W. pilaster cap of E.S.E. abutment of bridge No. 90, near telegraph post No. 340/7.	1690·861	1690·971
100	BM 6 / 64 E	85·1	G T.S. ○ B.M. On platform coping opposite station building at Jaithari railway station.	1690·562	1690·672
a/100	BM.7 / 64 E	85·1	G.T.S. □ B.M. at Jaithari Railway Station. Embedded 6 inches below level of platform at S.E. side of station building, 2 feet from wall, 13 feet from each of the two corners, and 22 feet from S. corner pillar of verandah. The letters B.M. are cut on S.E. face of building.	1690·879	1690·989
101	BM.8 / 64 E	85·7	G.T.S. ○ B M. On base of N.W. distant signal at Jaithari railway station.	1679·640	1679·749
102	BM.9 / 64 E	92·5	G.T.S. ○ B.M. On N. wing wall of E. abutment of bridge No. 91, near telegraph post No. 348/6.	1561·458	1561·552
103	BM.10 / 64 E	93·6	G.T.S. ○ B.M. On platform coping, near E. end of Anuppur railway station.	1585·997	1586·092
104	BM 11 / 64 E	93·6	G.T S. ○ B.M. On platform coping opposite station building at Anuppur railway station.	1586·060	1586·155
a/104	BM.12 / 64 E	93·7	G T.S. □ B M. at Anuppur Railway Station. Embedded 6 inches below level of platform at E. side of station building, 2 feet from wall, and 18 feet from each of the two corners. The letters B.M. are cut on E. face of building.	1586·000	1586·095
1a/104	BM 13 / 64 E	103·3	On top of protecting pillar of Bhalua G T. Survey Hill Station, lat. 23° 13′ 59″·75, long. 81° 39′ 33″·07. A principal station of Bilaspur Meridional Series. (For full description *see* Synoptical Volume).	1728·741	1728·845
105	BM.14 / 64 E	93·9	G T.S. ○ B.M. On coping at N. end of E. abutment of bridge No. 92, near level crossing No. 56, and between telegraph posts Nos. 349/12 and 349/13.	1585·376	1585·471
106	BM.15 / 64 E	94·3	G T.S ○ B.M. On coping at N. end of W. abutment of bridge No. 93 over Chandas nadi, near telegraph post No. 350/3.	1582·026	1582·121

Main-Line 58. (Bilaspur to Katni).

Designation of Bench marks			Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
	a/106	BM 16/64 E	*miles* 96·0	G.T.S. ○ B.M. On coping at N.E. end of S.E. abutment of bridge No. 94 over Bakan nadi, near telegraph post No. 351/15.	*feet* 1587·483	*feet* 1587·578
107		BM 17/64 E	97·0	G.T.S. ○ B.M. On coping at N.N.E. end of E.S.E. abutment of drain No. 95, near telegraph post No. 352/14.	1615·188	1615·283
108		BM 18/64 E	97·9	G.T.S. ○ B.M. On N.N.E. parapet of W.N.W. abutment of bridge No. 96 over Suthna nadi, near telegraph post No. 353/13.	1586·763	1586·855
109		BM 19/64 E	99·2	G.T.S. ○ B.M. On N.N.E. pilaster cap of E.S.E. abutment of bridge No. 97, between telegraph posts Nos. 354/18 and 355/1, near mile-post No. 355 from Nagpur.	1616·765	1616·859
110		BM 20/64 E	100·0	G.T.S. ○ B.M. On N.E. pilaster cap of N.W. abutment of bridge No. 98, near telegraph post No. 355/15.	1622·042	1622·134
111		BM 21/64 E	101·1	G.T.S. ○ B.M. On N.E. pilaster cap of S.E. abutment of bridge No. 99, near telegraph post No. 356/17.	1616·071	1616·163
112		BM 22/64 E	102·5	G.T.S. ○ B.M. On coping at N.E. end of S.E. abutment of bridge No. 99A, near telegraph post No. 358/6.	1586·383	1586·472
113		BM 23/64 E	103·2	G.T.S. ○ B.M. On N.E. pilaster cap of S.E. abutment of bridge No. 100, between telegraph posts Nos. 359/2 and 359/3.	1567·195	1567·281
114		BM.24/64 E	103·6	G.T.S. ⊙ B.M. On centre of coping on N.E. side of bridge No. 101, near telegraph post No. 359/9. (Railway bench-mark).	1555·645	1555·731
115		BM.25/64 E	104·6	G.T.S. ○ B.M. On coping at N. end of W. abutment of bridge No. 102 over Bagcha nadi, near telegraph post No. 360/9.	1532·912	1532·995
116		BM.26/64 E	105·6	G.T.S. ○ B.M. On N. pilaster cap of E. abutment of bridge No. 103, near telegraph post No. 361/9.	1565·427	1565·512

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks		Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
117	BM.27 64 E	106·9	G T S. —O— ∧ B.M. On coping of platform, 65 feet S of E corner of Burhar railway station, and 52 feet from B.M. No. 118. (Railway bench-mark).	1591·669	1591·755
118	BM 28 64 E	106·9	G T S. □ B.M. at Burhar Railway Station. Embedded 6 inches below level of platform at S E. side of station building, 2 feet from wall, 13 feet from each of the two corners and 23 feet from S.E. wooden post of verandah. The letters B.M. are cut on S.E. face of building.	1591·772	1591·858
119	BM 29 64 E	106·9	G T S. ∧ B | | M. On platform coping opposite station building at Burhar railway station. (Railway bench-mark).	1591·660	1591·746
120	BM 30 64 E	107·2	G.T S. O B.M. On N.N E. pilaster cap of E S.E. abutment of bridge No. 101, near telegraph post No. $\frac{363}{1}$.	1591·129	1591·215
121	BM.31 64 E	108·8	G T.S. O B.M. On coping at N.E. end of N.W. abutment of bridge No. 105, between telegraph posts Nos. $\frac{364}{11}$ and $\frac{364}{12}$.	1543·364	1543·444
122	BM 32 64 E	109·0	G T S. O B.M. On coping at N.E. end of N.W. abutment of bridge No. 106, near telegraph post No. $\frac{364}{15}$.	1535·849	1535·929
123	BM 33 64 E	110·0	G T S. B ∧ M. On N. parapet of W. abutment of bridge No. 107, between telegraph posts Nos. $\frac{365}{15}$ and $\frac{365}{16}$. (Railway bench-mark).	1502·427	1502·505
124	BM 34 64 E	110·7	G T.S. B ∧ M. On N E. parapet of N.W. abutment of bridge No. 108 over Sarpa nala, near telegraph post No. $\frac{366}{11}$. (Railway bench-mark).	1494·846	1494·922
125	BM 35 64 E	111·3	G.T S. O B.M. On N. pilaster cap of W. abutment of bridge No. 109, near telegraph post No. $\frac{367}{4}$.	1514·649	1514·726
126	BM 36 64 E	111·8	G.T.S. O B.M. On N. pilaster cap of W. abutment of bridge No. 110, near telegraph post No. $\frac{367}{12}$.	1530·421	1530·499
127	BM.37 64 E	112·7	G.T.S. O B.M. On N. pilaster cap of E. abutment of bridge No. 111, near telegraph post No. $\frac{368}{10}$.	1563·187	1563·267

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks		Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
128	BM 38 / 64 E	114·7	G.T.S. ⊙ B.M. On coping at N.E. end of N.W. abutment of bridge No. 112, between telegraph posts Nos. $\frac{370}{11}$ and $\frac{370}{12}$. (Railway bench-mark).	1612·010	1612·091
129	BM 39 / 64 E	118·1	G.T.S. No ⊙ 11 B.M. On stone cap at E.N.E. end of N.N.W. abutment of bridge No. 113 at mile-post No. 374. (Railway bench-mark).	1531·467	1531·542
130	BM 40 / 64 E	118·5	G.T.S. ⊙ B.M. On S.W. pilaster cap of N.W. abutment of bridge No. 114, near telegraph post No. $\frac{374}{18}$, and 2 chains W. of S.E. distant signal of Sahdol railway station.	1526·549	1526·624
131	BM 41 / 64 E	119·0	G.T.S. □ B.M. at Sahdol Railway Station. Embedded 7 inches below level of platform at S.E. side of station building, 2 feet from wall, and 18 feet from each of the two corners. The letters B.M. are cut on S.E. face of building.	1518·278	1518·352
132	BM 42 / 64 E	120·1	G.T.S. ⊙ B.M. On coping at N. end of W. abutment of bridge No. 116, near telegraph post No. $\frac{375}{20}$, and at mile-post No. 376 from Nagpur.	1499·311	1499·383
133	BM 43 / 64 E	120·9	G.T.S. ⊙ B.M. On coping at N. end of E. abutment of bridge No. 117, near telegraph post No. $\frac{376}{13}$.	1503·898	1503·970
134	BM 44 / 64 E	121·4	G.T.S. ⊙ B.M. On coping at N.N.E. end of W.N.W. abutment of bridge No. 118 over Anrar nala, near telegraph post No. $\frac{377}{8}$.	1498·375	1498·447
135	BM 45 / 64 E	121·9	G.T.S. ⊙ B.M. On N.N.E. pilaster cap of W.N.W. abutment of bridge No. 119, near telegraph post No. $\frac{377}{15}$.	1493·429	1493·501
136	BM 46 / 64 E	122·9	G.T.S. ⊙ B.M. On N.E. parapet of drain No. 120, near telegraph post No. $\frac{378}{10}$.	1528·494	1528·567
137	BM 47 / 64 E	123·1	G.T.S. ⊙ B.M. On N. pilaster cap of W. abutment of bridge No. 121, near telegraph post No. $\frac{379}{1}$, and 3 chains W. of mile-post No. 379 from Nagpur.	1529·088	1529·161
138	BM 48 / 64 E	124·0	G.T.S. No ⊙ 12 B.M. On N. pilaster cap of W. abutment of bridge No. 122, between telegraph posts Nos. $\frac{379}{16}$ and $\frac{379}{17}$, and about 6 chains E. of mile-post No. 380 from Nagpur. (Railway bench-mark).	1544·602	1544·676

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks		Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
139	BM.49 / 64 E	124·7	G.T.S. ○ B.M. On coping at N.N.W. end of W S.W. abutment of bridge No. 124, near telegraph post No $\frac{380}{11}$.	1552·046	1552·120
140	BM 50 / 64 E	125·1	G.T.S. ○ B.M. On coping at N.N.W. end of W.S.W. abutment of culvert No. 125, between telegraph posts Nos. $\frac{380}{18}$ and $\frac{381}{1}$ and about 2 chains W.S.W. of mile-post No. 381 from Nagpur.	1573·804	1573·880
141	BM 51 / 64 E	126·1	G.T.S. ○ B.M. On coping at N.E. end of N.W. abutment of bridge No. 127, near telegraph post No. $\frac{382}{1}$, and 2 chains N.W. of mile-post No. 382 from Nagpur.	1589·099	1589·177
142	BM 52 / 64 E	126·3	G.T.S. ○ B.M. On E.N.E. pilaster cap of S.S.E. abutment of bridge No. 128 over Basar nala, between telegraph posts Nos. $\frac{382}{5}$ and $\frac{382}{6}$.	1579·511	1579·588
143	BM 53 / 64 E	127·1	G.T.S. ○ B.M. On N.N.E. cap of W.N.W. abutment of bridge No. 129, near telegraph post No. $\frac{383}{2}$.	1610·952	1611·029
144	BM 54 / 64 E	128·0	G.T.S. ○ B.M. On E.N.E. pilaster cap of S S E. abutment of bridge No. 130, about 2 chains S. S.E. of mile-post No. 384 from Nagpur.	1621·294	1621·372
145	BM 55 / 64 E	128·4	G.T.S. ○ B.M. On coping at N.E. end of N.W. abutment of bridge No. 131, near telegraph post No. $\frac{384}{9}$.	1642·414	1642·493
a 145	BM.56 / 64 E	129·1	G.T.S. ○ B.M. On E.N.E. pilaster cap of N.N.W. abutment of bridge No. 132, near telegraph post No. $\frac{384}{16}$.	1657·451	1657·531
146	BM.57 / 64 E	129·1	G.T.S. ○ B.M. On N.N.E. pilaster cap of W.N.W. abutment of bridge No. 133, near telegraph post No. $\frac{385}{2}$.	1673·347	1673·426
147	BM 58 / 64 E	129·4	G.T.S. ○ B.M. On N.N.E. pilaster cap of W.N.W. abutment of culvert No. 134, near telegraph post No. $\frac{385}{8}$.	1692·179	1692·259
148	BM.59 / 64 E	129·8	G.T.S. ○ B.M. On N. pilaster cap of W. abutment of bridge No. 135, between telegraph posts Nos. $\frac{385}{13}$ and $\frac{385}{14}$.	1709·761	1709·841

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks			Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
149		BM.60 / 64 E	130·2	G.T.S. ○ B.M. On coping at N. end of W. abutment of bridge No. 136, between telegraph posts Nos. 386/3 and 386/4.	1732·663	1732·743
150		BM.61 / 64 E	130·9	G.T.S. ○ B.M. On N.E. pilaster cap of N.W. abutment of bridge No. 137, between telegraph posts Nos. 386/16 and 386/17.	1717·073	1717·152
151		BM.62 / 64 E	131·8	G.T.S. ○ B.M. On N.E. pilaster cap of N.W. abutment of bridge No. 138, near telegraph post No. 387/13.	1690·084	1690·160
152		BM.63 / 64 E	132·0	G.T.S. ○ B.M. On platform coping in front of centre of station building at Ghunghuti railway station.	1690·487	1690·563
	a / 152	BM.64 / 64 E	132·0	G.T.S. □ B.M. at Ghunghuti Railway Station. Embedded 6 inches below level of platform at S.E. side of station building, 2 feet from wall, and 14 feet from each of the two corners. The letters B.M. are cut on S.E. face of building.	1690·452	1690·528
153		BM.65 / 64 E	132·2	G.T.S. ○ B.M. On S.W. pilaster cap of N.W. abutment of bridge No. 140, near telegraph post No. 388/5.	1689·435	1689·511
154		BM.66 / 64 E	132·6	G.T.S. ○ B.M. On S.W. pilaster cap of N.W. abutment of bridge No. 141, near telegraph post No. 388/11.	1681·857	1681·931
155		BM.67 / 64 E	132·9	G.T.S. ○ B.M. On S.W. pilaster cap of S.E. abutment of bridge No. 142, near telegraph post No. 388/16.	1675·211	1675·285
156		BM.68 / 64 E	133·2	G.T.S. ○ B.M. On N.E. pilaster cap of N.W. abutment of bridge No. 143, near telegraph post No. 389/5.	1680·229	1680·303
157		BM.69 / 64 E	133·6	G.T.S. ○ B.M. On N.E. pilaster cap of N.W. abutment of bridge No. 144, near telegraph post No. 389/12.	1695·024	1695·099
158		BM.70 / 64 E	134·5	G.T.S. ○ B.M. On N. pilaster cap of W. abutment of bridge No. 145, near telegraph post No. 390/9.	1665·248	1665·320
159		BM.71 / 64 E	134·8	G.T.S. ○ B.M. On N. wing wall of W. abutment of bridge No. 146, near telegraph post No. 390/15.	1655·873	1655·944

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks		Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
160	BM.72 / 64 E	135·2	G.T.S. ○ B.M. On coping at N.W. end of S.W. abutment of bridge No. 147, between telegraph posts Nos. $\frac{391}{6}$ and $\frac{391}{7}$.	1646·864	1646·936
161	BM.73 / 64 E	136·4	G.T.S. ▽ ○ B.M. On N. pilaster cap of W. abutment of bridge No. 148, between telegraph posts Nos. $\frac{392}{10}$ and $\frac{392}{11}$. (Railway bench-mark).	1614·269	1614·340
162	BM.74 / 64 E	136·6	G.T.S. ○ B.M. On coping at S. end of E. abutment of bridge No. 149, between telegraph posts Nos. $\frac{392}{13}$ and $\frac{392}{14}$.	1606·947	1607·018
163	BM.75 / 64 E	137·7	G.T.S. ○ B.M. On coping at N.W. end of S.W. abutment of bridge No. 151, near telegraph post No. $\frac{393}{16}$.	1567·065	1567·132
164	BM.76 / 64 E	138·3	G.T.S. ○ B.M. On N.N.E. pilaster cap of W. N.W. abutment of bridge No. 152, between telegraph posts Nos. $\frac{394}{6}$ and $\frac{394}{7}$.	1541·136	1541·202
165	BM.77 / 64 E	139·4	G.T.S. ○ B.M. On N.W. pilaster cap of S.W. abutment of bridge No. 153, near telegraph post No. $\frac{395}{10}$.	1522·206	1522·271
166	BM.78 / 64 E	142·0	G.T.S. ○ B.M. On platform coping opposite centre of station building at Birsinghpur railway station.	1509·790	1509·855
a / 166	BM.79 / 64 E	142·1	G.T.S. □ B.M. at Birsinghpur Railway Station. Embedded 6 inches below level of platform at E. side of station building, 2 feet from wall, and 18 feet from each of the two corners. The letters B.M. are cut on E. face of building.	1510·314	1510·379
167	BM.80 / 64 E	144·0	G.T.S. ○ B.M. On coping at S.W. end of S.E. abutment of bridge No. 155A, near telegraph post No. $\frac{400}{2}$.	1467·624	1467·686
168	BM.81 / 64 E	144·5	G.T.S. ○ B.M. On coping at S.S.W. end of E.S.E. abutment of bridge No. 156, near telegraph post No. $\frac{400}{10}$.	1452·498	1452·559
169	BM.82 / 64 E	144·7	G.T.S. ○ B.M. On N. end of W. pier of bridge No. 157 over Johila river, near telegraph post No. $\frac{400}{16}$.	1444·889	1444·950

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks		Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
170	BM.83 / 64 E	145·0	G.T.S. ○ B.M. On S.S.W. pilaster cap of E.S.E. abutment of bridge No. 158, between telegraph posts Nos. $\frac{401}{2}$ and $\frac{401}{3}$.	1456·813	1456·874
171	BM.1 / 64 A	145·6	G.T.S. ○ B.M. On S.S.W. pilaster cap of E.S.E. abutment of bridge No. 159, between telegraph posts Nos. $\frac{401}{13}$ and $\frac{401}{14}$.	1479·881	1479·943
172	BM.2 / 64 A	146·8	G.T.S. ○ B.M. On coping at S.S.W. end of E S.E. abutment of bridge No. 160, near telegraph post No. $\frac{402}{5}$.	1484·374	1484·435
173	BM.3 / 64 A	147·5	G.T.S. ○ B.M. On W.S.W. pilaster cap of S.S.E. abutment of bridge No. 161, between telegraph posts Nos. $\frac{403}{12}$ and $\frac{403}{13}$.	1459·305	1459·365
174	BM.4 / 64 A	147·8	G.T.S. ○ B.M. On E.N.E. wing wall of N.N.W. abutment of bridge over Gurchhatar nala, near telegraph post No. $\frac{403}{17}$.	1450·282	1450·341
175	BM.5 / 64 A	149·2	G.T.S. ○ B.M. On E.N.E. pilaster cap of N.N.W. abutment of bridge No. 164, near telegraph post No. $\frac{405}{5}$.	1466·513	1466·572
176	BM.6 / 64 A	150·0	G.T.S. ○ B.M. On coping at W. end of S. abutment of bridge No. 165, near telegraph post No. $\frac{406}{2}$.	1445·790	1445·846
177	BM.7 / 64 A	150·7	G.T.S. ○ B.M. On coping at S.W. end of N.W. abutment of bridge No. 166, near telegraph post No. $\frac{406}{16}$.	1467·887	1467·944
178	BM.8 / 64 A	151·9	G.T.S. ○ B.M. On coping at S.W. end of S.E. abutment of bridge No. 167, near telegraph post No. $\frac{407}{19}$, and 1 chain S.E. of mile-post No. 408 from Nagpur.	1508·096	1508·152
179	BM.9 / 64 A	152·6	G.T.S. □ B.M. at Karkeli Railway Station. Embedded 4 inches below level of platform, on S.E. side of station building, 2 feet from wall, 14 feet from E. corner of building, and 22 feet from S. corner pillar of verandah. The letters B.M. are cut on S.E. face of building.	1519·774	1519·830
180	BM.10 / 64 A	152·6	G.T.S. ○ B.M. On platform coping in front of station building at Karkeli railway station.	1519·679	1519·735

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks		Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
181	BM.11 / 64 A	153·3	G.T.S. ○ B.M. On coping at S.S.W. end of W.N.W. abutment of bridge No. 168, near telegraph post No. 409/7.	1528·288	1528·343
182	BM.12 / 64 A	155·3	G.T.S. ○ B.M. On coping at S.W. end of N.W. abutment of bridge No. 169, near telegraph post No. 411/10.	1557·172	1557·226
183	BM.13 / 64 A	156·0	G.T.S. ○ B.M. On coping at S.W. end of N.W. abutment of bridge No. 170, near telegraph post No. 412/2.	1550·162	1550·215
184	BM.14 / 64 A	156·5	G.T.S. ○ B.M. On S.W. pilaster cap of N.W. abutment of bridge No. 171, near telegraph post No. 412/12.	1538·210	1538·262
185	BM.15 / 64 A	156·9	G.T.S. ○ B.M. On coping at S.W. end of S.E. abutment of bridge No. 172, near telegraph post No. 413/1, and ½ chain W. of mile-post No. 413 from Nagpur.	1528·459	1528·511
186	BM.16 / 64 A	157·5	G.T.S. ○ B.M. On S.W. pilaster cap of N.W. abutment of bridge No. 173, near telegraph post No. 413/12.	1508·325	1508·376
187	BM.17 / 64 A	158·5	G.T.S. ○ B.M. On S.S.W. pilaster cap of E.S.E. abutment of bridge No. 174, between telegraph posts Nos. 414/12 and 414/13.	1492·114	1492·163
188	BM.18 / 64 A	159·6	G.T.S. ○ B.M. On S.W. wing wall of S.E. abutment of bridge No. 175 over Umrar nala, near telegraph post No. 415/14.	1500·957	1501·007
189	BM.19 / 64 A	160·4	G.T.S. □ B.M. at Umaria Railway Station. Embedded 4 inches below level of platform within railed enclosure of home semaphore, 14 and 29 feet respectively from S.W. and S.E. corners of station master's office, 18 feet from S.E. corner of booking office, and 7 feet from letters B.M. cut on stone base of home semaphore.	1520·600	1520·650
1/189	BM.20 / 64 A	160·8	G.T.S. ○ B.M. 48 On coping of N.W. stoppage wall under overbridge, on railway line to colliery camp, Umaria. (Railway bench-mark).	1506·325	1506·375
2/189	BM.21 / 64 A	161·1	49 G.T.S. ○ B.M. On N.W. parapet of culvert No. 177, on railway line to colliery camp, Umaria. (Railway bench-mark).	1492·742	1492·791

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks		Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
3/189	BM.22/64 A	161·3	G.T.S. ○ B.M. On coping of masonry on S.E. side of Chandhai nala bridge.	1485·949	1485·998
3a/189	BM.23/64 A	161·4	G.T.S. ○ B.M. On pavement of verandah, 10 and 30 feet respectively from N.W. and N.E. corners of Umaria inspection bungalow, and 1 foot from wall.	1498·135	1498·184
3b/189	BM.24/64 A	161·5	G.T.S. ○ B.M. On pavement of verandah at S.W. corner of Manager's house, Umaria Colliery.	1496·593	1496·642
3c/189	BM.25/64 A	161·5	○ G.T.S. B.M. On plinth at S. corner of engine house at No. 3 Pit, Umaria Colliery.	1479·011	1479·060
3d/189	BM.26/64 A	161·8	G.T.S. ○ B.M. On stone floor inside engine house, 4 feet from doorway at No. 4 Pit, Umaria Colliery.	1475·817	1475·866
4/189	BM.27/64 A	162·1	G.T.S. ○ ⩚ B.M. On N.N.W. end of W.S.W. abutment of bridge on railway line to Pits Nos. 7 and 8, Umaria. (Colliery bench-mark).	1467·238	1467·286
5/189	BM.28/64 A	162·7	○ G.T.S. B.M. at No. 8 Pit. On formation level plinth in centre of front or S.W. arch of engine bed, Umaria Colliery.	1475·936	1475·985
5a/189	BM.29/64 A	163·3	○ ⩚ G.T.S. B.M. On stone embedded in parapet wall of well, about 5 chains S. of Oatesganj village. (Colliery bench-mark).	1451·667	1451·715
6/189	BM.30/64 A	163·4	○ B.M. / G.T.S. On rock *in situ* on W. or left bank of Umrar river, about 13 chains N.N.W. of No. 9 Pit, Umaria.	1411·716	1411·763
190	BM.31/64 A	160·4	G.T.S. ○ B.M. On platform coping in front of centre of building at Umaria railway station.	1520·705	1520·755
191	BM.32/64 A	161·5	47 G.T.S. ○ B.M. On E. N.E. pilaster cap of N.N.W. abutment of bridge No. 178, between telegraph posts Nos. 417/13 and 417/14. (Railway bench-mark).	1496·079	1496·127
192	BM.33/64 A	162·1	46 G.T.S. ○ B.M. On centre of E.N.E. parapet of culvert No. 179, near telegraph post No. 418/5. (Railway bench-mark).	1488·326	1488·374
193	BM.34/64 A	162·6	45 G.T.S. ○ B.M. On E.N.E. pilaster cap of N.N.W. abutment of bridge No. 180, near telegraph post No. 418/15. (Railway bench-mark).	1464·096	1464·141

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks		Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
194	BM 35 / 64 A	164·5	G.T.S. 43 O B.M. On coping at N.E. end of N.W. abutment of bridge No. 182, near telegraph post No. $\frac{420}{13}$. (Railway bench-mark).	1518·882	1518·928
195	BM.36 / 64 A	164·8	G.T.S. 41 O B.M. On coping at N.E. end of N.W. abutment of bridge No. 184, near telegraph post No. $\frac{421}{1}$, and about 1 chain N.W. of mile-post No. 421 from Nagpur. (Railway bench-mark).	1507·891	1507·936
196	BM.37 / 64 A	165·9	G.T.S. 39 O B.M. On coping at N.E. end of N.W. abutment of bridge No. 186, near telegraph post No. $\frac{422}{2}$. (Railway bench-mark).	1458·606	1458·648
197	BM.38 / 64 A	166·5	G.T.S. 38 O B.M. On centre of N.E. parapet of culvert No. 187, between telegraph posts Nos. $\frac{422}{13}$ and $\frac{422}{14}$. (Railway bench-mark).	1473·532	1473·573
198	BM 39 / 64 A	166·7	No. 37 G.T.S. B.M. On centre of N.E. parapet of culvert No. 188, near telegraph post No. $\frac{422}{18}$. (Railway bench-mark).	1473·715	1473·756
199	BM.40 / 64 A	167·4	G.T.S. 36 O B.M. On centre of N.E. parapet of culvert No. 189, near telegraph post No. $\frac{423}{12}$. (Railway bench-mark).	1449·735	1449·776
200	BM 41 / 64 A	168·2	G.T.S. 35 O B.M. On N.E. pilaster cap of N.W. abutment of bridge No. 190, near telegraph post No. $\frac{424}{17}$. (Railway bench-mark).	1420·552	1420·590
201	BM.42 / 64 A	168·6	G.T.S. 34 O B.M. On centre of N.E. parapet of culvert No. 191, near telegraph post No. $\frac{424}{15}$. (Railway bench-mark).	1420·855	1420·893
202	BM.43 / 64 A	169·5	G.T.S. 33 O B.M. On N.E. pilaster cap of N.W. abutment of bridge No. 192, near telegraph post No. $\frac{425}{13}$. (Railway bench-mark).	1384·567	1384·603
203	BM.44 / 64 A	171·6	G.T.S. O B.M. On E.N.E. pilaster cap of N.N.W. abutment of bridge No. 193, near telegraph post No. $\frac{427}{15}$.	1325·561	1325·593

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks		Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
204	BM 45 / 64 A	172·1	G.T.S. □ B.M. at Chandia Road Railway Station. Embedded 6 inches below level of platform, within and at W.N.W. corner of railed enclosure of home semaphore, 23 feet from S.S.W. corner of station building, 22 feet from centre of passage, 11 feet from centre of doorway of booking office, and 3 feet W.S.W. of letters B.M. cut on stone base of home semaphore.	1322·432	1322·464
205	BM.46 / 64 A	172·1	G.T.S. ○ B.M. On platform coping in front of passage at Chandia Road railway station.	1322·952	1322·984
206	BM 47 / 64 A	172·5	G.T.S. ○ B.M. On centre of N.E. parapet of bridge No. 194, near telegraph post No. $\frac{428}{14}$.	1314·160	1314·192
207	BM.48 / 64 A	173·3	G.T.S. ○ B.M. On N.E. pilaster cap of N.W. abutment of bridge No. 195, near telegraph post No. $\frac{429}{10}$.	1303·184	1303·214
208	BM.49 / 64 A	174·3	B.O.M. On top of stone embedded upright in masonry at level crossing No. 89, near telegraph post No. $\frac{430}{11}$.	1278·286	1278·314
209	BM.50 / 64 A	174·6	29 G.T.S. ○ B.M. On N.N.E. wing wall of W.N.W. abutment of bridge No. 196 over Mahanadi river, near telegraph post No. $\frac{430}{17}$. (Railway bench-mark).	1271·327	1271·355
210	BM.51 / 64 A	175·0	28 G.T.S. ○ B.M. On centre of N.W. parapet of bridge No. 197, near telegraph post No. $\frac{431}{4}$. (Railway bench-mark).	1279·780	1279·808
211	BM 52 / 64 A	175·9	G.T.S. ○ B.M. On N.E. pilaster cap of N.W. abutment of bridge No. 198, near telegraph post No. $\frac{432}{2}$.	1291·090	1291·118
212	BM.53 / 64 A	177·5	26 G.T.S. ○ B.M. On centre of N.E. parapet of N.W. abutment of bridge No. 199, between telegraph posts Nos. $\frac{433}{14}$ and $\frac{433}{15}$. (Railway bench-mark).	1351·081	1351·109
213	BM.54 / 64 A	178·2	G.T.S. ○ 25 B.M. On N.N.W. pilaster cap of W.S.W. abutment of bridge No. 200, near telegraph post No. $\frac{434}{8}$. (Railway bench-mark).	1360·079	1360·106
214	BM.55 / 64 A	179·2	24 G.T.S. ○ B.M. On N.E. parapet of bridge No. 201, near telegraph post No. $\frac{435}{10}$. (Railway bench-mark).	1379·164	1379·192

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks			Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
215		BM.56 64 A	179·5	G.T.S. 23 ○ B.M. On N.E. pilaster cap of N.W. abutment of bridge No. 202, between telegraph posts Nos. $\frac{435}{14}$ and $\frac{435}{15}$. (Railway bench-mark).	1377·821	1377·849
216		BM.57 64 A	180·5	G.T.S. 21 ○ B.M. On E.N.E. pilaster cap of N.N.W. abutment of bridge No. 204, near telegraph post No. $\frac{436}{14}$. (Railway bench-mark).	1357·280	1357·307
217		BM.58 64 A	180·7	G.T.S. ○ B.M. On N.E. pilaster cap of N.W. abutment of bridge No. 205, near telegraph post No. $\frac{436}{18}$, and 3 chains S.E. of mile-post No. 437 from Nagpur.	1359·200	1359·227
218		BM 59 64 A	181·1	G.T.S. 19 ○ B.M. On N.N.E. pilaster cap of W.N.W. abutment of bridge No. 206, near telegraph post No. $\frac{437}{8}$. (Railway bench-mark).	1370·192	1370·219
219		BM.60 64 A	181·3	G.T.S. ○ B.M. On N.N.E. end of W.N.W. abutment of bridge No. 206A, near telegraph post No. $\frac{437}{12}$.	1376·199	1376·225
220		BM.61 64 A	181·8	G.T.S. 18 ○ B.M. On N.E. parapet of bridge No. 207, near telegraph post No. $\frac{438}{1}$. (Railway bench-mark).	1366·469	1366·495
221		BM 62 64 A	182·3	G.T.S. 17 ○ B.M. On N.E. pilaster cap of N.W. abutment of bridge No. 208, near telegraph post No. $\frac{438}{10}$. (Railway bench-mark).	1346·682	1346·706
222		BM 63 64 A	182·6	G.T.S. ○ B.M. On platform coping in front of passage at Rupaund railway station.	1351·066	1351·090
	a 222	BM.64 64 A	182·6	G.T.S. □ B.M. at Rupaund Railway Station. Embedded 7 inches below level of platform, inside and at W. corner of railed enclosure of home semaphore, 24 feet from S.S.W. corner of station building and centre of passage, 14 feet S. of centre of doorway of booking office, and 3 feet S.W. of letters B.M. cut on base of home semaphore.	1350·318	1350·342
223		BM.65 64 A	183·5	G.T.S. 16 ○ B.M. On N.N.E. parapet of bridge No. 209, near telegraph post No. $\frac{439}{16}$. (Railway bench-mark).	1366·031	1366·054

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks		Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
224	BM.66 / 64 A	183·7	15 G.T.S. O B.M. On N.N.E. parapet of bridge No. 210, near telegraph post No. $\frac{439}{19}$, and 2 chains E. S.E. of mile-post No. 440 from Nagpur. (Railway bench-mark).	1369·958	1369·981
225	BM.67 / 64 A	184·6	14 G.T.S. B.O.M. On N.N.E. pilaster cap of N.N.W. abutment of bridge No. 211, near telegraph post No. $\frac{440}{15}$. (Railway bench-mark).	1384·460	1384·484
226	BM.68 / 64 A	185·3	13 G.T.S. O B.M. On N.E. end of N.W. abutment of bridge No. 212, near telegraph post No. $\frac{441}{13}$. (Railway bench-mark).	1370·591	1370·614
227	BM.69 / 64 A	185·8	12 G.T.S. O B.M. On centre of N. parapet of bridge No. 213, near telegraph post No. $\frac{442}{3}$. (Railway bench-mark).	1367·091	1367·114
228	BM.70 / 64 A	186·9	11 G.T.S. O B.M. On N. pilaster cap of W. abutment of bridge No. 214, near telegraph post No. $\frac{443}{4}$. (Railway bench-mark).	1380·620	1380·642
229	BM.71 / 64 A	187·6	10 G.T.S. O B.M. On E. N.E. pilaster cap of N. N.W. abutment of bridge No. 215, near telegraph post No. $\frac{443}{17}$. (Railway bench-mark).	1357·364	1357·386
230	BM 72 / 64 A	188·3	9 G.T.S. O B.M. On N.E. pilaster cap of N.W. abutment of bridge No. 216, near telegraph post No. $\frac{444}{11}$. (Railway bench-mark).	1348·746	1348·768
231	BM.73 / 64 A	188·6	8 G.T.S. O B.M. On centre of N.E. parapet of bridge No. 217, near telegraph post No. $\frac{444}{17}$. (Railway bench-mark).	1340·312	1340·332
232	BM.74 / 64 A	189·2	7 G.T.S. O B.M. On N.E. parapet of bridge No. 218, near telegraph post No. $\frac{445}{8}$. (Railway bench-mark).	1329·233	1329·253
233	BM 75 / 64 A	189·6	6 G.T.S. O B.M. On N.E. parapet of bridge No. 219, near telegraph post No. $\frac{445}{16}$. (Railway bench-mark).	1319·403	1319·423
234	BM.76 / 64 A	190·2	5 G.T.S. O B.M. On N.E. pilaster cap of N.W. abutment of bridge No. 220, between telegraph posts Nos. $\frac{446}{9}$ and $\frac{446}{10}$. (Railway bench-mark).	1316·540	1316·560

Main-Line 58. (Bilaspur to Katni).

Designation of Bench-marks			Distance from Bilaspur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
235		BM.77 / 64 A	192·6	4 G.T.S. O B.M. On N.E. end of N.W. abutment of bridge No. 221, near telegraph post No. $\frac{448}{15}$. (Railway bench-mark).	1267·586	1267·602
236		BM 78 / 64 A	195·3	3 G.T.S. O B.M. On coping at N.N.E. end of W.N.W. abutment of bridge No. 222, near telegraph post No. $\frac{451}{14}$. (Railway bench-mark).	1247·582	1247·597
237		BM.79 / 64 A	196·0	G.T.S. O B.M. On coping at E. end of N. abutment of bridge No. 223, near telegraph post No. $\frac{643}{2}$.	1247·974	1247·988
238		BM.80 / 64 A	196·1	G.T.S. O B.M. On N. end of E. parapet of bridge No. 224, 29 chains S. of Katni railway station.	1249·544	1249·558
239		BM.81 / 64 A	196·5	G.T.S. O B.M. On coping of E. platform of E. I. railway line, in front of mail office at Katni railway station.	1253·513	1253·527
	a / 239	BM.82 / 64 A	196·5	G.T.S. O B.M. at Murwara (Katni) Travellers' Bungalow. On pavement of front or N. verandah to right or W. of 2nd doorway from E., and 2 feet from wall.	1258·047	1258·061

Main-Line 59. (Katni to Allahabad).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM. 81 / 64 A	0·0	G.T.S. ○ B.M. On coping of E. platform of E.I. railway line, in front of mail office at Katni railway station.	1253·513	1253·527
2		BM.83 / 64 A	0·1	G.T.S. ○ B.M. On N. end of coping of E. platform of E.I. Railway line at Katni railway station.	1253·529	1253·543
3		BM.84 / 64 A	1·0	G.T.S. ○ B.M. On E. parapet of bridge No. 348, near telegraph post No. 170/6.	1229·613	1229·625
4		BM.85 / 64 A	1·7	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge No. 345, near telegraph post No. 169/12.	1230·928	1230·939
5		BM.86 / 64 A	2·1	G.T.S. ○ B.M. On E. parapet of S. abutment of bridge No. 344, near telegraph post No. 169/3.	1232·060	1232·071
6		BM.87 / 64 A	3·4	G.T.S. ○ B.M. On E. parapet of bridge No. 342, near telegraph post No. 167/20.	1239·664	1239·674
7		BM.88 / 64 A	4·6	G.T.S. ○ B.M. On E. parapet of bridge No. 341, near telegraph post No. 166/17.	1265·382	1265·391
8		BM.89 / 64 A	6·3	G.T.S. ○ B.M. On E. parapet of bridge No. 340, near telegraph post No. 164/21.	1272·219	1272·225
9		BM 90 / 64 A	7·9	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 339, near telegraph post No. 163/9.	1250·385	1250·389
10		BM 91 / 64 A	8·9	G.T.S. ○ B.M. On E. parapet of bridge No. 338, near telegraph post No. 162/11.	1263·907	1263·910
11		BM.92 / 64 A	10·2	G.T.S. ○ B.M. On E. parapet of bridge No. 336, near telegraph post No. 161/1.	1293·172	1293·173
12		BM.93 / 64 A	10·7	G.T.S. ○ B.M. On coping of platform opposite booking office at Jukehi railway station.	1302·837	1302·838
	a/12	BM.94 / 64 A	10·7	G.T.S. □ B.M. at Jukehi Railway Station. Embedded 4 inches below ground level, at W. side of 3rd class waiting shed opposite station building, 28 and 34 feet respectively from S.W. and N.W. corners of plinth of shed, and 15 feet from letters B.M. cut on back wall.	1301·116	1301·117

Main-Line 59. (Katni to Allahabad).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
13		BM. 95 / 64 A	12·0	G.T.S. ○ B.M. On S. end of E. parapet of bridge No. 332, near telegraph post No. 159/4.	1278·821	1278·821
14		BM.1 / 63 D	12·5	G.T.S. ○ B.M. On S. end of E. parapet of bridge No. 330, near telegraph post No. 158/17.	1272·350	1272·350
15		BM.2 / 63 D	13·5	G.T.S. ○ B.M. On E. parapet of bridge No. 327, near telegraph post No. 157/18.	1266·483	1266·482
16		BM.3 / 63 D	13·9	G.T.S. ○ B.M. On E. parapet of bridge No. 325, between telegraph posts Nos. 157/8 and 157/9.	1263·759	1263·758
	1/16	BM 96 / 64 A	16·4	On the upper mark of Amua, G.T. Survey Hill Station, lat. 23° 59′ 56″·24, long. 80° 29′ 17″·26. A principal station of Calcutta Longitudinal Series. (For full description *see* Synoptical Volume).	2120·337	2120·335
17		BM.4 / 63 D	14·2	G.T.S. ○ B.M. On E. parapet of bridge No. 324, near telegraph post No. 157/3.	1261·664	1261·663
18		BM.5 / 63 D	15·0	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 321, near telegraph post No. 156/8.	1257·312	1257·309
19		BM.6 / 63 D	15·9	G.T.S. ○ B.M. On E. parapet of bridge No. 318, between telegraph posts Nos. 155/10 and 155/11.	1248·975	1248·973
20		BM.7 / 63 D	16·7	G.T.S. ○ B.M. On E. parapet of bridge No. 315, near telegraph post No. 154/14.	1241·746	1241·742
21		BM.8 / 63 D	17·4	G.T.S. ○ B.M. On E. parapet of bridge No. 312, near telegraph post No. 153/17.	1234·951	1234·947
22		BM.9 / 63 D	18·6	G.T.S. ○ B.M. On E. parapet of bridge No. 308, between telegraph posts Nos. 152/15 and 152/16.	1225·302	1225·297
23		BM.10 / 63 D	19·3	G.T.S. ○ B.M. On S. end of E. parapet of bridge No. 305, near telegraph post No. 151/21.	1219·147	1219·142
24		BM.11 / 63 D	20·1	G.T.S. ○ B.M. On E. parapet of bridge No. 301, between telegraph posts Nos. 151/5 and 151/6.	1214·859	1214·853

Main-Line 59. (Katni to Allahabad).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
25		BM.12 / 63 D	21·0	G.T.S. ○ B.M. On E. parapet of bridge No. 297, near telegraph post No. 150/6.	1209·847	1209·840
26		BM.13 / 63 D	21·9	G.T.S. ○ B.M. On E. parapet of bridge No. 293, near telegraph post No. 149/8.	1209·542	1209·535
27		BM.14 / 63 D	22·5	G.T.S. ○ B.M. On E. parapet of bridge No. 291, near telegraph post No. 148/18.	1207·211	1207·204
28		BM.15 / 63 D	22·8	G.T.S. ○ B.M. On coping at S. end of W. platform at Amdara railway station.	1210·860	1210·852
29		BM.16 / 63 D	22·9	G.T.S. □ B.M. at Amdara Railway Station. Embedded 2 inches below ground level, at back of station, 9 feet from terminal telegraph post, 29 feet N. of base of W. stone pillar, 63 feet W. of base of N. stone pillar, and 25 feet from 2nd stone pillar counting from W. corner of building. The letters B.M. are engraved on last mentioned pillar.	1208·620	1208·612
	a/29	BM.17 / 63 D	22·9	G.T.S. ○ B.M. On platform coping opposite booking and telegraph office at Amdara railway station.	1210·792	1210·784
30		BM.18 / 63 D	23·2	G.T.S. ○ B.M. On E. parapet of bridge No. 289, near telegraph post No. 148/1.	1209·537	1209·529
31		BM.19 / 63 D	23·9	G.T.S. ○ B.M. On E. parapet of bridge No. 287, near telegraph post No. 147/7.	1200·826	1200·818
32		BM.20 / 63 D	24·7	G.T.S. ○ B.M. On S. abutment of bridge No. 285, between telegraph posts Nos. 146/12 and 146/13.	1190·719	1190·709
33		BM.21 / 63 D	25·4	G.T.S. ○ B.M. On E. parapet of bridge No. 283, near telegraph post No. 145/18.	1184·887	1184·878
34		BM.22 / 63 D	26·8	G.T.S. ○ B.M. On E. parapet of bridge No. 279, between telegraph posts Nos. 144/8 and 144/9.	1186·520	1186·509
35		BM.23 / 63 D	27·7	G.T.S. ○ B.M. On E. parapet of bridge No. 277, near telegraph post No. 143/13.	1182·813	1182·802

Main-Line 59. (Katni to Allahabad).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
36		BM.24 / 63 D	28·4	G.T.S. ○ B.M. On E. parapet of bridge No. 274, near telegraph post No. 142/21.	1175·961	1175·949
37		BM.25 / 63 D	29·5	G.T.S. ○ B.M. On E. parapet of bridge No. 272, near telegraph post No. 141/18.	1168·925	1168·913
38		BM.26 / 63 D	30·3	G.T.S. ○ B.M. On E. parapet of bridge No. 271, near telegraph post No. 141/1.	1171·367	1171·354
39		BM.27 / 63 D	30·8	B.O.M. On base of home semaphore at Bhadunpur railway station.	1172·819	1172·806
	a/39	BM.28 / 63 D	30·8	G.T.S. □ B.M. at Bhadunpur Railway Station. Embedded flush with ground, to N.N.E. of station building, 61 feet E.N.E. of E. corner and 79 feet E. of N. corner of station master's quarters, 102 feet N.N.E. of N. corner of station building, and 21 feet S.E. of platform of station well, on which letters B.M. are engraved.	1164·111	1164·098
40		BM.29 / 63 D	31·0	G.T.S. ○ B.M. On E. parapet of bridge No. 270, near telegraph post No. 140/7.	1171·027	1171·014
41		BM.30 / 63 D	33·2	G.T.S. ○ B.M. On E. parapet of bridge No. 269, near telegraph post No. 138/3.	1168·592	1168·577
42		BM.31 / 63 D	34·6	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 268, near telegraph post No. 136/17.	1173·205	1173·189
43		BM.32 / 63 D	35·3	G.T.S. ○ B.M. On E. parapet of bridge No. 266, between telegraph posts Nos. 135/21 and 136/1.	1164·072	1164·056
44		BM.33 / 63 D	36·3	G.T.S. ○ B.M. On E. parapet of bridge No. 262, near telegraph post No. 134/20.	1154·587	1154·570
45		BM.34 / 63 D	37·4	G.T.S. ○ B.M. On E. parapet of bridge No. 260, near telegraph post No. 133/21.	1152·084	1152·066
46		BM.35 / 63 D	38·2	G.T.S. ○ B.M. On E. parapet of bridge No. 259, near telegraph post No. 133/2.	1148·163	1148·143
47		BM.36 / 63 D	38·8	B.O.M. On base of S. distant signal at Maihar railway station.	1146·170	1146·151

Main-Line 59. (Katni to Allahabad).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
48		BM.37 / 63 D	39·0	G.T.S. ○ B.M. On E. cap of N. abutment of bridge No. 258, 15 chains S. of Maihar railway station.	1142·036	1142·017
49		BM.38 / 63 D	39·2	G.T.S. ○ B.M. On S. end of E. platform at Maihar railway station.	1144·723	1144·702
50		BM.39 / 63 D	39·3	G.T.S. □ B.M. at Maihar Railway Station. Embedded 6 inches below ground level, at N.E. corner of back verandah of station building, 3 feet S. of N. wall of verandah, 4 feet from corner of verandah, and 3 feet W. of W. wall of building, on which letters B.M. are engraved.	1144·019	1143·998
	1 / 50	BM.40 / 63 D	40·8	G.T.S. B.C.M. On stone coping at N. opening of an octagonal monument, the largest of three, on N. bank of Lilji river, on road from Maihar to Rampur village, and about 6 chains W. of Mahadeo's temple on S. bank of river.	1125·370	1125·350
	2 / 50	BM.41 / 63 D	44·5	On the ⊙ on surface of platform of Maihar G.T. Survey Hill Station, lat. 24° 17′ 0″·34, long. 80° 43′ 46″·44. A principal station of Amua Meridional Series. (For full description *see* Synoptical Volume).	1990·380	1990·344
51		BM.42 / 63 D	40·4	B.O.M. On top of mile-stone No. 99 from Jubbulpore.	1106·225	1106·205
52		BM.43 / 63 D	41·4	B.O.M. On top of mile-stone No. 100 from Jubbulpore.	1091·743	1091·723
	a / 52	BM.44 / 63 D	42·4	G.T.S.○B.M. On S. end of W. parapet of bridge over Tons river, 13 chains S. of mile-stone No. 101.	1086·775	1086·755
53		BM.45 / 63 D	43·5	B.O.M. On top of mile-stone No. 102 from Jubbulpore.	1091·721	1091·701
54		BM.46 / 63 D	44·5	B.O.M. On top of mile-stone No. 103 from Jubbulpore.	1110·929	1110·908
55		BM.47 / 63 D	45·5	B.O.M. On top of mile-stone No. 104 from Jubbulpore.	1131·197	1131·176
56		BM.48 / 63 D	46·5	B.O.M. On top of mile-stone No. 105 from Jubbulpore.	1139·388	1139·366
57		BM.49 / 63 D	47·5	B.O.M. On top of mile-stone No. 106 from Jubbulpore.	1140·192	1140·170
58		BM.50 / 63 D	49·5	G.T.S. ○ B.M. On S. parapet of bridge No. 134, opposite mile-stone No. 108, and near Nadam hamlet.	1175·076	1175·054
59		BM.51 / 63 D	50·3	G.T.S. ○ B.M. On S. parapet of bridge No. 135, 15 chains W. of mile-stone No. 109.	1178·017	1177·995

Main-Line 59. (Katni to Allahabad).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
60		BM.52 / 63 D	50·9	G.T.S. ○ B.M. On S.E. parapet of bridge No. 136, 31 chains N.E. of mile-stone No. 109.	1176·259	1176·237
61		BM.53 / 63 D	52·5	B.O.M. On top of mile-stone No. 111 from Jubbulpore.	1137·150	1137·127
	a / 61	BM.54 / 63 D	52·8	G.T.S. ○ B.M. On S.E. parapet of N.E. abutment of bridge No. 137 over Jhirua nala, between Maihar and Rewah States.	1127·819	1127·796
62		BM 55 / 63 D	53·6	B.O.M. On top of mile-stone No. 112 from Jubbulpore.	1137·047	1137·023
	a / 62	BM.56 / 63 D	54·5	G.T.S. □ B.M. at Amarpatan Travellers' Bungalow. Embedded 4 inches below ground level, 36 feet from N. and 16 feet from E. corners of building, 25 feet from centre of S. door of E. room, and 6 feet from E. corner pillar of verandah, on which letters B.M. are engraved.	1156·175	1156·151
63		BM.57 / 63 D	55·6	B.O.M. On top of mile-stone No. 114 from Jubbulpore.	1159·647	1159·620
64		BM 1 / 63 H	57·5	B.O.M. On top of mile-stone No. 116 from Jubbulpore.	1140·595	1140·569
65		BM 2 / 63 H	58·5	B.O.M. On top of mile-stone No. 117 from Jubbulpore.	1119·224	1119·197
66		BM 3 / 63 H	59·6	B.O.M. On top of mile-stone No. 118 from Jubbulpore.	1145·461	1145·434
67		BM.4 / 63 H	60·6	B.O.M. On top of mile-stone No. 119 from Jubbulpore.	1146·632	1146·603
68		BM.5 / 63 H	61·6	B.O.M. On top of mile-stone No. 120 from Jubbulpore.	1128·803	1128·774
69		BM.6 / 63 H	62·6	B.O.M. On top of mile-stone No. 121 from Jubbulpore.	1176·322	1176·290
70		BM.7 / 63 H	65·0	B.O.M. On plinth of S. parapet of bridge, 30 chains N. of mile-stone No. 123.	1156·310	1156·276
71		BM.8 / 63 H	65·6	B.O.M. On top of mile-stone No. 124 from Jubbulpore.	1151·458	1151·425
72		BM.9 / 63 H	66·5	B.O.M. On plinth of S. parapet of bridge, 10 chains S. of mile-stone No. 125.	1122·201	1122·167
73		BM.10 / 63 H	67·1	G.T.S. □ B.M. at Mauhari Katra. Embedded on N. side of road from Maihar to Rewah, 4 chains from Police chauki, 1 chain from Katra village, and 39 feet S.E. of village well. A head-stone has letters B.M. engraved on it.	1120·050	1120·016

Main-Line 59. (Katni to Allahabad).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
74		BM.11 / 63 H	67·6	B.O.M. On top of mile-stone No. 126 from Jubbulpore.	1120·888	1120·853
75		BM.12 / 63 H	68·4	O G.T.S. B.M. On S.E. parapet of bridge, 18 chains S.W. of mile-stone No. 127.	1107·458	1107·423
76		BM.13 / 63 H	68·6	B.O.M. On top of mile-stone No. 127 from Jubbulpore.	1113·491	1113·455
77		BM.14 / 63 H	69·5	O B.M. On S.E. parapet of bridge, 6 chains S.W. of mile-stone No. 128.	1106·147	1106·111
78		BM.15 / 63 H	70·6	B.O.M. On top of mile-stone No. 129 from Jubbulpore.	1100·649	1100·613
79		BM.16 / 63 H	70·7	O B.M. On N.W. parapet of bridge, 6 chains E. of mile-stone No. 129.	1100·195	1100·159
	a / 79	BM.17 / 63 H	71·9	G.T.S. ∧ B.M. No. On E. parapet of bridge, on road from Sutna, near its junction with road from Jubbulpore to Rewah.	1070·612	1070·577
80		BM.18 / 63 H	71·9	B.M. No. G.T.S. V On N.W. parapet of bridge, 5 chains N.E. of junction of road from Sutna with that from Jubbulpore to Rewah.	1069·520	1069·484
81		BM.19 / 63 H	73·0	B.M. No. G.T.S. V On S. parapet of bridge, 29 chains E. of mile-stone No. 131.	1076·322	1076·285
82		BM.20 / 63 H	73·2	B.O.M. On top of mile-stone, 24 miles from Sutna, 11 miles from Govindgarh.	1081·456	1081·419
83		BM.21 / 63 H	73·4	B.M. No. G.T.S. V On S. parapet of bridge, 12 chains E. of B.M. No. 82.	1086·260	1086·223
84		BM.22 / 63 H	74·0	G.T.S. O B.M. On S. side of coping of platform of well on N. margin of road from Jubbulpore, and 26 chains E. of mile-stone No. 132.	1072·623	1072·587
85		BM.23 / 63 H	74·6	B.O.M. On top of mile-stone No. 133 from Jubbulpore.	1066·621	1066·584
86		BM.24 / 63 H	75·5	B.M. No. G.T.S. V On S. parapet of bridge, 32 chains W. of mile-stone No. 134.	1060·414	1060·377
87		BM.25 / 63 H	75·9	B.O.M. On top of mile-stone No. 134 from Jubbulpore.	1059·868	1059·830
88		BM.26 / 63 H	76·1	B.M. No. G.T.S. V On S. parapet of bridge, 17 chains E. of mile-stone No. 134.	1049·540	1049·502
89		BM.27 / 63 H	76·5	B.M. No. 58 G.T.S. V On S. parapet of bridge, 11 chains W. of mile-stone No. 135.	1040·028	1039·991

Main-Line 59. (Katni to Allahabad).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
90		BM.28 / 63 H	76·9	B.M. No. 59 ⩛ On S.E. parapet of bridge, 16 chains N.E. of mile-stone No. 135.	1020·531	1020·494
	a / 90	BM.29 / 63 H	77·5	G.T.S. □ B.M. at Babupur Ramchandraji Temple. Embedded 4 inches below ground level, 68 and 10 feet respectively from N.E. and S.E. corners of walled enclosure, 31 feet from centre of entrance, and 4 feet from E. wall. A head-stone has letters B.M. engraved on it.	1014·972	1014·935
91		BM.30 / 63 H	77·7	G.T.S. ⩚ B.M. No. On S.E. parapet of bridge No. 61 over Chandwa nala, and 4 chains N.E. of mile-stone No. 136.	993·987	993·951
92		BM.31 / 63 H	78·5	B.M. No. G.T.S. ⩛ On S.E. parapet of bridge No. 65, 9 chains S.W. of mile-stone No. 137.	994·722	994·685
93		BM.32 / 63 H	78·7	B.O.M. On top of mile-stone No. 137 from Jubbulpore.	994·624	994·587
94		BM.33 / 63 H	79·3	○ B.M. On E. guard-stone of S. parapet of bridge, 24 chains W. of mile-stone No. 138.	979·544	979·508
95		BM.34 / 63 H	79·7	B.O.M. On top of mile-stone No. 138 from Jubbulpore.	978·025	977·988
96		BM.35 / 63 H	80·3	G.T.S. ○ B.M. On S. parapet of bridge over Ghogar river, 27 chains W. of mile-stone No. 139.	938·321	938·285
97		BM.36 / 63 H	80·7	G.T.S. ○ B.M. On 2nd step from bottom on N. side of State court offices, in front of treasury room, Rewah.	977·100	977·063
98		BM.37 / 63 H	81·3	G.T.S. □ B.M. at Rewah Guest House. Embedded 5 inches below ground level, 16 and 30 feet respectively from N.E. and N.W. corners, 23 feet from centre of N. door, and 3 feet N. of base of N.E. pillar of verandah, on which letters B.M. are engraved.	980·141	980·104
99		BM.38 / 63 H	81·7	B.O.M. On top of mile-stone No. 140 from Jubbulpore.	991·578	991·540
100		BM.39 / 63 H	82·7	B.O.M. On top of mile-stone No. 141 from Jubbulpore.	1005·619	1005·581
101		BM.40 / 63 H	83·1	B.O.M. On S. parapet of bridge, 24 chains E. of mile-stone No. 141.	1011·667	1011·629
102		BM.41 / 63 H	84·4	B.O.M. On N. parapet of bridge, 26 chains W. of mile-stone No. 143.	1032·966	1032·927
103		BM.42 / 63 H	84·7	B.O.M. On top of mile-stone No. 143 from Jubbulpore.	1045·165	1045·125

Main-Line 59. (Katni to Allahabad).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
104		BM.43 / 63 H	87·8	B.O.M. On top of mile-stone No. 146 from Jubbulpore.	1082·848	1082·806
105		BM.44 / 63 H	88·3	○ B.M. On S.W. guard-stone of N.W. parapet of bridge, 35 chains S.W. of mile-stone No. 147.	1092·376	1092·333
106		BM.45 / 63 H	88·8	B.O.M. On top of mile-stone No. 147 from Jubbulpore.	1093·762	1093·719
107		BM.46 / 63 H	88·8	○ B.M. On S.W. guard-stone of N.W. parapet of bridge No. 1/148, 5 chains N.E. of mile-stone No. 147.	1088·719	1088·677
108		BM.47 / 63 H	89·8	○ B.M. On W. guard-stone of S. parapet of bridge, 6 chains N.E. of mile-stone No. 148.	1058·191	1058·149
	a / 108	BM.48 / 63 H	91·4	G.T.S. □ B.M. at Raipur Mahadeo's Temple. Embedded 6 inches below ground level, 12 feet from octagonal platform of well close to and on W. side of temple, 19 feet from centre of doorway of same, 17 feet from N.E. corner, and 9 feet from N.W. corner where letters B.M. are engraved. The temple is situated near N.E. corner of Lala Gajadhar's garden, about 3 chains from road to Allahabad.	1039·352	1039·310
	1a / 108	BM.49 / 63 H	94·6	On the ⊙ of Burwa G.T. Survey Hill Station, lat. 24° 33′ 14″·48, long. 81° 28′ 49″·85. A principal station of Karara Meridional Series. (For full description *see* Synoptical Volume).	1308·930	1308·878
109		BM.50 / 63 H	92·0	G.T.S. ○ B.M. On centre guard-stone of S. parapet of bridge, 21 chains E. of mile-stone No. 150.	1019·427	1019·385
110		BM.51 / 63 H	94·7	B.O.M. On stone at E end of N. parapet of bridge, 6 chains E. of mile-stone No. 153.	1018·671	1018·628
111		BM.52 / 63 H	95·6	○ B.M. On S.W. guard-stone of N.W. parapet of bridge, about 13 chains S.W. of mile-stone No. 154.	1017·867	1017·823
112		BM.53 / 63 H	96·6	○ B.M. On guard-stone of S.E. parapet of bridge, 17 chains S.W. of mile-stone No. 155.	1012·622	1012·577
113		BM.54 / 63 H	97·0	○ B.M. On S.W. guard-stone of N.W. parapet of bridge, 16 chains N.E. of mile-stone No. 155.	1016·375	1016·330
	a / 113	BM.55 / 63 H	97·3	G.T.S. ○ B.M. On N.W. parapet of bridge No. 2/156, 3 chains W. of a pakka well.	1020·897	1020·852
114		BM.56 / 63 H	98·6	G.T.S. ○ B.M. On N. parapet of bridge over Bhogar nala, 15 chains W. of mile-stone No. 157.	1011·339	1011·294
115		BM.57 / 63 H	99·8	G.T.S. □ B.M. at Mangawan Travellers' Bungalow. Embedded 4 inches below ground level at N.E. corner of building, 3 feet N. of N.E. pillar of verandah, 15 feet E. of steps in front of E. room, 20 feet from centre of doorway of E. room, and 13 and 46 feet respectively from N.E. and N.W. corners of building. A head-stone has letters B.M. engraved on it.	1036·282	1036·235

Main-Line 59. (Katni to Allahabad).

Designation of Bench-marks		Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
a 115	BM.58 63 H	99·8	G.T.S. ○ B.M. On lowest step of stairway in front of W. room at Mangawan travellers' bungalow.	1036·995	1036·948
116	BM.59 63 H	101·4	B.O.M. G.T.S. On N.W. parapet of bridge, 4 chains N. of Sengri river.	992·253	992·206
117	BM.60 63 H	103·2	B.O.M. On stone slab embedded upright in ground on W. side of road, and about 10 chains from N. bank of Pakariar nadi.	988·208	988·161
118	BM.61 63 H	105·0	B.O.M. On plinth of N. parapet of bridge, opposite Mari village.	1018·839	1018·788
119	BM.62 63 H	106·3	B.O.M. On plinth of E. parapet of bridge, about 20 chains N. of Purwa village.	1049·282	1049·229
120	BM.63 63 H	107·1	B.O.M. On plinth of N.W. parapet of bridge, about 20 chains N. of Gangeo-ka-Chauki.	1056·000	1055·946
121	BM.64 63 H	107·6	B.O.M. On plinth of S.E. parapet of bridge, about 9 chains S.W. of Saman village.	1048·687	1048·632
122	BM.65 63 H	108·9	B.O.M. On plinth of W. parapet of bridge, about ¼ mile W. of Tikuri village.	1067·644	1067·587
123	BM.66 63 H	109·6	B.O.M. On plinth of E. parapet of bridge over Bada-Talao-ka-nala, about 15 chains W. of Tikuri village.	1067·383	1067·325
124	BM.67 63 H	110·4	B.O.M. On plinth of N.W. parapet of bridge over Turka nala.	1070·646	1070·588
125	BM.68 63 H	112·0	B.O.M. On plinth of W. parapet of bridge over Bagahia nala, about 10 chains S.E. of Dharabibha village.	1081·862	1081·802
126	BM.69 63 H	112·5	B.O.M. On plinth of W. parapet of bridge over Harrai nala.	1082·548	1082·487
127	BM.70 63 H	113·5	G.T.S. □ B.M. at Garh. Embedded 5 inches below ground level, 1 chain E. of road to Allahabad, near S.W. corner of platform of well, W. of village.	1109·161	1109·099
128	BM.71 63 H	115·6	B.O.M. On plinth of N.W. parapet of bridge over Kangao nala.	1117·711	1117·645
129	BM.72 63 H	116·6	B.O.M. On plinth of E. parapet of bridge, about ¼ mile N. of Agdal village, and 15 chains S. of Nawa Talao.	1138·687	1138·619
130	BM.73 63 H	118·4	B.M. ○ On plinth of W. parapet of bridge over Rajhai nala.	1121·923	1121·853
131	BM.74 63 H	119·0	B.O.M. On plinth of W. parapet of bridge, about 15 chains S. of Katra village.	1107·784	1107·715

Main-Line 59. (Katni to Allahabad).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
132		BM.75 / 63 H	119·3	G.T.S. □ B.M. at Katra Mahadeo's Temple. Embedded 6 inches below ground level, 17 feet E. of E. margin of road to Allahabad, 17 feet from Bhairao *sonar's* well, 17 and 11 feet respectively from N.E. and N.W. corners of temple, and 14 feet from centre of doorway.	1125·786	1125·715
	a / 132	BM.76 / 63 H	120·2	G.T.S. ○ B.M. On stone slab embedded in N.W. parapet of bridge over Ghog nadi, about ¼ mile E. of Ghuma village.	1096·349	1096·280
133		BM.77 / 63 H	121·5	G.T.S. B.○M. On stone at N. end of E. parapet of bridge over Garh nala.	1116·189	1116·118
134		BM.78 / 63 H	122·1	G.T.S. ○ B.M. On rock *in situ*, 21 and 28 feet respectively from S. and N. ends of E. parapet of bridge, 23 feet from centre of bridge, and about ¼ mile S.W. of Ladh village.	1166·388	1166·312
135		BM.79 / 63 H	123·0	G.T.S. B.○M. On plinth of E. parapet of bridge over Jhiria nala.	1024·012	1023·944
136		BM.80 / 63 H	124·2	G.T.S. ○ B.M. On rock *in situ* on E. margin of road, 14 chains S.W. of Agad Mahadeo's temple.	1006·365	1006·298
	a / 136	BM.81 / 63 H	124·3	G.T.S. ○ B.M. On floor of verandah, at foot of extreme W. pillar, at N. entrance to Mahadeo's temple on summit of Sohagi ghat.	972·599	972·534
	b / 136	BM.82 / 63 H	125·3	B.○M. On W. end of W. abutment of wall on S. side of road, between two hills, about 1 mile below Mahadeo's temple.	927·928	927·866
	c / 136	BM.83 / 63 H	126·7	G.T.S. □ B.M. at Sohagi Customs Bungalow. Embedded 4 inches below ground level, at N. side of building, 29 and 5 feet respectively from N.E. and N.W. corners, and 22 feet from centre of front door. A head-stone has letters B.M. engraved on it.	630·891	630·849
137		BM.1 / 63 G	128·3	B.○M. On plinth of N.W. parapet of bridge over Khatia nala, about 3 chains E. of well near Khatia village.	333·919	333·896
138		BM.2 / 63 G	129·9	B.○M. On plinth of E. parapet of bridge, about 1 mile S. of Tons river.	329·901	329·878
139		BM.3 / 63 G	131·3	G.T.S. ○ B.M. On rock *in situ* on E. margin of road, near Chak village.	329·992	329·968
	a / 139	BM.4 / 63 G	132·0	G.T.S. ○ B.M. On boundary stone between Rewah and Allahabad, on E. margin of road, 166 feet S.E. of mile-stone inscribed "Rewah Boundary mile 26."	328·014	327·990
140		BM.5 / 63 G	132·8	G.T.S. ○ B.M. On S. guard-stone of E. parapet of bridge, about ¼ mile S. of mile-stone No. 26.	333·892	333·867

Main-Line 59. (Katni to Allahabad).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
141		BM.6 / 63 G	133·0	B.O M. On top of mile-stone No. 26 from Allahabad.	339·256	339·231
142		BM.7 / 63 G	134·1	O B.M. On S. guard-stone of E. parapet of bridge No. M.25/3, 4 chains N. of mile-stone No. 25.	356·056	356·029
	a / 142	BM.8 / 63 G	134·2	G.T.S. □ B.M. at Surwal Sarai. Embedded 4 inches below ground level, within enclosure of *sarai* and pound, 5 feet S.W. of platform of a well, and 29 and 27 feet respectively from N. and S. stone pillars of gateway. A head-stone has letters B.M. engraved on it.	358·847	358·820
143		BM.9 / 63 G	134·8	G.T.S. O B.M. On S. guard-stone of W. parapet of bridge No. M 25/1, about 19 chains S. of mile-stone No. 24.	357·958	357·930
144		BM.10 / 63 G	136·0	B.O M. On top of mile-stone No. 23 from Allahabad.	351·823	351·796
145		BM.11 / 63 G	136·5	G.T.S. O B.M. On S. guard-stone of W. parapet of bridge No. M.23/1 over Garne nala, 38 chains S. of mile-stone No. 22.	325·445	325·419
146		BM.12 / 63 G	137·0	B.O M. On top of mile-stone No. 22 from Allahabad.	319·839	319·814
147		BM.13 / 63 G	138·2	G.T.S. O B.M. On centre of W. parapet of bridge No. M.21/1 over Katha nala, 14 chains N. of mile-stone No. 21.	304·751	304·727
148		BM.14 / 63 G	139·0	B.O M. On top of mile-stone No. 20 from Allahabad.	306·791	306·766
149		BM.15 / 63 G	139·7	G.T.S. O B.M. On S. guard-stone of W. parapet of bridge No. M.20/1, 25 chains S. of mile-stone No. 19.	307·891	307·866
150		BM.16 / 63 G	140·3	G.T.S. O B.M. On guard-stone of W. parapet of bridge No. M.19/2, 17 chains N. of mile-stone No. 19.	312·486	312·460
151		BM.17 / 63 G	142·0	B.O M. On top of mile-stone No. 17 from Allahabad.	317·700	317·673
152		BM.18 / 63 G	142·6	G.T.S. O B.M. On S. guard-stone of W. parapet of bridge No. M.17/3, 34 chains S. of mile-stone No. 16.	319·174	319·147
153		BM.19 / 63 G	143·2	G.T.S. O B.M. On S. guard-stone of W. parapet of bridge No. M.16/2, 14 chains N. of mile-stone No. 16.	317·801	317·774

Main-Line 59. (Katni to Allahabad).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
	a/153	BM.20/63 G	miles 143·5	G.T.S. □ B.M. at Mahadeo's Temple, Jari. Embedded 3 inches below ground level, 6 feet from S. and W. corners of platform, 5 feet from centre of S.W. side of platform, and 7 feet from both S. and W. corner stone pillars. A head-stone has letters B.M. engraved on it.	feet 314·611	feet 314·584
154		BM.21/63 G	144·1	G.T.S. ○ B.M. On W. parapet of bridge No. M.15/3, 3 chains N. of mile-stone No. 15.	318·400	318·373
155		BM.22/63 G	145·1	G.T.S. B.○M. On S. guard-stone of W. parapet of bridge No. M.14/2, 4 chains N. of mile-stone No. 14.	319·554	319·526
156		BM.23/63 G	146·2	G.T.S. B.○M. On S. guard-stone of W. parapet of bridge No. M.13/1, 11 chains N. of mile-stone No. 13.	317·150	317·122
157		BM.24/63 G	147·3	G.T.S. ○ B.M. On S. guard-stone of W. parapet of bridge No. M.12/1, 24 chains N. of mile-stone No. 12.	313·392	313·364
158		BM 25/63 G	148·3	G.T.S. ○ B.M. On S. guard-stone of W. parapet of bridge No. M.11/1, 22 chains N. of mile-stone No. 11.	311·357	311·329
159		BM.26/63 G	149·0	G.T.S.○B.M. On top of mile-stone No. 10 from Allahabad.	310·280	310·252
160		BM.27/63 G	149·7	G.T.S. ○ B.M. On S. guard-stone of W. parapet of bridge No. M.10/2, 30 chains S. of mile-stone No. 9.	310·484	310·455
161		BM.28/63 G	150·0	G.T.S.○B.M. On top of mile-stone No. 9 from Allahabad.	309·157	309·129
162		BM.29/63 G	150·8	G.T.S. □ B.M. at Ghurpur (Chak Samra Bazar). Embedded 4 inches below ground level, between a well and road to Allahabad. 4 feet from platform of well, and 46 feet from centre of gateway of thana at S.W. end of village. A head-stone has letters B.M. engraved on it.	308·834	308·805
163		BM.30/63 G	151·0	G.T.S.○B.M. On top of mile-stone No. 8 from Allahabad.	311·844	311·815
164		BM.31/63 G	152·1	G.T.S.○B.M. On top of mile-stone No. 7 from Allahabad.	309·615	309·586
165		BM.32/63 G	153·1	G.T.S.○B.M. On top of mile-stone No. 6 from Allahabad.	309·401	309·372
166		BM.33/63 G	153·9	G.T.S. ○ B.M. On S. guard-stone of W. parapet of bridge No. M.6/1, 15 chains S. of mile-stone No. 5.	307·362	307·333

Main-Line 59. (Katni to Allahabad).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
167		BM.34 / 63 G	154·7	G.T.S. ○ B.M. On S. guard-stone of W. parapet of bridge No. M.5/1, 33 chains S. of mile-stone No. 4.	310·916	310·886
168		BM.35 / 63 G	155·4	G.T.S. B.○M. On S.W. guard-stone of N.W. parapet of bridge No. M.4/1, 24 chains N. of mile-stone No. 4.	314·584	314·553
	a 168	BM.36 / 63 G	155·4	G.T.S. ○ B.M. On coping of verandah at centre of N.W. side of Mahadeo's temple at Chak Gharib-ka-purwa.	314·193	314·163
169		BM.37 / 63 G	156·1	G.T.S.○B.M. On top of mile-stone No. 3 from Allahabad.	310·478	310·448
170		BM.38 / 63 G	157·1	G.T.S.○B.M. On top of mile-stone No. 2 from Allahabad.	311·566	311·535
171		BM.39 / 63 G	157·2	G.T.S. ○ B.M. On S. guard-stone of W. parapet of bridge No. M.2/3, 10 chains N. of mile-stone No. 2.	310·214	310·184
172		BM.40 / 63 G	158·0	G.T.S. ○ B.M. On S. guard-stone of W. parapet of bridge No. M.2/1, 10 chains S. of mile-stone No. 1.	284·431	284·403
173		BM.41 / 63 G	159·2	G.T.S. ○ B.M. On parapet of retaining wall on N.W. side of road, 3 chains W. of S. end of Jumna bridge.	298·161	298·131
174		BM.42 / 63 G	159·8	G.T.S. ○ B.M. On parapet of abutment, 1 chain E. of gateway of Jumna bridge, and 1 chain W. of S.W. corner of pumping-engine room.	299·693	299·663
175		BM.43 / 63 G	159·8	G.T.S. ○ B.M. On plinth at N.E. end of railway bridge over road from railway station to Allahabad fort.	300·690	300·660
176		BM.44 / 63 G	160·4	G.T.S.○B.M. On top of mile-stone No. 1 from Fort Cantonment, Allahabad.	290·826	290·797
177		BM.45 / 63 G	161·3	G.T.S. ○ B.M. On 2nd step from bottom, on S. side of Lala Manohar Dass' well, about 10 chains from N.W. gate of Allahabad fort.	284·289	284·260
	1/177	BM.46 / 63 G	162·5	1886 July + 18th On W. end of stone coping of N.W. parapet of road-bridge near N.W. corner of Bhairana village, about 5 chains N. of pillar inscribed Fort Cantonment 20, and about 3 chains E. of railway bridge on Fyzabad-Allahabad line, near telegraph post No. F.A. 95/5.	278·913	278·885
	2/177	BM.47 / 63 G	163·1	⊕ On S.E. side of Diamond Jubilee cattle trough, erected by Jagat Narain, in N.W. corner of cross roads, near S.E. gate of Government House Compound, Allahabad.	288·600	288·571

Main-Line 59. (Katni to Allahabad).

Designation of Bench-marks		Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
3/177	BM.48/63 G	164·0	G.T.S. ○ B.M. On N. parapet of culvert at junction of City road with Elgin road, and about 16 chains S. of its junction with Edmonstone road, Allahabad.	313·750	313·718
3a/177	BM.49/63 G	164·6	G.T.S. ○ B.M. On E. parapet of S. drain No. M.43, about 3 chains S.E. of gate of house No. 22 on Elgin road, Allahabad.	316·133	316·101
3b/177	BM.50/63 G	165·4	G.T.S. ○ B.M. On S. parapet of culvert No. 10 on Elgin road, 5 chains E. of its junction with Mandi road, Allahabad.	318·391	318·359
3c/177	BM.51/63 G	165·6	G.T.S. Standard Bench Mark 1904 at Scotch Kirk, Allahabad. Situated W. of church, 211 and 213 feet respectively from N.W. and S.W. corners of body of church, 94 feet N. of well S.W. of church, and 3 chains from N.W. gate of church compound. It is enclosed in railed-off space 11 feet square.	316·858	316·826
4/177	BM.52/63 G	164·2	⊕ On S. side of stand of water-pipe, at junction of City and Edmonstone roads, near entrance to Alfred Park, Allahabad.	307·575	307·544
5/177	BM.53/63 G	164·7	⊕ On S. parapet of culvert, near W. gate of Muir Central College, Allahabad.	309·155	309·124
6/177	BM.54/63 G	165·2	G.T.S. ○ B.M. On lowest step at N.E. corner of suitors' waiting shed at Collector's kachahri, Katra, Allahabad.	312·449	312·417
7/177	BM.55/63 G	165·3	G.T.S. Standard Bench Mark 1904 at Collector's kachahri, Katra, Allahabad. Situated in centre of grass plot E. of kachahri building and at entrance or front side; 178 feet from N.E. corner of portico under dome, 180 feet from N.E. corner of kachahri building, 186 feet from S.E. corner of District Judge's kachahri, 535 and 520 feet respectively from N.E. and N.W. corners of suitors' shed and 430 feet from N.E. corner of Treasury. It is enclosed in a railed-off space 11 feet square.	314·206	314·174
178	BM.56/63 G	161·5	G.T.S. A B.M. at Allahabad Fort. On plinth of sentry box outside outer works of fort.	287·882	287·853
179	BM.57/63 G	161·5	G.T.S. □ B.M. at Allahabad Fort. On plinth of sentry box inside sally port.	297·225	297·195
180	BM.58/63 G	161·5	G.T.S. B.M. at Allahabad Fort. On cylindrical stone embedded, with upper surface 6 inches above ground level, within outer works, on top of glacis of N.E. gate on city side of fort, leading to main entrance; 34 feet S. of saluting battery, 11 feet N. of scarp of ditch, 13 feet E. of traverse wall, 118 feet S.S.W. of sentry box near sally port, and 125 feet N.W. of centre of draw bridge leading to Battery No. 4.	297·572	297·542

Main-Line 60. (Katni to Sironj).

	Designation of Bench-marks		Distance from Katni	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.81 / 64 A	0·0	G.T.S. ○ B.M. On coping of E. platform of E. I. Railway line, in front of mail office at Katni railway station.	1253·513	1253·527
2		BM 97 / 64 A	0·7	G.T.S. ○ B.M. On N.E. parapet of bridge, near telegraph post No. $\frac{305}{8}$, and 30 chains S.E. of Katni railway station (I. M. Railway).	1254·541	1254·555
3			1·1	Destroyed.	1250·748	1250·762
4		BM.98 / 64 A	1·7	G.T.S. ○ B.M. On S. parapet of E. abutment of bridge over Katni river, near telegraph post No. $\frac{304}{7}$.	1237·955	1237·967
5		BM 99 / 64 A	2·0	G.T.S.○B.M. On top of mile-stone No. 304 from Itarsi.	1238·933	1238·945
6		BM.100 / 64 A	3·1	G.T.S.○B.M. On top of mile-stone No. 303 from Itarsi.	1244·568	1244·579
7		BM.101 / 64 A	3·5	G.T.S. ○ B.M. On S. parapet of W. abutment of bridge over Kuwari nadi, near telegraph post No. $\frac{302}{10}$.	1249·245	1249·256
8		BM.102 / 64 A	4·1	G.T.S.○B.M. On top of mile-stone No. 302 from Itarsi.	1275·769	1275·780
9		BM.103 / 64 A	4·6	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. $\frac{301}{8}$.	1261·571	1261·582
10		BM.104 / 64 A	5·1	G.T.S.○B.M. On top of mile-stone No. 301 from Itarsi.	1276·541	1276·552
11		BM.105 / 64 A	5·8	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. $\frac{300}{5}$.	1293·618	1293·630
12		BM.106 / 64 A	6·4	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. $\frac{299}{11}$.	1277·473	1277·483
13		BM.107 / 64 A	7·8	G.T.S. ○ B.M. On S. parapet of bridge, between telegraph posts Nos. $\frac{298}{3}$ and $\frac{298}{4}$.	1249·062	1249·071
14		BM.108 / 64 A	8·0	B.O.M. On top of mile-stone No. 298 from Itarsi.	1252·082	1252·091

Main-Line 60. (Katni to Sironj).

Designation of Bench-marks		Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
15	BM.109 / 64 A	8·6	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. 297/7.	1251·840	1251·849
16	BM.110 / 64 A	8·9	G.T.S. ○ B.M. On S. parapet of bridge, between telegraph posts Nos. 297/2 and 297/3.	1256·802	1256·811
17	BM.111 / 64 A	9·2	G.T.S. ○ B.M. On W. end of S. abutment of bridge over Loni river, near telegraph post No. 296/15.	1260·972	1260·981
18	BM.112 / 64 A	9·9	G.T.S. ○ B.M. On base of E. distant signal at Hardua railway station.	1274·075	1274·084
19	BM.113 / 64 A	10·4	G.T.S. □ B.M. at Hardua Railway Station. Embedded 5 inches below ground level, on S. side of railway line, 3 chains from S. corner of station building, 4 chains from N.W. corner of station master's quarters, and 19 feet from E. side of station well. A stone slab embedded at S. end of bench-mark has letters B.M. engraved on it.	1280·713	1280·721
20	BM.114 / 64 A	10·5	G.T.S. ○ B.M. On base of home semaphore at Hardua railway station.	1284·847	1284·855
21	BM.115 / 64 A	11·1	G.T.S. ○ B.M. On E. abutment of rail opening, 2 chains W. of W. distant signal of Hardua railway station.	1290·911	1290·919
22	BM.116 / 64 A	12·1	B.O.M. On top of mile-stone No. 294 from Itarsi.	1296·324	1296·332
23	BM.117 / 64 A	13·1	B.O.M. On top of mile-stone No. 293 from Itarsi.	1297·239	1297·247
24	BM.118 / 64 A	14·3	G.T.S. ○ B.M. On S. parapet of W. abutment of bridge, near telegraph post No. 291/15.	1286·139	1286·147
25	BM.119 / 64 A	15·4	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. 290/13.	1312·009	1312·017
26	BM.120 / 64 A	16·4	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. 289/13.	1326·046	1326·054
27	BM.121 / 64 A	17·4	G.T.S. ○ B.M. On S. parapet of bridge, between telegraph posts Nos. 288/12 and 288/13.	1336·358	1336·366

Main-Line 60. (Katni to Sironj).

Designation of Bench-marks		Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
28	BM.122 / 64 A	17·9	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. 288/3.	1344·846	1344·854
29	BM.123 / 64 A	19·0	G.T.S. ○ B.M. On S. parapet of W. abutment of bridge, between telegraph posts Nos. 287/2 and 287/3.	1378·386	1378·394
30	BM.124 / 64 A	19·3	G.T.S. ○ B.M. On base of E. distant signal at Rithi railway station.	1387·182	1387·190
31	BM.125 / 64 A	19·8	G.T.S. ○ B.M. On platform coping opposite latrine at Rithi railway station.	1397·008	1397·016
32	BM.126 / 64 A	19·9	G.T.S. □ B.M. at Rithi Railway Station. Embedded 6 inches below ground level, 50 feet from edge of platform, 11 feet from both N.E. and S.E. corners of station building, and 3 feet from buttress of E. wall on which letters B.M. are engraved.	1397·240	1397·248
33	BM.127 / 64 A	20·4	G.T.S. ○ B.M. On S. parapet of W. abutment of bridge, near telegraph post No. 285/13.	1386·370	1386·380
34	BM.128 / 64 A	20·7	G.T.S. ○ B.M. On S. parapet of W. abutment of bridge, near telegraph post No. 285/7.	1380·277	1380·287
35	BM.129 / 64 A	21·1	B.○M. On top of mile-stone No. 285 from Itarsi.	1380·316	1380·326
36	BM.130 / 64 A	21·3	G.T.S. ○ B.M. On S. parapet of W. abutment of bridge, near telegraph post No. 284/15.	1379·594	1379·604
37	BM.131 / 64 A	23·1	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. 283/2.	1404·017	1404·028
38	BM.132 / 64 A	23·4	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. 282/13.	1403·925	1403·938
39	BM.133 / 64 A	24·1	B.○M. On top of mile-stone No. 282 from Itarsi.	1399·343	1399·356
40	BM.134 / 64 A	24·8	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. 281/6.	1392·115	1392·128

Main-Line 60. (Katni to Sironj).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
41		BM.135 / 64 A	25·4	G.T.S. ⊙ B.M. On S. parapet of E. abutment of bridge, between telegraph posts Nos. 280/11 and 280/12.	1394·136	1394·149
42		BM.136 / 64 A	27·1	G.T.S. ⊙ B.M. On S. parapet of bridge, near telegraph post No. 279/1.	1387·015	1387·029
43		BM.1 / 55 M	27·3	G.T.S. ⊙ B.M. On S. parapet of W. abutment of bridge over Budhaina nadi, near telegraph post No. 278/11.	1387·038	1387·052
44		BM.2 / 55 M	28·4	G.T.S. ⊙ B.M. On S. parapet of W. abutment of bridge, near telegraph post No. 277/13.	1409·829	1409·843
45		BM 3 / 55 M	29·4	G.T.S. ⊙ B.M. On S. parapet of W. abutment of bridge, near telegraph post No. 276/13.	1422·023	1422·037
46		BM.4 / 55 M	30·5	G.T.S. ⊙ B.M. On S. parapet of bridge, near telegraph post No. 275/10.	1394·803	1394·817
47		BM.5 / 55 M	31·4	G.T.S. □ B.M. at Salaia Railway Station. Embedded 4 inches below ground level, 50 feet from edge of platform, 11 feet from both N. and E. corners of station building, and 3 feet from buttress of E. wall on which letters B.M. are engraved.	1412·098	1412·114
48		BM.6 / 55 M	31·5	G.T.S. ⊙ B.M. On base of home semaphore at Salaia railway station.	1414·301	1414·317
49		BM.7 / 55 M	32·5	G.T.S. ⊙ B.M. On S. parapet of W. abutment of bridge over Patna river, near telegraph post No. 273/11.	1393·620	1393·635
50		BM.8 / 55 M	33·3	G.T.S. ⊙ B.M. On S. end of E. abutment of bridge, between telegraph posts Nos. 272/14 and 272/15.	1413·858	1413·874
	1/50	BM.9 / 55 M	34·5	On the ⊙ on upper mark of Salaia G. T. Survey Hill Station, lat. 23° 49′ 51″·7, long. 79° 56′ 3″·71. A principal station of Calcutta Longitudinal Series. (For full description *see* Synoptical Volume).	1674·065	1674·083
51		BM 10 / 55 M	33·9	G.T.S. ⊙ B.M. On S. parapet of bridge, near telegraph post No. 272/5.	1426·607	1426·623
52		BM.11 / 55 M	34·4	G.T.S. ⊙ B.M. On N. parapet of E. abutment of bridge, between telegraph posts Nos. 271/12 and 271/13.	1442·949	1442·966

Main-Line 60. (Katni to Sironj).

Designation of Bench-marks		Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
53	BM.12 / 55 M	35·1	G.T.S. ○ B.M. On N. parapet of E. abutment of bridge, near telegraph post No. 270/17.	1461·066	1461·084
54	BM.13 / 55 M	35·9	G.T.S. ○ B.M. On S. parapet of E. abutment of bridge, near telegraph post No. 270/4.	1453·470	1453·487
55	BM 14 / 55 M	36·5	G.T.S. ○ B.M. On S. parapet of E. abutment of bridge, between telegraph posts Nos. 269/10 and 269/11.	1422·858	1422·877
56	BM.15 / 55 M	37·3	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. 268/13.	1383·184	1383·202
57	BM 16 / 55 M	37·6	G.T.S. ○ B.M. On E. end of S. parapet of bridge over Jamnaha nala, between telegraph posts Nos. 268/7 and 268/8.	1369·864	1369·882
58	BM.17 / 55 M	38·2	G.T.S. ○ B.M. On W. end of S. parapet of bridge over Panghata nala, near telegraph post No. 267/13.	1336·581	1336·600
59	BM.18 / 55 M	38·8	G.T.S. ○ B.M. On plinth of S. parapet of E. abutment of bridge over Bhojikoh or Bhoja nala, near telegraph post No. 267/4.	1304·068	1304·086
a/59	BM.19 / 55 M	39·0	G.T.S. ○ B.M. On N. parapet at W. end of bridge over Bhojikoh or Bhoja nala, near telegraph post No. 267/3.	1298·309	1298·327
60	BM.20 / 55 M	39·4	B.□M. On S.E. end of S.W. abutment of bridge, near telegraph post No. 266/11. (Railway bench-mark).	1278·359	1278·377
61	BM.21 / 55 M	40·1	G.T.S. ○ B.M. On centre of N.W. parapet of bridge, opposite mile-stone No. 266.	1242·848	1242·865
62	BM 22 / 55 M	40·3	B.□M. On S.W. end of S.E. parapet of bridge over Bohora nala, near telegraph post No. 265/11. (Railway bench-mark).	1231·347	1231·364
63	BM.23 / 55 M	40·9	□ B.M. On S. end of W. abutment of bridge, between telegraph posts Nos. 265/4 and 265/5. (Railway bench-mark).	1198·944	1198·961
64	BM.24 / 55 M	42·1	B○M. On top of mile-stone No. 264 from Itarsi.	1175·046	1175·062

Main-Line 60. (Katni to Sironj).

Designation of Bench-marks		Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
65	BM 25 / 55 M	42·6	□ B.M. On S.E. parapet of bridge over Pateria nadi, near telegraph post No. $\frac{263}{10}$. (Railway bench-mark).	1147·789	1147·805
66	BM 26 / 55 M	42·9	G.T.S. ○ B.M. On base of home semaphore at Sagoni railway station.	1149·272	1149·288
67	BM 27 / 55 M	42·9	G.T.S. □ B.M. at Sagoni Railway Station. Embedded 6 inches below ground level, 32 feet from N.E. corner of base of home signal, 11 feet from both S. and W. corners of station building, and 3 feet from buttress of S.W. wall on which letters B.M. are engraved.	1146·215	1146·231
68	BM 28 / 55 M	43·9	□ B.M. On S.W. end of S.E. parapet of bridge over Padri nala, near telegraph post No $\frac{262}{3}$. (Railway bench-mark).	1140·879	1140·895
69	BM 29 / 55 M	44·5	□ B.M. On S. parapet of bridge, near telegraph post No. $\frac{261}{12}$. (Railway bench-mark).	1152·492	1152·508
70	BM 30 / 55 M	45·1	□ B.M. On S. parapet of W. abutment of bridge, near telegraph post No. $\frac{261}{3}$. (Railway bench-mark).	1169·458	1169·474
71	BM 31 / 55 M	45·5	□ B.M. On S. parapet of bridge, near telegraph post No. $\frac{260}{13}$. (Railway bench-mark).	1175·277	1175·293
72	BM 32 / 55 M	47·1	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. $\frac{259}{2}$.	1175·532	1175·548
73	BM 33 / 55 M	48·2	B. ○ M. On top of mile-stone No. 258 from Itarsi.	1183·168	1183·185
74	BM 34 / 55 M	49·4	G.T.S. ○ B.M. On E. end of S. parapet of bridge called Hardua viaduct, near telegraph post No. $\frac{256}{10}$.	1196·306	1196·323
75	BM 35 / 55 M	50·2	G.T.S. ○ B.M. On platform of mile-stone No. 256 from Itarsi.	1159·360	1159·376
76	BM 36 / 55 M	50·7	G.T.S. ○ B.M. On S.W. end of N.W. abutment of bridge, near telegraph post No. $\frac{255}{7}$.	1135·854	1135·870

Main-Line 60. (Katni to Sironj).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
77		BM.37 55 M	52·0	G.T.S. ○ B.M. On S.W. parapet of bridge, between telegraph posts Nos. $\frac{254}{2}$ and $\frac{254}{3}$.	1078·675	1078·689
78		BM.38 55 M	52·4	G.T.S. ○ B.M. On S.W. parapet of bridge over Raksa nala, near telegraph post No. $\frac{253}{15}$.	1080·587	1080·600
79		BM.39 55 M	53·0	G.T.S. ○ B.M. On base of home semaphore at Ghatera railway station.	1085·313	1085·326
80		BM.40 55 M	53·0	G.T.S. □ B.M. at Ghatera Railway Station. Embedded 6 inches below ground level, 27 feet from S.E. corner of base of home signal, 11 feet from both N.E. and S.W. corners of station building, and 3 feet from buttress of W. wall on which letters B.M. are engraved.	1081·414	1081·427
81		BM 41 55 M	53·6	G.T.S. ○ B.M. On N. parapet of W. abutment of bridge over Bairma river, near W. distant signal of Ghatera railway station.	1083·381	1083·394
82		BM.42 55 M	54·0	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. $\frac{252}{3}$.	1083·637	1083·650
83		BM.43 55 M	56·0	G.T.S. ○ B.M. On S.W. parapet of bridge, near telegraph post No. $\frac{250}{4}$.	1128·133	1128·145
84		BM 44 55 M	57·0	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. $\frac{249}{3}$.	1137·097	1137·110
85		BM.45 55 M	57·2	G.T.S. ○ B.M. On S. parapet of bridge, 1 chain W. of mile-stone No. 249.	1136·948	1136·961
86		BM.46 55 M	58·6	G.T.S. ○ B.M. On S. parapet of W. abutment of bridge, near telegraph post No. $\frac{247}{12}$.	1129·990	1130·002
87		BM 47 55 M	59·3	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. $\frac{246}{16}$.	1127·051	1127·062
88		BM.48 55 M	59·6	G.T.S. ○ B.M. On platform coping in front of and 42 feet from S.E. corner of station building at Bandukpur railway station.	1127·109	1127·120
	a 88	BM.49 55 M	59·6	G.T.S. □ B.M. at Bandukpur Railway Station. Embedded 6 inches below ground level, 11 feet from both N.E. and S.E. corners of station building, and 3 feet from buttress of E. wall on which letters B.M. are engraved.	1127·161	1127·172

Main-Line 60. (Katni to Sironj).

Designation of Bench-marks		Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
89	BM.50 / 55 M	60·2	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. 246/0.	1126·968	1126·979
90	BM.51 / 55 M	60·6	G.T.S. □ B.M. On S. parapet of W. abutment of bridge, near telegraph post No. 245/12. (Railway bench-mark).	1127·915	1127·926
91	BM.52 / 55 M	60·9	G.T.S. □ B.M. On S. parapet of bridge, near telegraph post No. 245/6. (Railway bench-mark).	1129·968	1129·979
92	BM.53 / 55 M	62·2	G.T.S. ○ B.M. On S. parapet of E. abutment of bridge, near telegraph post No. 244/1.	1147·809	1147·820
93	BM.54 / 55 M	63·8	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. 242/8.	1177·952	1177·964
94	BM.55 / 55 M	64·2	G.T.S. ○ B.M. On S. end of E. abutment of bridge, near telegraph post No. 242/1.	1187·889	1187·901
95	BM.56 / 55 M	64·8	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. 241/8.	1196·890	1196·902
96	BM.57 / 55 M	65·4	G.T.S. ○ B.M. On S. parapet of W. abutment of bridge, near telegraph post No. 240/14.	1213·794	1213·806
97	BM.58 / 55 M	66·6	G.T.S. ○ B.M. On S. parapet of W. abutment of bridge, near telegraph post No. 239/12.	1234·023	1234·035
98	BM.59 / 55 M	67·4	G.T.S. ○ B.M. On S. parapet of E. abutment of bridge, near telegraph post No. 238/14.	1233·835	1233·847
99	BM.60 / 55 M	67·9	G.T.S. ○ B.M. On S. parapet of W. abutment of bridge, between telegraph posts Nos. 238/4 and 238/5.	1226·916	1226·928
100	BM.61 / 55 M	68·2	G.T.S. □ B.M. On S. parapet of W. abutment of bridge, 1 chain E. of mile-stone No. 238. (Railway bench-mark).	1218·325	1218·337

Main-Line 60. (Katni to Sironj).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
101		BM.62 / 55 M	68·5	G.T.S. □ B.M. On S.E. parapet of S.W. abutment of bridge, between telegraph posts Nos. 237/12 and 237/13. (Railway bench-mark).	1207·664	1207·677
102		BM.63 / 55 M	69·2	B.M. On platform coping opposite goods shed at Damoh railway station. (Railway bench-mark).	1201·255	1201·268
103		BM.64 / 55 M	69·2	G.T.S. □ B.M. at Damoh Railway Station. Embedded 6 inches below ground level at S.W. side of goods shed, 33 and 5 feet respectively from S. and W. corners, and 3 chains from N. corner pillar of station verandah. The letters B.M. are engraved on S.W. wall of goods shed.	1202·267	1202·280
104		BM.65 / 55 M	69·2	G.T.S. ○ B.M. On base of home semaphore at Damoh railway station.	1202·277	1202·290
105		BM.66 / 55 M	69·9	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. 236/8.	1190·910	1190·923
106		BM.67 / 55 M	70·7	G.T.S. ○ B.M. On S.W. parapet of N.W. abutment of bridge, between telegraph posts Nos. 235/10 and 235/11.	1179·847	1179·860
107		BM.68 / 55 M	71·3	G.T.S. ○ B.M. On S.W. parapet of N.W. abutment of bridge, near mile-stone No. 235.	1178·879	1178·892
108		BM.69 / 55 M	73·3	G.T.S. ○ B.M. On S.W. parapet of S.E. abutment of bridge over Kopra river, near mile-stone No. 233.	1171·320	1171·333
109		BM.70 / 55 M	73·9	G.T.S. ○ B.M. On S.W. parapet of bridge, near telegraph post No. 232/8.	1168·766	1168·778
110		BM.71 / 55 M	76·8	G.T.S. ○ B.M. On S.W. parapet of bridge, near telegraph post No 229/9.	1213·133	1213·144
111		BM.72 / 55 M	77·4	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. 228/16.	1211·282	1211·293
112		BM.73 / 55 M	79·2	G.T.S. ○ B.M. On S. parapet of E. abutment of bridge, near telegraph post No. 227/8.	1188·759	1188·770
113		BM.74 / 55 M	79·4	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. 226/16.	1186·888	1186·897
114		BM.75 / 55 M	80·8	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. 225/10.	1184·861	1184·869
	a/114	BM.76 / 55 M	82·2	G.T.S. ○ B.M. On N. parapet of W. abutment of bridge over Sunar river, near telegraph post No. 224/3.	1189·992	1190·000

Main-Line 60. (Katni to Sironj).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
115		BM.77 / 55 M	84·5	G.T.S. □ B.M. On S. parapet of bridge, between telegraph posts Nos. 221/14 and 221/15. (Railway bench-mark).	1231·751	1231·760
116		BM.78 / 55 M	85·5	G.T.S. ○ B.M. On base of home semaphore at Patharia railway station.	1256·682	1256·691
	a / 116	BM.79 / 55 M	85·6	G.T.S. □ B.M. at Patharia Railway Station. Embedded 4 inches below ground level, 51 feet from edge of platform, 12 feet from both N.W. and S.W. corners of station building, and 3 feet from buttress of N.W. wall of same on which letters B.M. are engraved.	1253·120	1253·129
117		BM.80 / 55 M	85·8	G.T.S. ○ B.M. On S.W. parapet of S.E. abutment of bridge, near telegraph post No. 220/10.	1254·857	1254·865
118		BM.81 / 55 M	87·1	G.T.S. ○ B.M. On S. parapet of E. abutment of bridge, near telegraph post No. 219/5.	1288·586	1288·594
119		BM.82 / 55 M	87·4	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. 218/17.	1294·920	1294·928
120		BM.83 / 55 M	88·3	B.O.M. On top of mile-stone No. 218 from Itarsi.	1323·169	1323·177
121		BM.84 / 55 M	89·9	□ B.M. On S.E. parapet of S.W. abutment of bridge, near telegraph post No. 216/9. (Railway bench-mark).	1361·682	1361·690
122		BM.85 / 55 M	90·6	G.T.S. □ B.M. On S.E. parapet of S.W. abutment of bridge, near telegraph post No. 215/13. (Railway bench-mark).	1361·350	1361·358
123		BM.86 / 55 M	91·9	G.T.S. ○ B.M. On S. parapet of W. abutment of bridge, near telegraph post No. 214/9.	1369·606	1369·616
124		BM.87 / 55 M	92·9	G.T.S. □ B.M. On S.E. parapet of S.W. abutment of bridge, near telegraph post No. 213/9. (Railway bench-mark).	1370·421	1370·431
125		BM.88 / 55 M	93·5	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. 212/16.	1377·305	1377·315
	a / 125	BM.89 / 55 M	93·6	G.T.S. □ B.M. at Ganeshganj Railway Station. Embedded 6 inches below ground level, in front of window of E. wall of station master's office, and close to terminal telegraph post; 55 feet from edge of platform, 15 feet from both S.E. corner of station building and N.E. corner pillar of front verandah, and 4 feet from E. wall on which letters B.M. are engraved.	1377·601	1377·611

Main-Line 60. (Katni to Sironj).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
126		BM.90 / 55 M	93·6	G.T.S. ○ B.M. On base of home semaphore at Ganeshganj railway station.	1380·539	1380·549
127		BM.91 / 55 M	94·1	G.T.S. ○ B.M. On base of W. distant signal at Ganeshganj railway station.	1366·315	1366·325
128		BM.92 / 55 M	94·5	G.T.S. □ B.M. On S. parapet of W. abutment of bridge, near telegraph post No. 211/15. (Railway bench-mark).	1358·973	1358·984
129		BM.93 / 55 M	95·1	G.T.S. ○ B.M. On N. parapet of bridge, near telegraph post No. 211/4.	1374·072	1374·083
130		BM.94 / 55 M	96·3	G.T.S. ○ B.M. On N.W. parapet of N.E. abutment of bridge, near telegraph post No. 210/1.	1395·218	1395·231
131		BM.1 / 55 I	99·6	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. 206/14.	1481·376	1481·391
132		BM.2 / 55 I	100·4	B.○M. On top of mile-stone No. 206 from Itarsi.	1503·629	1503·646
133		BM.3 / 55 I	100·6	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. 205/13.	1505·260	1505·277
134		BM.4 / 55 I	102·2	G.T.S. ○ B.M. On S.E. parapet of bridge, near telegraph post No. 204/4.	1543·678	1543·697
135		BM.5 / 55 I	103·0	G.T.S. ∧ B.M. On S. parapet of W. abutment of bridge, between telegraph posts Nos. 203/7 and 203/8. (Railway bench-mark).	1565·752	1565·769
136		BM.6 / 55 I	103·4	B.○M. On top of mile-stone No. 203 from Itarsi.	1576·985	1577·002
137		BM.7 / 55 I	104·4	B.○M. On top of mile-stone No. 202 from Itarsi.	1604·302	1604·320
138		BM.8 / 55 I	105·7	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. 200/12.	1600·018	1600·036
139		BM.9 / 55 I	106·4	G.T.S. ○ B.M. On S. parapet of bridge, near telegraph post No. 200/1.	1591·526	1591·544
	a/139	BM.10 / 55 I	106·8	G.T.S. ∧ B.M. ⊙ On S. parapet of W. abutment of bridge over Bias river, near telegraph post No. 199/12. (Railway bench-mark).	1593·785	1593·803

Main-Line 60. (Katni to Sironj).

Designation of Bench-marks		Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
140	BM 11 / 55 I	107·2	G.T.S. / B.M. On S. parapet of bridge over Pateria nadi, between telegraph posts Nos. 199/3 and 199/4. (Railway bench-mark).	1600·852	1600·870
141	BM.12 / 55 I	107·8	G.T.S. / B.M. On base of E. distant signal at Lidhora Khurd railway station.	1615·033	1615·049
142	BM.13 / 55 I	108·3	G.T.S. / B.M. On base of home semaphore at Lidhora Khurd railway station.	1625·988	1626·004
143	BM.14 / 55 I	108·3	G.T.S. / B.M. at Lidhora Khurd Railway Station. Embedded 6 inches below ground level, at W. side of station building, 38 feet from N.E. corner of base of home signal, 16 feet from N.W. corner of building, 15 feet from S.W. corner pillar of verandah, and 4 feet from W. wall on which letters B.M. are engraved.	1623·301	1623·317
144		108·9	Destroyed.	1631·897	1631·913
145	BM.15 / 55 I	109·6	G.T.S. / B.M. On S. parapet of E. abutment of bridge, near telegraph post No. 196/15. (Railway bench-mark).	1651·692	1651·709
146	BM.16 / 55 I	110·6	G.T.S. / B.M. On S. parapet of bridge, near telegraph post No. 195/15. (Railway bench-mark).	1678·378	1678·395
147	BM.17 / 55 I	111·1	G.T.S. / B.M. On S. parapet of bridge, near telegraph post No. 195/6. (Railway bench-mark).	1691·698	1691·715
148	BM.18 / 55 I	111·5	G.T.S. / B.M. On S.S.W. parapet of bridge, near telegraph post No. 194/16. (Railway bench-mark).	1703·829	1703·844
149	BM.19 / 55 I	111·9	G.T.S. / B.M. On S.W. parapet of S.E. abutment of bridge, near telegraph post No. 194/9. (Railway bench-mark).	1714·615	1714·630
150	BM.20 / 55 I	113·0	G.T.S. / B.M. On S. parapet of E. abutment of bridge, near telegraph post No. 193/8. (Railway bench-mark).	1725·508	1725·524
151	BM.21 / 55 I	113·8	G.T.S. / B.M. On S. parapet of bridge, near telegraph post No. 192/11. (Railway bench-mark).	1726·372	1726·388
152	BM.22 / 55 I	114·6	G.T.S. / B.M. On S. parapet of bridge, near telegraph post No. 191/13. (Railway bench-mark).	1724·647	1724·663
153	BM.23 / 55 I	115·1	G.T.S. / B.M. On S. parapet of bridge, near telegraph post No. 191/5. (Railway bench-mark).	1727·245	1727·261

Main-Line 60. (Katni to Sironj).

Designation of Bench-marks		Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
154	BM.24 / 55 I	115·4	G.T.S. / B.M. On S. parapet of bridge, near telegraph post No. 190/18. (Railway bench-mark).	1731·075	1731·091
155	BM 25 / 55 I	116·2	G.T.S. / B.M. On S. parapet of bridge, near level crossing No. 333 and near telegraph post No. 653/4.	1729·714	1729·731
1/155	BM.26 / 55 I	116·7	B.M. / G.T.S. On S. parapet of culvert at E. gate of Post and Telegraph Office compound, Saugor. (P.W.D. bench-mark).	1775·056	1775·074
2/155	BM.27 / 55 I	117·1	B.8M. On stone embedded in S. parapet of bridge No. 3 at junction of roads to Damoh and Rehli.	1773·861	1773·879
3/155	BM 28 / 55 I	117·4	G.T.S. 5 / B.M. On W. parapet of bridge No. 5 on road from Saugor to Rehli.	1797·983	1798·001
4/155	BM 29 / 55 I	117·6	B.8M. On stone embedded in S.W. parapet of bridge No. 8 on road from Saugor to Rehli, near Mission School, Saugor.	1809·478	1809·496
5/155	BM.30 / 55 I	118·0	B.9M. On stone embedded in S. parapet of bridge No. 9 on road from Saugor to Rehli.	1912·520	1912·539
6/155	BM.31 / 55 I	118·1	B.10M. On stone embedded in S.W. parapet of bridge No. 10 on road from Saugor to Rehli.	1949·571	1949·590
7/155	BM 32 / 55 I	118·4	On upper mark-stone of Saugor G.T. Survey Hill Station, lat. 23° 49′ 48″·07, long. 78° 46′ 18″·16. A principal station of Calcutta Longitudinal Series. (For full description *see* Synoptical Volume).	2034·690	2034·710
a/155	BM 33 / 55 I	116·7	G.T.S. ○ B.M. On uppermost step of southern entrance to St. Peter's Church, Saugor.	1756·024	1756·042
b/155	BM.34 / 55 I	116·7	G.T.S. Standard Bench Mark 1904 at Saugor. Surrounded by iron railing and situated at S.E. corner of compound of St. Peter's church, 104 feet from S.E. corner of church, 82 feet from S.W. corner of store room, and 22 feet from S.E. corner of compound wall.	1755·462	1755·480
156	BM.35 / 55 I	116·6	G.T.S. / B.M. On S. parapet of bridge, near telegraph post No. 189/16. (Railway bench-mark).	1710·548	1710·565
157	BM 36 / 55 I	117·1	B.M. On coping at E end of platform at Saugor railway station. (Railway bench-mark).	1698·103	1698·120
158	BM.37 / 55 I	117·2	G.T.S. / B.M. On base of home semaphore at Saugor railway station.	1699·878	1699·895
159	BM.38 / 55 I	117·5	B.M. On S. parapet of E. abutment of bridge No. 62, 4 chains W. of mile-stone No. 189. (Railway bench-mark).	1695·135	1695·152

Main-Line 60. (Katni to Sironj).

Designation of Bench-marks		Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
160	BM.39 / 55 I	118·8	B.M. On S. end of E. abutment of bridge No. 61, near telegraph post No. 187/11. (Railway bench-mark).	1683·167	1683·186
a/160	BM 40 / 55 I	119·1	B.M. On S. end of E. abutment of bridge No. 60 over Amaoni nadi, near telegraph post No. 187/6. (Railway bench-mark).	1676·001	1676·019
161	BM.41 / 55 I	120·0	G.T.S. B.M. On N. parapet of bridge No. 59, between telegraph posts Nos. 186/7 and 186/8.	1697·860	1697·879
162	BM.42 / 55 I	121·1	B.M. On S. parapet of E. abutment of bridge No. 58, near telegraph post No. 185/5. (Railway bench-mark).	1684·295	1684·314
163	BM.43 / 55 I	122·2	B.M. On S. parapet of E. abutment of bridge No. 57, near telegraph post No. 184/5. (Railway bench-mark).	1648·573	1648·591
164	BM.44 / 55 I	122·8	B.M. On S. end of E. abutment of bridge No. 56, near telegraph post No. 183/11. (Railway bench-mark).	1645·558	1645·578
165	BM.45 / 55 I	123·2	B.M. On S. end of E. abutment of bridge No. 55, near telegraph post No. 183/4. (Railway bench-mark).	1656·738	1656·756
166	BM.46 / 55 I	123·9	B.M. On S. end of E. abutment of bridge No. 54, between telegraph posts Nos. 182/10 and 182/11. (Railway bench-mark).	1675·826	1675·844
167	BM.47 / 55 I	124·8	B.M. On S. end of E. abutment of bridge No. 53, near telegraph post No. 181/10. (Railway bench-mark).	1685·542	1685·559
168	BM.48 / 55 I	125·6	B.M. On S. end of E. abutment of bridge No. 52, between telegraph posts Nos. 180/14 and 180/15. (Railway bench-mark).	1684·182	1684·199
169	BM.49 / 55 I	126·7	B.M. On W. end of S. abutment of bridge No. 51, near telegraph post No. 179/14. (Railway bench-mark).	1656·276	1656·291
170	BM.50 / 55 I	127·1	B.M. On W. end of S. abutment of bridge No. 50, near telegraph post No. 179/6. (Railway bench-mark).	1663·276	1663·291
171	BM 51 / 55 I	128·2	B.M. On W. end of S. abutment of bridge No. 49, near telegraph post No. 178/6. (Railway bench-mark).	1637·201	1637·214

Main-Line 60. (Katni to Sironj).

Designation of Bench-marks		Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
172	BM 52 / 55 I	128·7	G.T.S. □ B.M. at Nariaoli Railway Station. Embedded in circular parapet wall of station well, 1 inch above coping, 2 chains from both S.E. and S.W. corners of station master's quarters, and 4 chains from S.E. corner pillar of station building.	1635·336	1635·347
173		128·8	Destroyed	1637·609	1637·620
174	BM 53 / 55 I	128·8	G.T.S. ○ B.M. On base of home semaphore at Nariaoli railway station.	1639·028	1639·039
175	BM 54 / 55 I	128·9	B.⋀M. On coping at N. end of platform at Nariaoli railway station. (Railway bench-mark).	1637·595	1637·606
176	BM.55 / 55 I	129·2	B.⋀M. On W. end of S. abutment of bridge No. 48, near telegraph post No. 177/7. (Railway bench-mark).	1636·257	1636·268
177	BM 56 / 55 I	129·6	G.T.S. B.⋀M. On W. parapet of bridge No. 47, near telegraph post No. 177/1. (Railway bench-mark).	1635·571	1635·581
178	BM 57 / 55 I	130·0	B.⋀M. On S.W. parapet of bridge No. 46, near telegraph post No. 176/11. (Railway bench-mark).	1635·744	1635·754
179	BM.58 / 55 I	130·5	B.⋀M. On S.W. end of S.E. abutment of bridge No. 45, near telegraph post No. 176/1. (Railway bench-mark).	1620·046	1620·056
180	BM.59 / 55 I	131·4	B.M. ⋀ On S.W. end of S.E. abutment of bridge No. 44, near telegraph post No. 175/3. (Railway bench-mark).	1594·638	1594·646
a/180	BM 60 / 55 I	132·9	B.⋀M. On S. end of E. abutment of bridge No. 43 over Dhasan river. (Railway bench-mark).	1590·371	1590·379
181	BM.61 / 55 I	133·9	B.⋀M. On S. end of E. abutment of bridge No. 42, near telegraph post No. 172/11. (Railway bench-mark).	1598·611	1598·619
182	BM.62 / 55 I	134·4	B.⋀M. On S.W. end of S.E. abutment of bridge No. 41, near telegraph post No. 172/3. (Railway bench-mark).	1590·467	1590·475
183	BM.63 / 55 I	135·0	○B.M. On S.W. end of S.E. abutment of bridge No. 40 over Sondni nadi, near telegraph post No. 171/11. (Railway bench-mark).	1593·118	1593·124
184	BM 64 / 55 I	136·0	B.⋀M. On S.W. end of S.E. abutment of bridge No. 39, near telegraph post No. 170/10. (Railway bench-mark).	1608·275	1608·281

Main-Line 60. (Katni to Sironj).

Designation of Bench-marks		Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
185	BM 65 / 55 I	137·0	B.⩚M. On S.W. end of S.E. abutment of bridge No. 38, near telegraph post No. 169/11. (Railway bench-mark).	1631·215	1631·220
186	BM 66 / 55 I	137·6	B.⩚M. On S.W. end of S.E. abutment of bridge No. 37, near telegraph post No. 168/18. (Railway bench-mark).	1622·495	1622·498
187	BM 67 / 55 I	138·4	⩚B.M. On S.W. end of S.E. abutment of bridge No. 35 over Soudni nadi, near telegraph post No. 168/4. (Railway bench-mark).	1622·584	1622·587
a/187	BM 68 / 55 I	139·0	G.T.S. □ B.M. at Mundra Railway Station. Embedded in circular parapet wall of station well, 2 inches above coping, 30 and 34 feet respectively from N. and E. corners of tank house, and about 5 chains from E. corner of station building.	1636·224	1636·227
188	BM 69 / 55 I	139·0	G.T.S. ○ B.M. On base of home semaphore at Mundra railway station.	1634·103	1634·106
189		139·0	Destroyed.	1632·863	1632·866
190	BM 70 / 55 I	140·0	B.⩚M. On S. end of E. abutment of bridge No. 32, near telegraph post No. 166/11. (Railway bench-mark).	1651·396	1651·398
191	BM.71 / 55 I	141·0	⩚ B.M. On S. parapet of bridge No. 30, near telegraph post No. 165/11. (Railway bench-mark).	1603·747	1603·749
192	BM.72 / 55 I	141·5	G.T.S. ○ B.M. On N. parapet of bridge No. 27, near telegraph post No. 165/3.	1579·526	1579·528
193	BM 73 / 55 I	141·9	⩚ B.M. On S.W. parapet of bridge No. 25, near telegraph post No. 164/13. (Railway bench-mark).	1561·717	1561·719
194	BM.1 / 54 L	144·4	⩚ B.M. On S. end of E. abutment of bridge No. 19, near telegraph post No. 162/3. (Railway bench-mark).	1461·111	1461·111
195	BM.2 / 54 L	146·2	⩚ B.M. On S.W. end of S.E. abutment of bridge No. 18, near telegraph post No. 160/8. (Railway bench-mark).	1434·812	1434·811
196	BM.3 / 54 L	147·9	⩛ B.M. On S.W. end of S.E. abutment of bridge No. 17, near telegraph post No. 158/12. (Railway bench-mark).	1413·963	1413·960
197	BM.4 / 54 L	149·3	⩛ B.M. On S.W. end of S.E. abutment of bridge No. 15, near telegraph post No. 157/7. (Railway bench-mark).	1428·569	1428·565

Main-Line 60. (Katni to Sironj).

Designation of Bench-marks		Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
a 197	BM.5 54 L	150·1	G.T.S. □ B.M. at Kurai Railway Station. Embedded in circular parapet wall of station well, 2 inches above coping, 2 chains S. of E. corner of wooden railing enclosing station platform, 3 chains S.E. of E. corner of station master's quarters, and 1 chain E. of telegraph post No. $\frac{156}{9}$.	1440·853	1440·849
198	BM.6 54 L	150·1	G.T.S. ○ B.M. On base of home semaphore at Kurai railway station.	1446·658	1446·654
199		150·2	Destroyed.	1445·093	1445·087
200	BM.7 54 L	151·7	⩛ B.M. On S.W. end of S.E. abutment of bridge No. 12, near telegraph post No. $\frac{154}{18}$. (Railway bench-mark).	1429·790	1429·783
201	BM.8 54 L	153·0	⩛ B.M. On S.W. end of S.E. abutment of bridge No. 11, near telegraph post No. $\frac{153}{11}$. (Railway bench-mark).	1428·463	1428·454
202	BM.9 54 L	153·4	⩛ B.M. On S.W. end of S.E. abutment of bridge No. 10, near telegraph post No. $\frac{153}{4}$. (Railway bench-mark).	1413·704	1413·696
203	BM.10 54 L	154·0	⩛ B.M. On S.W. end of S.E. abutment of bridge No. 9, near telegraph post No. $\frac{152}{11}$. (Railway bench-mark).	1409·878	1409·870
204	BM.11 54 L	155·3	⩛ B.M. On S.W. end of S.E. abutment of bridge No. 8, near telegraph post No. $\frac{151}{9}$. (Railway bench-mark).	1392·468	1392·458
205	BM.12 54 L	156·8	⩛ B.M. On S.W. end of S.E. abutment of bridge No. 7, near telegraph post No. $\frac{149}{14}$. (Railway bench-mark).	1369·103	1369·092
206	BM.13 54 L	158·1	⩛ B.M. On S.W. end of S.E. abutment of bridge No. 6, near telegraph post No. $\frac{148}{10}$. (Railway bench-mark).	1373·009	1372·997
207	BM.14 54 L	159·7	∧ B.M. On S.W. end of S.E. abutment of bridge No. 5, near telegraph post No. $\frac{146}{15}$. (Railway bench-mark).	1380·996	1380·982
208	BM.15 54 L	160·7	∧ B.M. On S.W. end of S.E. abutment of bridge No. 4, near telegraph post No. $\frac{145}{17}$. (Railway bench-mark).	1391·953	1391·938
209	BM.16 54 L	161·3	∧ B.M. On S.W. end of S.E. abutment of bridge No. 3, near telegraph post No. $\frac{145}{6}$. (Railway bench-mark).	1387·285	1387·268
210	BM.17 54 L	162·6	⩛ B.M. On S. end of E. abutment of bridge No. 2, near telegraph post No. $\frac{143}{8}$. (Railway bench-mark).	1366·834	1366·816

Main-Line 60. (Katni to Sironj).

Designation of Bench-marks		Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
a/210	BM.18 54 L	163·5	G.T.S. □ B.M. at Bina Railway Station. Embedded in parapet wall of station well, 2 inches above coping, and 50 and 41 feet respectively from N.E. and S.E. corners of tank house.	1351·783	1351·765
211		163·7	Destroyed.	1352·707	1352·691
212	BM.19 54 L	165·4	B.V.M. On S.E. end of N.E. abutment of bridge, near telegraph post No. 141/4. (Railway bench-mark).	1330·884	1330·869
213	BM.20 54 L	166·0	B.V.M. On S.E. end of N.E. abutment of bridge over Silar nadi, near telegraph post No. 110/12. (Railway bench-mark).	1330·578	1330·563
a/213	BM.21 54 L	168·7	B.V.M. On S.E. end of N.E. abutment of bridge over Bina river, near telegraph post No. 137/14. (Railway bench-mark).	1332·659	1332·644
214	BM.22 54 L	169·5	G.T.S. ○ B.M. On N.E. end of platform above ramp at Kethora railway station.	1330·724	1330·711
215	BM.23 54 L	169·5	G.T.S. ○ B.M. On base of home semaphore at Kethora railway station.	1332·117	1332·104
216	BM.24 54 L	169·6	G.T.S. □ B.M. at Kethora Railway Station. Embedded in parapet wall of station well, 4 inches above coping, 2 chains N. of N. corner of station building, and about midway between telegraph posts Nos. 137/2 and 137/3.	1325·186	1325·175
217	BM.25 54 L	170·6	G.T.S.○B.M. On top of mile-stone No. 1 from Kethora railway station.	1332·441	1332·430
218	BM.26 54 L	171·6	G.T.S.○B.M. On top of mile-stone No. 2 from Kethora railway station.	1315·486	1315·475
219	BM 27 54 L	172·6	G.T.S.○B.M. On top of mile-stone No. 3 from Kethora railway station.	1329·863	1329·852
220	BM.28 54 L	173·5	G.T.S.○B.M. On top of mile-stone No. 4 from Kethora railway station.	1308·406	1308·396
221	BM.29 54 L	174·1	G.T.S. ○ B.M. On S. parapet of bridge, 3 chains S. of S.W. bastion of Kurwai fort.	1308·954	1308·942
1/221	BM 30 54 L	174·8	G.T.S. □ B.M. at Parasnath Temple, Kurwai. Embedded in basement immediately under *chajja* (balcony) of window in centre of N. wall, 3 feet above level of road, and on S. margin of road from fort through town to Betwa river; 19 feet from E. end of basement which terminates at entrance to temple, 23 feet from N.W. corner of temple, and 2 feet from N. wall.	1310·882	1310·870

Main-Line 60. (Katni to Sironj).

Designation of Bench-marks		Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
222	BM 31 / 54 L	174·5	G.T.S.O B.M. On top of mile-stone No. 5 from Kethora railway station.	1308·313	1308·301
223	BM.32 / 54 L	175·4	G.T.S.O B.M. On top of mile-stone No. 6 from Kethora railway station.	1262·326	1262·315
224	BM 33 / 54 L	175·7	G.T.S. O B.M. On S.W. parapet of bridge, at entrance to Bhaorasa inspection bungalow.	1299·435	1299·423
1 / 224	BM.34 / 54 L	177·3	On upper mark-stone of Bhaorasa G.T. Survey Hill Station, lat. 24° 8′ 3″·73, long. 78° 0′ 40″·73. A principal station of Sironj Base-Line Figure of the Great Arc Series—Section 18° to 24°. (For full description *see* Synoptical Volume).	1390·723	1390·710
225	BM 35 / 54 L	177·4	G.T.S.O B.M. On top of mile-stone No. 2 from Betwa river.	1331·002	1330·991
226	BM.14 / 54 H	178·4	G.T.S. O B.M. On parapet of well, near mile-stone No. 3 from Betwa river.	1356·620	1356·608
227	BM 15 / 54 H	179·4	G.T.S.O B.M. On top of mile-stone No. 4 from Betwa river.	1374·047	1374·035
228	BM.16 / 54 H	180·4	G.T.S.O B.M. On top of mile-stone No. 5 from Betwa river.	1375·797	1375·785
229	BM.17 / 54 H	181·4	G.T.S.O B.M. On top of mile-stone No. 6 from Betwa river.	1388·806	1388·793
230	BM.18 / 54 H	182·4	G.T.S.O B.M. On top of mile-stone No. 7 from Betwa river.	1405·651	1405·638
231	BM.19 / 54 H	183·7	B.O.M. On top of mile-stone No. 15 from Sironj.	1413·413	1413·400
232	BM 20 / 54 H	185·7	B.O.M. On top of mile-stone No. 13 from Sironj.	1409·836	1409·826
233	BM.21 / 54 H	187·7	B.O.M. On top of mile-stone No. 11 from Sironj.	1401·189	1401·182
1 / 233	BM.11 / 54 H	194·7	On lower mark-stone of Sironj Base-Line, S.W. End, G.T. Survey Station, lat. 24° 4′ 45″·99, long. 77° 45′ 26″·21. A principal station of Sironj Base-Line Figure of the Great Arc Series—Section 18° to 24°. (For full description *see* Synoptical Volume).	1528·458	1528·449
234	BM.13 / 54 H	193·0	On mark-stone on upper surface of pillar of Sironj Base-Line, N.E. End, G.T. Survey Station, lat. 24° 8′ 53″·57, long. 77° 50′ 41″·14. A principal station of Sironj Base-Line Figure of the Great Arc Series—Section 18° to 24°. (For full description *see* Synoptical Volume).	1478·358	1478·343

Branch-Line 60A. (Katni to Nagpur).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM 81 / 64 A	0·0	G.T.S. ○ B.M. On coping of E. platform of E. I. railway line, in front of mail office at Katni railway station.	1253·513	1253·527
	1/1	BM.137 / 64 A	0·1	G.T.S. □ B.M. at Katni Dak Bungalow. Embedded in compound of bungalow W. of railway station, about 9 inches below ground level, 30 feet and 23° from S.E. and 7 feet and 117° from N.E. corners of main building, 14 feet and 166° from N.E. corner of front verandah, 83 feet and 223° from N.E. corner of compound wire fencing, 112 feet and 349° from N.E. corner ot menials' quarters, and 95 feet from centre of road to railway station.	1255·871	1255·885
	a/1	BM.138 / 64 A	0·1	G.T.S. ○ B.M. On platform coping of Bengal-Nagpur railway line, 22 feet from dead-stop wall at Katni railway station.	1253·748	1253·762
2		BM.80 / 64 A	0·4	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 224, 29 chains S. of Katni railway station.	1249·544	1249·558
3		BM.139 / 64 A	2·5	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 352, about 19 chains N. of mile-stone No. 174, and between telegraph posts Nos. 173/18 and 173/19.	1276·971	1276·988
4		BM.140 / 64 A	4·7	G.T.S. ○ B.M. On N. end of E. pa apet of bridge No. 356, about 7 chains N. of mile-stone No. 176, and between telegraph posts Nos. 175/21 and 175/22.	1317·338	1317·358
5		BM.141 / 64 A	7·0	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 361, about 18 chains S. of mile-stone No. 178, and between telegraph posts Nos. 178/5 and 178/6.	1341·494	1341·517
6		BM.142 / 64 A	8·3	G.T.S. □ B.M. at Niwar Railway Station. Embedded about 5 chains S. of station building, flush with surface of ground, 327 feet and 182° from S.W. corner of station building, 252 feet and 204° from S.E. corner of station master's quarters, and 27 feet W. of wire fencing. A rail post bearing letters G.T.S. B.M. stands 5 feet W. of bench-mark.	1330·706	1330·731
	a/6	BM.143 / 64 A	8·6	G.T.S. ○ B.M. On E. end of N. abutment of bridge No. 363 over Niwar river, about 19 chains N. of mile-stone No. 180, and between telegraph posts Nos. 179/18 and 179/19.	1336·116	1336·141
7		BM.144 / 64 A	10·6	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 365, about 13 chains N. of mile-stone No. 182, and between telegraph posts Nos. 181/20 and 181/21.	1361·678	1361·707
8		BM.145 / 64 A	12·9	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 369, about 14 chains S. of mile-stone No. 184, and between telegraph posts Nos. 184/4 and 184/5.	1406·707	1406·739

Branch-Line 60A. (Katni to Nagpur).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
9		BM.146 / 64 A	14·9	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 372, about 13 chains S. of mile-stone No. 186, and between telegraph posts Nos. 186/3 and 186/4.	1422·272	1422·306
10		BM.147 / 64 A	16·9	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 375, about 11 chains S. of mile-stone No. 188, and between telegraph posts Nos. 188/4 and 188/5.	1404·902	1404·939
	a/10	BM.148 / 64 A	17·3	G.T.S. ○ B.M. On stone coping of E. platform, opposite station master's office at Sleemanabad Road railway station	1406·183	1406·220
	b/10	BM.149 / 64 A	17·5	G.T.S. □ B.M. at Sleemanabad Road Railway Station. Embedded flush with surface of ground, to N. of railway rest house, 87 feet and 40° from N.E. corner of front verandah of same, 65 feet W. of wire fencing, and 207° from S.E. corner of tank house at S. end of E. platform. A rail post bearing letters G.T.S. B.M. stands 5 feet W. of bench-mark.	1398·707	1398·743
11		BM.150 / 64 A	19·4	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 377, about 28 chains N. of mile-stone No. 191, and between telegraph posts Nos. 190/15 and 190/16.	1363·652	1363·690
12		BM.151 / 64 A	20·3	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 379, about 34 chains N. of mile-stone No. 192, and between telegraph posts Nos. 191/13 and 191/14.	1351·457	1351·495
13		BM.152 / 64 A	22·8	G.T.S. ○ B.M. On E. end of S. parapet of bridge No. 382, about 5 chains W. of mile-stone No. 194, and between it and telegraph post No. 194/1.	1345·738	1345·778
	a/13	BM.153 / 64 A	23·1	G.T.S. ○ B.M. On rock *in situ* on N. side of Dundi railway station.	1348·901	1348·941
14		BM.154 / 64 A	24·3	G.T.S. ○ B.M. On E. end of S. parapet of bridge No. 385, about 84 chains E. of mile-stone No. 196, and between telegraph posts Nos. 195/12 and 195/13.	1323·902	1323·943
15		BM.155 / 64 A	26·9	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 387, about 15 chains S. of mile-stone No. 198, and between telegraph posts Nos. 198/4 and 198/5.	1282·027	1282·068
16		BM.156 / 64 A	28·3	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 388, about 40 chains S. of mile-stone No. 199, 28 chains N. of mile-stone No. 200, and between telegraph posts Nos. 199/12 and 199/13.	1272·550	1272·592

Branch-Line 60A. (Katni to Nagpur).

Designation of Bench-marks		Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1/16	BM.157 / 64 A	30·2	On upper mark-stone of Lora G.T. Survey Hill Station, lat. 23° 29′ 41″·53, long. 80° 9′ 57″·32. A principal station of Calcutta Longitudinal Series. (For full description *see* Synoptical Volume).	1928·787	1928·851
17	BM.158 / 64 A	30·9	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 390, about 14 chains S. of mile-stone No. 202, and between telegraph posts Nos. 202/3 and 202/4.	1263·102	1263·146
a/17	BM.159 / 64 A	32·3	G.T.S. □ B.M. at Sihora Road Railway Station. Embedded N. of railway station, flush with surface of ground, 262 feet and 170° from N. home signal, 105 feet and 265° from N.E. corner fencing post, 85 feet from N. wire fencing, and 76° from tank house at N. end of W. platform. A rail post bearing letters G.T.S. B.M. stands 4 feet W. of bench-mark.	1262·517	1262·561
18	BM 160 / 64 A	32·4	G.T.S. ○ B.M. On stone coping of W. platform, opposite 3rd class waiting hall at Sihora Road railway station.	1259·576	1259·624
a/18	BM.161 / 64 A	33·0	G.T.S. ○ B.M. On N. end of E parapet of bridge No. 392, about 28 chains S. of mile-stone No. 204, and between telegraph posts Nos. 204/9 and 204/10.	1253·364	1253·412
b/18	BM.162 / 64 A	34·5	G.T.S. ○ B.M. On centre of E. return wall of N. abutment of bridge No. 394 over Heron river, about 14 chains N. of mile-stone No. 206, and between telegraph posts Nos. 205/19 and 205/20.	1253·204	1253·252
c/18	BM.163 / 64 A	36·5	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 397, about 14 chains N. of mile-stone No. 208, and between telegraph posts Nos. 207/20 and 207/21.	1254·808	1254·856
19	BM 164 / 64 A	38·6	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 399, about 1 chain N. of mile-stone No. 210.	1276·583	1276·638
20	BM 165 / 64 A	40·6	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 402, about 1 chain N. of mile-stone No. 212.	1266·123	1266·177
21	BM 166 / 64 A	42·6	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 404, about 2 chains S. of mile-stone No. 214.	1259·231	1259·288
22	BM.167 / 64 A	44·6	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 408, about 3 chains S. of mile-stone No. 216, and between telegraph posts Nos. 216/1 and 216/2.	1261·205	1261·264
a/22	BM.168 / 64 A	45·7	G.T.S. ○ B.M. On stone coping of W. platform, opposite 3rd class waiting hall at Deori railway station.	1264·347	1264·406

Branch-Line 60A. (Katni to Nagpur).

Designation of Bench-marks		Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
b/22	BM.169/64 A	45·8	G.T.S. □ B.M. at Deori Railway Station. Embedded S. of railway station, flush with surface of ground, 188 feet and 154° from line-clear apparatus at S. end of station, 174 feet and 100° from a gradient stone, 47 feet and 185° from S.E. corner of a pond, 136 feet from E. wire fencing, and 183° from S.E. corner of tank house at S. end of E. platform. A rail post bearing letters G.T.S./B.M. stands 5 feet W. of bench-mark.	1258·650	1258·709
23	BM.170/64 A	46·2	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 410, about 25 chains N. of mile-stone No. 218, and between telegraph posts Nos. 217/16 and 217/17.	1264·794	1264·856
a/23	BM 95/55 M	48·6	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 413, about 5 chains S. of mile-stone No. 220, and between telegraph posts Nos. 220/1 and 220/2.	1271·306	1271·368
b/23	BM 96/55 M	50·5	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 416, about ½ chain N. of mile-stone No. 222.	1272·886	1272·948
24	BM.97/55 M	52·7	G.T.S. ○ B.M. On E. end of N. abutment of bridge No. 418, about 11 chains S. of mile-stone No. 224, and between telegraph posts Nos. 224/4 and 224/5.	1306·882	1306·955
25	BM.98/55 M	53·8	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 419, about 32 chains S. of mile-stone No. 225, and between telegraph posts Nos. 225/10 and 225/11.	1335·178	1335·253
a/25	BM 99/55 M	55·7	G.T.S. ○ B.M. On centre of S. return wall of E. abutment of bridge No. 421, about 25 chains W. of mile-stone No. 227, and between telegraph posts Nos. 227/9 and 227/10.	1352·115	1352·191
b/25	BM.100/55 M	56·0	G.T.S. ○ B.M. On stone coping of platform, opposite 3rd class booking office at Jubbulpore railway station.	1350·856	1350·932
26	BM.101/55 M	56·0	G.T.S. □ B.M. at Jubbulpore Railway Station. Embedded E. of E.I. railway dispensary, flush with ground level, 189 feet and 87° from N.E. corner of compounders' quarters, 259 feet and 23° from centre of S. parapet of bridge on Stanyon road, 27 feet and 218° from parapet of well, and 206 feet and 328° from S.W. corner of latrine. A rail post bearing letters G.T.S./B.M. stands 5 feet W. of bench-mark.	1332·688	1332·765
27	BM.102/55 M	56·2	G.T.S. ○ B.M. at Civil Surgeon's Office, Jubbulpore. On stone paving of S. verandah close to S.E. corner of main walls.	1340·730	1340·808
a/27	BM.103/55 M	56·4	G.T.S. ○ B.M. at Deputy Commissioner's Kachahri, Jubbulpore. On stone paving at E. end of S. verandah of S. wing, just under last arch, and opposite No. 19, Nazir's room, Small Cause Court.	1329·363	1329·440

Branch-Line 60A. (Katni to Nagpur).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	b/27	BM.104 55 M	56·9	G.T.S. Standard Bench Mark 1908 at Christ Church, Jubbulpore. Surrounded by an iron railing and situated at N.E. corner of compound of church, 145 feet from N.E. and 257 feet from N.W. corners of church, and 23 feet from N.E. corner fencing post.	1320·256	1320·333
28		BM.105 55 M	57·1	G.T.S.B.M. On S.W. corner of plinth of monument, (erected to officers of Central Provinces who sacrificed their lives in the great famine of 1896-97) opposite new Circuit House, Jubbulpore.	1342·564	1342·642
	a/28	BM.106 55 M	57·2	→|B M. 1343·66 at new Circuit House, Jubbulpore. On stone paving of front verandah close to N.W. corner of entrance porch. (P.W.D. bench-mark).	1346·067	1346·145
29		BM.107 55 M	57·7	G.T.S. B.M. at Cantonment Small Cause Court, Jubbulpore. On centre of E. verandah close to wall.	1341·308	1341·387
30		BM.108 55 M	58·1	G.T.S. B.M. On centre of N. parapet of bridge No. 3, about 14 chains E. of mile-stone No. 1, on Great Northern road.	1326·599	1326·677
31		BM.109 55 M	59·8	G.T.S. B.M. On centre of W. parapet of bridge No. 10, about 31 chains N. of mile-stone No. 3 from Jubbulpore.	1279·040	1279·117
32		BM.110 55 M	61·9	G.T.S. B.M. On centre of W. parapet of bridge No. 17 in Goari ghat bazar.	1255·948	1256·026
33		BM.111 55 M	62·1	G.T.S. B.M. On 2nd set, from bottom, of stone steps leading down from Fakirchand's temple, at Goari ghat on right bank of Nerbudda river, 39 feet W. of junction of steps with W. margin of road.	1194·017	1194·091
	a/33	BM.112 55 M	62·4	G.T.S. B.M. On E. end of stone coping (at highest point) of retaining wall on N. margin of road up left bank of Nerbudda river.	1217·247	1217·322
34		BM.113 55 M	63·9	↑ On centre of W. parapet of bridge No. 24, about 40 chains N. of mile-stone No. 7 from Jubbulpore. (P.W.D. bench-mark).	1300·288	1300·370
35		BM.114 55 M	64·3	G.T.S. B.M. On centre of W. parapet of bridge No. 25, about 7 chains N. of mile-stone No. 7 from Jubbulpore.	1341·180	1341·266
36		BM.115 55 M	66·2	G.T.S. B.M. On centre of W. parapet of bridge No. 30, about 15 chains N. of mile-stone No. 9 from Jubbulpore.	1295·938	1296·024
	a/36	BM.116 55 M	67·2	G.T.S. B.M. at Nigri Encamping Ground. Embedded close to well on W. side of road, and about 1 foot below ground level; 18 feet and 125° from parapet of well, 74 feet and 7° from boundary pillar, 78 feet and 231° from centre of W. parapet of bridge No. 33, and 50 feet from centre of road. A referring pillar with inscription G.T.S. B.M. stands 5 feet W. of bench-mark.	1303·957	1304·043
37		BM.117 55 M	67·9	G.T.S. B.M. On centre of W. parapet of bridge No. 34, about 39 chains S. of mile-stone No. 10 from Jubbulpore.	1331·875	1331·964

Branch-Line 60A. (Katni to Nagpur).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
38		BM 118 / 55 M	68·5	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 35, about 8 chains S. of mile-stone No. 11 from Jubbulpore.	1356·331	1356·422
39		BM.119 / 55 M	70·0	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 42, about 31 chains N. of mile-stone No. 13 from Jubbulpore.	1368·754	1368·847
40		BM.1 / 55 N	71·1	G.T.S. ○ B.M. On stone paving at W. end of S. verandah of Bargi police station, about 23 chains E. of mile-stone No. 14 from Jubbulpore.	1320·238	1320·328
	1 / 40	BM.2 / 55 N	73·7	On upper mark-stone of Lapeta G. T. Survey Hill Station, lat. 22° 59′ 44″ 35, long. 79° 50′ 57″ 50. A principal station of Jabalpur Meridional Series. (For full description *see* Synoptical Volume).	1900·682	1900·811
41		BM.3 / 55 N	72·1	G.T.S. ○ B.M. On centre of N. parapet of bridge No. 50, about 26 chains E. of mile-stone No. 15 from Jubbulpore.	1320·531	1320·622
42		BM.4 / 55 N	73·8	G.T.S. ○ B.M. On centre of N. parapet of bridge No. 52, about 32 chains W. of mile-stone No. 16 from Jubbulpore.	1331·710	1331·805
43		BM.5 / 55 N	76·0	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 55, about 35 chains N. of mile-stone No. 19 from Jubbulpore.	1346·737	1346·834
	a / 43	BM.6 / 55 N	77·3	G.T.S. □ B.M. at Sukri village. Embedded 13 feet W. of parapet of well S. of village, and about 2 feet below ground level; 118 feet and 80° from centre of E. parapet of road bridge No. 59, 94 feet and 215° from S.E. corner of temple, and 210 feet and 333° from N. distant signal of Sukri railway station. A referring pillar with inscription G.T.S. B.M. stands 5 feet E. of bench-mark.	1360·383	1360·481
44		BM.7 / 55 N	77·8	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 62, about 34 chains S. of mile-stone No. 20 from Jubbulpore.	1382·436	1382·538
	a / 44	BM.8 / 55 N	80·1	G.T.S. ○ B.M. On centre of N. parapet of bridge No. 72, about 25 chains E. of mile-stone No. 23 from Jubbulpore.	1409·038	1409·142
45		BM.9 / 55 N	81·8	G.T.S. ○ B.M. On centre of N. parapet of bridge No. 81, about 33 chains W. of mile-stone No. 24 from Jubbulpore.	1431·170	1431·280
	a / 45	BM.10 / 55 N	82·4	† On centre of W. parapet of bridge No. 84, about 3 chains S. of mile-stone No. 25 from Jubbulpore. (P.W.D. bench-mark).	1437·242	1437·353
46		BM 11 / 55 N	84·2	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 93 on Selwa ghat, about 14 chains N. of mile-stone No. 27 from Jubbulpore.	1703·816	1703·951
47		BM 12 / 55 N	84·7	G.T.S. ○ B.M. On centre of N. parapet of bridge No. 83, on top of Selwa ghat, about 29 chains W. of mile-stone No. 27 from Jubbulpore.	1821·805	1821·949

Branch-Line 60A. (Katni to Nagpur).

Designation of Bench-marks		Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
48	BM.13 / 55 N	86·9	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 89, about 37 chains N. of mile-stone No. 30 from Jubbulpore.	1801·680	1801·826
49	BM.14 / 55 N	88·0	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 93, about 27 chains N. of mile-stone No. 31 from Jubbulpore.	1826·374	1826·524
a / 49	BM 15 / 55 N	90·1	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 95, about 28 chains N. of mile-stone No. 33 from Jubbulpore.	1828·593	1828·743
50	BM.16 / 55 N	92·2	G.T.S. □ B.M. at Dhuma Dak Bungalow. Embedded in compound of bungalow, and about 3 feet below ground level; 189 feet and 247° from S.E. corner of bungalow, 228 feet and 262° from S.W. corner of stables, 140 feet and 169° from centre of S. parapet of culvert on road to bungalow, and 105 feet from centre of main road. A referring pillar with inscription G.T.S. B.M. stands 11 feet E. of bench-mark.	1896·851	1897·010
a / 50	BM 17 / 55 N	94·0	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 103, about 34 chains N. of mile-stone No. 37 from Jubbulpore.	1911·786	1911·947
51	BM 18 / 55 N	94·9	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 105, about 37 chains N. of mile-stone No. 38 from Jubbulpore.	1948·670	1948·838
52	BM.19 / 55 N	97·5	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 112, about 23 chains S. of mile-stone No. 40 from Jubbulpore.	1975·675	1975·849
53	BM 20 / 55 N	99·3	G.T.S. ○ B.M. On centre of N. parapet of bridge No. 119 over Sher river, about 5 chains W. of mile-stone No. 42 from Jubbulpore.	1863·204	1863·372
54	BM 21 / 55 N	101·5	G.T.S. ○ B.M. On centre of N. parapet of bridge No. 133, about 16 chains W. of mile-stone No. 44 from Jubbulpore.	1998·550	1998·734
a / 54	BM.22 / 55 N	103·9	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 141, about 27 chains N. of mile-stone No. 47 from Jubbulpore.	1996·572	1996·756
b / 54	BM.23 / 55 N	105·2	G.T.S. □ B.M. at Lakhnadon Dak Bungalow. Embedded in compound of bungalow, and about 2 feet below ground level; 121 feet and 335° from N.W. corner of bungalow, 122 feet and 35° from N.W. corner of latrine, 178 feet and 18° from N.E. corner of kitchen, and 237 feet from centre of main road. A referring pillar with inscription G.T.S. B.M. stands 6 feet W. of bench-mark.	1994·480	1994·663
55	BM.24 / 55 N	105·5	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 144, about 12 chains S. of mile-stone No. 48 from Jubbulpore.	1992·322	1992·509
56	BM.25 / 55 N	107·7	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 150, about 27 chains S. of mile-stone No. 50 from Jubbulpore.	2047·217	2047·414
a / 56	BM.26 / 55 N	109·5	G.T.S. ○ B.M. On centre of N. parapet of bridge No. 160, about 16 chains W. of mile-stone No. 52 from Jubbulpore.	2005·843	2006·036
57	BM.27 / 55 N	111·7	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 173, about 28 chains N. of mile-stone No. 55 from Jubbulpore.	1727·446	1727·617

Branch-Line 60A. (Katni to Nagpur).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
58		BM.28 / 55 N	112·5	G.T.S. □ B.M. at Ganeshganj village. Embedded on W. side of main road opposite its junction with branch road to village, and about 2 feet below ground level; 114 feet and 237° from centre of S. parapet of culvert on branch road to village, and 30 feet from centre of main road. A referring pillar with inscription G.T.S. B.M. stands 5 feet W. of bench-mark.	1703·284	1703·454
59		BM.29 / 55 N	114·7	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 183, about 8 chains N. of mile-stone No. 58 from Jubbulpore.	1764·103	1764·283
60		BM.30 / 55 N	115·9	G.T.S. ○ B.M. On centre of N. parapet of bridge No. 190, about 11 chains W. of mile-stone No. 59 from Jubbulpore.	1853·422	1853·613
	a / 60	BM.31 / 55 N	118·1	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 200, about 16 chains S. of mile-stone No. 61 from Jubbulpore.	2067·992	2068·205
61		BM.32 / 55 N	121·7	G.T.S. □ B.M. at Chappara Dak Bungalow. Embedded on W. side of road opposite bungalow, and about 2 feet below ground level; 124 feet and 129° from S.E. corner of stables, 42 feet and 322° from mile-stone No. 65, and 73 feet from centre of main road. A referring pillar with inscription G.T.S. B.M. stands 5 feet W. of bench-mark.	1709·617	1709·802
62		BM.33 / 55 N	121·8	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 223 over Wainganga river, about 13 chains S. of mile-stone No. 65 from Jubbulpore.	1718·193	1718·379
63		BM.34 / 55 N	124·1	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 315, about 34 chains N. of mile-stone No. 68 from Jubbulpore.	1721·816	1722·007
64		BM.35 / 55 N	125·7	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 310, about 15 chains S. of mile-stone No. 69 from Jubbulpore.	1696·069	1696·259
65		BM.36 / 55 N	127·3	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 307, about 23 chains N. of mile-stone No. 71 from Jubbulpore.	1758·928	1759·127
66		BM.37 / 55 N	129·6	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 300, about 5 chains S. of mile-stone No. 73 from Jubbulpore.	1896·944	1897·162
	a / 66	BM.38 / 55 N	131·0	↑ On W. parapet of bridge No. 295, about 34 chains S. of mile-stone No. 74 from Jubbulpore. (P.W.D. bench-mark).	1856·811	1857·025
67		BM.39 / 55 N	132·3	G.T.S. □ B.M. at Bandol village. Embedded in front of police outpost on W. side of road, and about 2 feet below ground level; 84 feet and 297° from S.W. and 91 feet and 276° from N.W. corners of police outpost, and 33 feet from centre of road. A referring pillar with inscription G.T.S. B.M. stands 4 feet W. of bench-mark.	1909·433	1909·656
68		BM.40 / 55 N	133·8	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 289, about 20 chains S. of mile-stone No. 77 from Jubbulpore.	1904·431	1904·658

Branch-Line 60A. (Katni to Nagpur).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
69		BM.41 / 55 N	134·6	↑ On flat projecting plinth of mile-stone No. 78 from Jubbulpore. (P.W.D. bench-mark).	1943·793	1944·024
70		BM.42 / 55 N	135·6	↑ On flat projecting plinth of mile-stone No. 79 from Jubbulpore. (P.W.D. bench-mark).	1920·419	1920·649
71		BM.43 / 55 N	135·9	G.T.S. B.M. On centre of W. parapet of bridge No. 284, about 25 chains S. of mile-stone No. 79 from Jubbulpore.	1947·092	1947·326
	a / 71	BM.44 / 55 N	137·8	G.T.S. B.M. On centre of W. parapet of bridge No. 279, about 22 chains S. of mile-stone No. 81 from Jubbulpore.	1929·424	1929·656
72		BM.45 / 55 N	140·6	G.T.S. B.M. On centre of E. parapet of bridge No. 273, about 1 chain S. of mile-stone No. 84 from Jubbulpore.	1997·790	1998·042
73		BM.46 / 55 N	142·5	G.T.S. B.M. at Seoni Circuit House. Embedded in compound of circuit house, and about 2 feet below ground level; 271 feet and 112° from S.E. corner of circuit house, 231 feet and 54° from N.E. corner of Divisional Forest Office, and 56 feet from centre of main road. A referring pillar with inscription G.T.S. B.M. stands 5 feet W. of bench-mark.	2024·163	2024·422
	a / 73	BM.47 / 55 N	143·3	G.T.S. B.M. On stone paving of E. verandah of main dispensary, close to main wall, and between doors of wards Nos. 2 and 3, Seoni.	2027·432	2027·691
74		BM.48 / 55 N	144·6	G.T.S. B.M. On centre of E. parapet of bridge No. 265, about 2 chains N. of mile-stone No. 88 from Jubbulpore.	1987·791	1988·049
75		BM.49 / 55 N	145·9	G.T.S. B.M. On centre of E. parapet of bridge No. 263, about 27 chains S. of mile-stone No. 89 from Jubbulpore.	1985·221	1985·481
76		BM.50 / 55 N	147·6	G.T.S. B.M. On centre of E. parapet of bridge No. 260, about 1 chain S. of mile-stone No. 91 from Jubbulpore.	2000·103	2000·367
77		BM.104 / 55 O	149·7	G.T.S. B.M. On centre of E. parapet of bridge No. 255, about 9 chains S. of mile-stone No. 93 from Jubbulpore.	2005·977	2006·246
	a / 77	BM.105 / 55 O	152·1	G.T.S. B.M. On centre of E. parapet of bridge No. 251, about 32 chains S. of mile-stone No. 95 from Jubbulpore.	2054·760	2055·035
78		BM.106 / 55 O	153·3	G.T.S. B.M. at Suktalao Inspection Bungalow. Embedded in compound of bungalow, and about 2 feet below ground level; 169 feet and 83° from N.E. corner of bungalow, 140 feet and 126° from S.E. corner of out-houses, 35 feet E. of parapet of well, 66 feet W. of centre of main road, and 82 feet N. of centre of branch road to bungalow. A referring pillar with inscription G.T.S. B.M. stands 6 feet W. of bench-mark.	2077·283	2077·570
79		BM.107 / 55 O	154·8	G.T.S. B.M. On centre of W. parapet of bridge No. 247, about 19 chains S. of mile-stone No. 98 from Jubbulpore.	2086·615	2086·905

Branch-Line 60A. (Katni to Nagpur).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
80		BM.108 / 55 O	158·1	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 234, about 40 chains N. of mile-stone No. 102 from Jubbulpore.	1858·098	1858·362
81		BM.109 / 55 O	162·0	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 190, about 29 chains S. of mile-stone No. 105 from Jubbulpore.	1516·108	1516·328
82		BM.110 / 55 O	163·5	G.T.S. □ B.M. at Korai Dak Bungalow. Embedded in compound of bungalow, and about 2 feet below ground level; 180 feet and 299° from N.W. and 187 feet and 315° from S.W. corners of bungalow, and 23 feet from centre of main road. A referring pillar with inscription G.T.S. / B.M. stands 6 feet E. of bench-mark.	1365·643	1365·841
83		BM 111 / 55 O	164·1	G.T.S ○ B.M. On centre of N. parapet of bridge No. 186, about 38 chains W. of mile-stone No. 107 from Jubbulpore.	1347·441	1347·638
84		BM 112 / 55 O	167·1	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 179, about 40 chains N. of mile-stone No. 111 from Jubbulpore.	1324·642	1324·838
	a / 84	BM 113 / 55 O	168·8	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 176, about 7 chains S. of mile-stone No. 112 from Jubbulpore.	1304·561	1304·754
85		BM.114 / 55 O	170·5	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 169, about 10 chains N. of mile-stone No. 114 from Jubbulpore.	1265·489	1265·680
86		BM.115 / 55 O	171·6	G.T.S. □ B.M. at Khawasa Inspection Bungalow. Embedded at N.E. corner of compound, and about 2 feet below ground level; 215 feet and 74° from N.E. corner of bungalow, 39 feet and 161° from S.W. corner of police outpost, and 30 feet W. of centre of main road. A referring pillar with inscription G.T.S. / B.M. stands 6 feet W. of bench-mark.	1309·277	1309·476
87		BM.116 / 55 O	173·2	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 163, about 38 chains S. of mile-stone No. 49 from Nagpur.	1270·244	1270·438
	a / 87	BM 117 / 55 O	173·2	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 163, about 38 chains S. of mile-stone No. 49 from Nagpur.	1269·997	1270·191
88		BM 118 / 55 O	176·0	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 149, about 20 chains S. of mile-stone No. 46 from Nagpur.	1285·409	1285·608
	a / 88	BM 119 / 55 O	179·0	G.T.S. ○ B.M. On S. end of W. parapet of bridge No. 142, about 15 chains S. of mile-stone No. 43 from Nagpur.	1259·440	1259·635
89		BM.120 / 55 O	180·6	G.T.S. ○ B.M. On S. end of W. parapet of bridge No. 133, about 6 chains N. of mile-stone No. 41 from Nagpur.	1263·483	1263·684
	a / 89	BM 121 / 55 O	181·3	G.T.S. □ B.M. at Deolapar Police Outpost. Embedded about 9 inches below ground level, and 61 feet and 271° from S.E. corner of outpost; 26 feet and 335° from N.W. corner of nearest constables' quarters, 215 feet and 11° from parapet of well in encamping ground, and 57 feet from centre of main road. A referring pillar with letters G.T.S. / B.M. stands 8 feet W. of bench-mark.	1284·894	1285·098

Branch-Line 60A. (Katni to Nagpur).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
90		BM.122 / 55 O	182·7	G.T.S. ○ B.M. On S. end of W. parapet of bridge No. 126, about 3 chains N. of mile-stone No. 39 from Nagpur.	1271·621	1271·826
91		BM 123 / 55 O	184·8	G.T.S. ○ B.M. On S. end of W. parapet of bridge No. 119, about 9 chains S. of mile-stone No. 37 from Nagpur.	1262·516	1262·720
	a / 91	BM.124 / 55 O	187·2	G.T.S. ○ B.M. On S. end of W. parapet of bridge No 112, about 37 chains S. of mile-stone No. 35 from Nagpur.	1297·941	1298·151
92		BM.125 / 55 O	189·1	G.T.S. ○ B.M. On S. end of W. parapet of bridge No. 111, about 33 chains S. of mile-stone No. 33 from Nagpur.	1207·653	1207·853
93		BM 126 / 55 O	191·1	G.T.S. ○ B.M. On S. end of S. wing wall of W. parapet of bridge No. 102, about 28 chains N. of mile-stone No. 31 from Nagpur.	1105·492	1105·678
	a / 93	BM 127 / 55 O	193·4	G.T.S. ○ B.M. On S. end of S. wing wall of W. parapet of bridge No. 95, about 40 chains N. of mile-stone No. 28 from Nagpur.	1092·710	1092·894
94		BM.128 / 55 O	195·2	G.T.S. ○ B.M. On N. end of E. parapet of bridge No. 90, about 35 chains S of mile-stone No. 27 from Nagpur.	1113·506	1113·696
	a / 94	BM 129 / 55 O	196·8	G.T.S. B.M. □ at Mansar Dak Bungalow. Embedded in compound of bungalow, and about 3 feet below ground level; 54 feet and 128° from N.E. and 67 feet and 67° from S.E. corners of front or E. verandah of bungalow, 236 feet and 269° from mile-stone No. 25, and 96 feet from parapet of well. A referring pillar with letters G.T.S. B.M. stands 7 feet E. of bench-mark.	1069·173	1069·356
	b / 94	BM 130 / 55 O	198·0	G.T.S. ○ B.M. On S. end of E. parapet of bridge No. 84, about 21 chains S. of mile-stone No. 24 from Nagpur.	1027·238	1027·414
95		BM.131 / 55 O	200·4	G.T.S. ○ B.M. On N. end of W. return wall of N. abutment of bridge No. 81, about 25 chains N. of mile-stone No. 21 from Nagpur.	1003·757	1003·933
96		BM.132 / 55 O	203·5	G.T.S. ○ B.M. On S. end of W. parapet of bridge No. 77, about 18 chains N. of mile-stone No 18 from Nagpur.	987·416	987·592
97		BM 133 / 55 O	203·7	G.T.S. □ B.M. Embedded on W. side of road, and about 2 feet below ground level; 56 feet and 348° from mile-stone No. 18 from Nagpur, and 25 feet from centre of main road. A referring pillar with letters G.T.S. B.M. stands 8 feet E. of bench-mark.	977·774	977·948
98		BM 134 / 55 O	204·9	G.T.S. ○ B.M. On S. end of W. parapet of bridge No. 73, about 11 chains S. of mile-stone No. 17 from Nagpur.	957·622	957·792
	a / 98	BM 135 / 55 O	207·7	G.T.S. ○ B.M. On E. end of E. wing wall of N abutment of bridge No 61, about 4 chains N. of mile-stone No. 14 from Nagpur.	911·296	911·458
	b / 98	BM.136 / 55 O	209·8	G.T.S. ○ B.M. On lower projecting course at W. end of S. return wall of W. abutment of bridge No. 58 over Kanhan river, about ¼ chain E. of mile-stone No. 12 from Nagpur.	933·046	933·212

Branch-Line 60A. (Katni to Nagpur).

Designation of Bench-marks			Distance from Katni	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
99		BM.137 / 55 O	211·3	G.T.S. ○ B.M. On W. end of N. parapet of culvert No. 28, between telegraph posts Nos. 693/1 and 693/2.	919·431	919·598
100		BM.138 / 55 O	212·0	G.T.S. B.M. □ at Kamptee Railway Station. Embedded in N. verandah of station, flush with pavement, between windows of booking office and luggage room, 1 foot from main wall, and 8 feet E. of weighing machine.	939·893	940·064
101		BM.139 / 55 O	212·8	G.T.S. ○ B.M. On N. end of W. wing wall of N. abutment of bridge No. 41, about 2 chains N. of mile-stone No. 9 from Nagpur.	928·163	928·333
102		BM.140 / 55 O	213·1	G.T.S. ○ B.M. at Christ Church, Kamptee. On top step of main or S. entrance, at foot of W. column.	934·065	934·236
	a/102	BM.141 / 55 O	214·8	G.T.S. ○ B.M. On E. end of S. parapet of bridge No. 31, about 1 chain W. of mile-stone No. 7 from Nagpur.	946·613	946·786
103		BM.142 / 55 O	217·6	G.T.S. ○ B.M. On E. end of N. wing wall of E. abutment of bridge No. 25, about 6 chains E. of mile-stone No. 4 from Nagpur.	951·640	951·816
104		BM.143 / 55 O	219·5	G.T.S. ○ B.M. On E. end of S. parapet of bridge No. 14, about 24 chains E. of mile-stone No. 2 from Nagpur.	987·397	987·581
105		BM.144 / 55 O	219·8	G.T.S. □ B.M. at Indora village. Embedded on S. side of road opposite village, and about 2 feet below ground level; 31 feet and 315° from parapet of well, 10 feet and 18° from N. corner (nearest road) of plinth of temple, 50 feet and 56° from centre of S. parapet of bridge No. 11, 44 feet and 168° from mile-stone No. 2, and 22 feet from centre of main road. A referring pillar with letters G T.S. B M. stands 6 feet E. of bench-mark.	979·776	979·958
	a/105	BM.145 / 55 O	219·9	G.T.S. ○ B.M. On centre of S. parapet of bridge No. 10, about 9 chains W. of mile-stone No. 2 from Nagpur.	983·392	983·575
106		BM.146 / 55 O	221·3	G.T.S. ↗ B.M. On N.W. corner of northern one of three tombs, about 6 chains S.E. of Motibagh overbridge, and about ¼ mile N. of railway station, Nagpur. (P.W.D. bench-mark).	1013·422	1013·611
	a/106	BM.147 / 55 O	222·6	G.T.S. ○ B.M. On 3rd step from bottom of flight of steps on N. side of District Court, Nagpur.	1018·119	1018·309
	1/106	BM.148 / 55 O	223·1	G.T.S. Standard Bench Mark 1907 at Nagpur. Surrounded by an iron railing and situated 22 feet W. of obelisk, 103 feet from centre of W. parapet of bridge No. 1, and 147 feet from junction of Anjani Jail and Museum roads.	1019·980	1020·171
107		BM.15 / 55 O	221·6	G.T.S. B.M. □ at Nagpur Railway Station. Embedded about 1 foot below flooring of N. verandah of reservoir, 8 feet from its N.W. corner, 14, 14 and 15 feet from N.E., S.E., and N.W. corners respectively of N. verandah, and 4 feet from N. wall of reservoir on which letters B.M. are cut immediately below W. end of W. window.	1012·508	1012·697

Main-Line 61. (Ferozepore to Meerut).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.1 / 44 J	0·0	G.T.S. Bench Mark at Ferozepore. Embedded due W. of Volunteer Instructor's quarters, on S. side of Grand Trunk Road near a tank. It is 298 feet and 100° to base of a well, 343 feet and 78° to N.W. corner of out-offices of Volunteer Instructor's house, and 86° to S.W. corner of house itself. The old sentry box still exists 10 feet S.E. of bench-mark.	645·017	644·679
2			2·2	Destroyed.	648·136	647·797
3			15·3	Destroyed.	675·509	675·158
4			20·8	Destroyed.	691·982	691·624
5		BM.1 / 44 N	27·1	Dugru Thana Bench Mark. Stone B.M. embedded on S. side of road, about 50 yards from N.E. corner of thana, between 27th and 28th mile-stones from Ferozepore.	716·814	716·444
6		BM.2 / 44 N	40·1	Mainawala Bench Mark. Stone B.M. embedded on S. side of road, opposite thana, facing encamping ground.	735·082	734·704
7		BM.3 / 44 N	47·2	Top of mile-stone No. 48 from Ferozepore and No. 28 from Ludhiana.	755·737	755·348
8		BM.4 / 44 N	51·9	Jagraon Bench Mark. Stone B.M. embedded on S. side of road at N.E. corner of chauki near Tehsil.	764·440	764·047
9		BM.5 / 44 N	63·6	Dhaka Chauki Bench Mark. Stone B M. embedded opposite encamping ground at Chauki, Ludhiana Division, on N. side of road between it and chauki.	795·687	795·275
10			74·8	Destroyed.	805·806	805·384
11		BM.1 / 53 B	87·2	G.T.S. Bench Mark at Doraha. Stone embedded between police chauki and Grand Trunk road, about 1 foot below ground level; 45 feet and 212° to centre of N. entrance to chauki, 230 feet and 33° to S. edge of platform of well, near encamping ground, 374 feet and 112° to B.M. No. $\frac{1}{11}$, and 66 feet to centre of Grand Trunk road.	843·251	842·818
	$\frac{1}{11}$	BM.2 / 53 B	87·3	G.T.S. ○ B.M. On plinth at N.W. end of N.E. parapet of bridge over canal near Doraha encamping ground.	859·387	858·945
	$\frac{2}{11}$	BM.3 / 53 B	90·9	G.T.S. ○ B.M. On S. parapet of bridge No. 399 on Grand Trunk road, about 36 chains towards Doraha from mile-stone $\frac{\text{Ambala } 62}{\text{Ludhiana } 9}$.	842·568	842·135

Main-Line 61. (Ferozepore to Meerut).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
3/11	BM.4/53 B	91·9	G.T.S. ○ B.M. On N. parapet of bridge No. 400 on Grand Trunk road, about 31 chains towards Doraha from mile-stone Ambala 63 / Ludhiana 8.	840·687	840·255
4/11	BM.5/53 B	95·4	G.T.S. ○ B.M. On N. parapet of bridge No. 401 on Grand Trunk road, about 8 chains towards Ludhiana from mile-stone Ambala 66 / Ludhiana 5.	833·350	832·922
5/11	BM.6/53 B	97·5	G.T.S. ○ B.M. On N. parapet of bridge No. 402 on Grand Trunk road, about 16 chains towards Ludhiana from mile-stone Ambala 68 / Ludhiana 3.	822·484	822·061
6/11	BM.7/53 B	100·4	G.T.S. ○ B.M. On S. end of W. stone coping of island platform in front or to W. of main platform at Ludhiana railway station.	810·264	809·848
7/11	BM.8/53 B	100·5	G.T.S. ○ B.M. On stone flooring at S.E. corner of exit passage, near door leading into combined telegraph and station master's office at Ludhiana railway station.	809·944	809·528
8/11	BM.9/53 B	100·5	G.T.S. ○ B.M. On N. end of E. stone coping of island platform in front of main platform at Ludhiana railway station.	810·178	809·762
9/11	BM.10/53 B	100·8	G.T.S. ○ B.M. On stone flooring flush with 9th step (from bottom) on W. side of clock tower, Ludhiana, near S.W. buttress.	808·663	808·247
10/11	BM.11/53 B	101·2	G.T.S. ○ B.M. at District Judge's Court, Ludhiana. On 3rd stone step on S. side of building, near E. end of 2nd arch from W.	808·114	807·699
11/11	BM.12/53 B	101·3	G.T.S. ○ B.M. at Deputy Commissioner's Kachahri, Ludhiana. On stone flooring of S. verandah, near 1st door from E. and just below small window.	810·947	810·530
12/11	BM.13/53 B	101·5	G.T.S. ○ B.M. On E. end of lowest stone step in front of N. door of Church of England, Ludhiana.	806·145	805·731
13/11	BM.14/53 B	101·5	G.T.S. Standard Bench Mark 1904 at Ludhiana. Enclosed by an iron railing 11 feet square, and situated in S.W. corner of church compound, 33 feet and 217° to S.W. corner of compound wall, 139 feet and 47° to S.W. corner of church, and 188 feet and 356° to S.E. corner of chaukidar's house.	807·029	806·614
a/11	BM.15/53 B	89·3	On ground level mark-stone of Kado G.T. Survey Tower Station, lat. 30° 46′ 37″·21, long. 76° 3′ 3″·20. A principal station of Rahun Meridional Series. (For full description *see* Synoptical Volume).	863·603	863·159
	BM.16/53 B	101·4	Khunnah Bench Mark. Stone B.M. embedded on N. side of road, a little to E. of tehsil gate at encamping ground.	863·191	862·755

Main-Line 61. (Ferozepore to Meerut).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
13		BM 17 / 53 B	111·1	Barah Bench Mark. Stone B.M. embedded alongside thana gate at encamping ground, between E. side of thana and Trunk road.	870·170	869·736
14		BM.18 / 53 B	122·2	Ungana Bench Mark. Stone B.M. embedded near N.E. corner of thana, opposite encamping ground.	873·856	873·426
15		BM.19 / 53 B	133·0	Moghul Sarai Bench Mark. Stone B.M. embedded close to Trunk road in front of new sarai at N.W. corner of encamping ground.	887·966	887·535
16		BM.20 / 53 B	143·1	901·6 ∧ On upper stone step of most westerly door of St. Paul's Church, Ambala, under tower just outside wooden sill.	901·143	900·714
	1 / 16	BM 21 / 53 B	143·2	+ On stone plinth on W. side of Royal Horse Artillery Memorial (1877-81), in compound and to N.E. of St. Paul's Church, Ambala.	901·646	901·217
	2 / 16	BM.22 / 53 B	143·2	G.T.S. Standard Bench Mark 1904 At Ambala. Situated in compound of St. Paul's Church to N. of building; 3 chains and 321° to centre of N.W. gate of church compound, 6 chains and 215° to extreme N.W. corner of church, 4 chains and 114° to centre of gate-keeper's lodge near N.E. gate of church compound, and 1 chain to N. compound wall in a direct line.	902·973	902·543
	3 / 16	BM.23 / 53 B	143·5	G.T.S. ⊙ B.M. at Station Hospital, Ambala. On stone flooring of S.W. verandah of block No. 6 (Laboratory).	901·172	900·743
	3a / 16	BM.24 / 53 B	144·2	G.T.S. ⊙ B.M. at Roman Catholic Church, Ambala. On upper stone step of door leading into right aisle.	897·523	897·096
	3b / 16	BM.25 / 53 B	144·3	+ at Roman Catholic Church, Ambala. On monument stone marking site of altar of old church.	898·097	897·670
	3c / 16	BM 26 / 53 B	144·8	G.T.S. ⊙ B.M. at Ambala Cantonment Railway Station. On stone coping at N.W. end of (B) platform on Punjab main line, directly under overbridge.	898·475	898·047
	3d / 16	BM.27 / 53 B	144·9	G.T.S. ⊙ B.M. at Ambala Cantonment Railway Station. On stone flooring of main platform, near wall, under N.W. name-plate.	898·063	897·636
	3e / 16	BM.28 / 53 B	145·0	G.T.S. ⊙ B.M. at Ambala Cantonment Railway Station. On stone coping of main platform (A) in front of S.E. name-plate.	897·609	897·182
	4 / 16	BM.29 / 53 B	144·1	G.T.S. ⊙ B.M. at Wesleyan Church, Ambala. On flooring of main entrance under steeple tower.	904·849	904·418
	5 / 16	BM.30 / 53 B	144·3	G.T.S. ⊙ B.M. at No. 2 Section Hospital, Ambala. On stone flooring in centre of N.W. verandah of block No. 3 (Family Hospital ward).	906·114	905·683

Main-Line 61. (Ferozepore to Meerut).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
6/16	BM 31 / 53 B	144·3	G.T.S. ○ B.M. at No. 2 Section Hospital, Ambala. On stone flooring of N.W. verandah of block No. 2 (Office and Surgery).	905·248	904·817
7/16	BM.32 / 53 B	145·1	G.T.S. ○ B.M. at Royal Horse Artillery Lines, Ambala. On stone flooring of S. verandah of block No. 2 (canteen) on E. side of door No. 6.	911·238	910·804
8/16	BM.33 / 53 B	145·2	G.T.S. ○ B.M. at Royal Horse Artillery Lines, Ambala. On stone flooring of E. verandah, near wall, between doors Nos. 7 and 8 of block No. 43 (Sergeants' Mess).	912·633	912·198
a/16	BM.1 / 53 F	157·2	Malana Bench Mark. Stone B.M. embedded in S.E. corner of encamping ground, about 20 yards W. of pillar.	913·694	913·259
17	BM 2 / 53 F	165·7	Chapar Bench Mark. Stone B.M. embedded near thana.	918·772	918·343
18	BM.3 / 53 F	173·9	Jagadhri Bench Mark. Stone B.M. embedded at chauki opposite encamping ground.	923·028	922·602
19	BM.4 / 53 F	179·0	Madalpur Bench Mark. Stone B.M. embedded near bridge of that name, on S. side of road, and W. of western Jumna canal.	905·545	905·131
20	BM.5 / 53 F	188·1	Sirsawa Bench Mark. Stone B.M. embedded in front of Sarai doorway.	895·934	895·531
1/20	BM.6 / 53 F	189·8	Punjab and Delhi Railway Bench Mark. A pakka pillar 75 feet E. of 40th mile and about 5 chains from Budi nala, near Sirsawa, about 30 chains back from junction of Grand Trunk road and railway line.	872·977	872·584
21	BM.1 / 53 G	195·4	Saharanpur G.T.S. Bench Mark Embedded below ground level, 121 feet E. of bridge across Eastern Jumna Canal at Megh Chapar Falls, and 35 feet N. of Grand Trunk road to Ambala; 83 feet from N. wall of Irrigation bungalow at Falls, 3 chains from S.E. corner of sub-overseer's bungalow, and 9 feet S. of pyramidal block of masonry on which letters G.T.S. B.M. are cut.	906·728	906·323
a/21	BM.2 / 53 G	195·5	Eastern Jumna Canal Bench Mark. Surface of stone slab on left bank of canal falls.	906·945	906·540
b/21	BM.3 / 53 G	196·3	Punjab and Delhi Railway Bench Mark. On parapet of bridge over rajbaha, near railway crossing over Grand Trunk road to Ambala, about 2 miles from Saharanpur.	911·405	910·998
22		199·3	Destroyed	902·209	901·807
a/22	BM.4 / 53 G	206·1	On upper surface of inner circle of well, near chauki, on N. side of road about halfway between 7th and 8th mile-stones.	878·736	878·344
b/22	BM.5 / 53 G	207·1	Bhatkheri Bench Mark. Subsidiary B.M. embedded on S.W. side of road, about halfway between 8th and 9th mile-stones, near village of that name.	875·555	875·164

Main-Line 61. (Ferozepore to Meerut).

Designation of Bench-marks			Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
23		BM.6 / 53 G	219·8	Deoban Bench Mark. Stone B.M. embedded on W. side, at junction of roads from Bijnor and Meerut to Deoban.	831·364	831·012
24		BM.7 / 53 G	231·1	Top of mile-stone Muzaffarnagar 4 miles at Rampur village.	796·268	795·941
25		BM.8 / 53 G	235·1	Muzaffarnagar Bench Mark. Stone B.M. embedded on N. side of post office, and near general mile-post.	789·397	789·076
26		BM 9 / 53 G	238·1	Top of mile-stone Muzaffarnagar 3 miles.	801·368	801·045
	1/26		239·2	Destroyed.	797·338	797·017
	2/26		240·1	Destroyed.	792·747	792·428
	3/26		241·1	Destroyed.	782·716	782·401
	4/26	BM 10 / 53 G	241·9	On ground level mark-stone of Begarazpur G T. Survey Tower Station, lat. 29° 22′ 34″·41, long. 77° 42′ 2″·03. A principal station of Great Arc Meridional Series—Section 24° to 30°. (For full description *see* Synoptical Volume).	815·337	815·009
	5/26	BM 11 / 53 G	243·6	⊕ On top of furlong-stone No. 1, about 9 chains N. of mile-stone { Meerut 28 / Muzaffarnagar 5 / Roorkee 37 }	791·125	790·806
	6/26	BM 12 / 53 G	244·8	⊕ On P.W.D. stone prism, 25 chains N. of mile-stone { Meerut 29 / Muzaffarnagar 4 / Roorkee 36 }	797·402	797·081
	7/26	BM.13 / 53 G	245·0	○ On parapet of syphon bridge, 4 miles S. of Muzaffarnagar.	800·412	800·090
	8/26	BM.14 / 53 G	245·1	⊕ On top of P.W.D. stone prism to N. of E. parapet of syphon bridge.	797·474	797·153
	9/26	BM.15 / 53 G	246·2	○ On top of P.W.D. stone prism on W. side of road, about 26 chains S. of mile-stone { Meerut 31 / Muzaffarnagar 2 / Roorkee 34 }	799·342	799·020

Main-Line 61. (Ferozepore to Meerut).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
10/26	BM.16 / 53 G	248·6	Muzaffarnagar G.T.S. Bench Mark. Embedded 15 feet from S.W. corner of Muzaffarnagar post office, 71 feet from S.E. corner of same building, 33 feet from masonry base of lamp-post on road W. of post office, and 9 feet N. of pyramidal block of masonry bearing inscription G.T.S. B.M.	789·415	789·097
11/26	BM.17 / 53 G	248·8	† On upper surface of stone sunk in ground, near N.E. gate of Muzaffarnagar Town Hall. (P.W.D. bench-mark).	802·480	802·157
12/26	BM.18 / 53 G	249·1	G.T.S. ○ B.M. On N. verandah to E. of middle door of Sessions Judge's kachahri at Muzaffarnagar.	807·233	806·908
13/26	BM.19 / 53 G	249·3	G.T.S. Standard Bench Mark 1904 at Muzaffarnagar. Situated in N.W. corner of Civil Police parade ground, 56 feet S.E. of S.E. corner of mortuary, and 102 feet E. of inner side of ditch running on W. side of Police Lines. It is enclosed in a railed-off space 11 feet square.	806·588	806·263
27	BM.20 / 53 G	245·9	Parapet of bridge over rajbaha, near Kirni chauki.	791·097	790·785
28	BM.21 / 53 G	248·4	Kutowli Bench Mark. Stone B.M. embedded near bridge of that name, on left bank of Ganges canal, to S.W. of Meerut and Roorkee road.	789·200	788·892
1/28	BM.22 / 53 G	248·6	Plinth of Ganges canal mile-stone No. 62. The top of stone is 1·25 feet above plinth.	786·431	786·124
29	BM.23 / 53 G	251·0	Top of syphon bridge over branch of Ganges canal.	774·652	774·351
a/29	BM.24 / 53 G	253·0	Parapet of bridge over branch of Ganges canal, 16 miles from Meerut.	774·709	774·408
b/29	BM.25 / 53 G	259·2	Parapet of syphon bridge over branch of Ganges canal, between 9th and 10th mile-stones from Meerut.	757·252	756·958
30		267·7	Destroyed.	733·794	733·522
31		267·7	Destroyed.	734·803	734·531
32	BM 26 / 53 G	267·8	+ at St. John's Church, Meerut. On surface of stone slab opposite N. pillar of central W. doorway (main entrance).	738·645	738·372
1/32	BM.27 / 53 G	267·9	G.T.S. Standard Bench Mark 1904 at St. John's Church, Meerut Cantonments. About 145 feet N.N.W. of well, near E. entrance to churchyard, 2 and 3 chains respectively from E. and S.E. corners of church, and 2 chains from centre of E. face wall of same. It is enclosed in a railed-off space 11 feet square.	737·345	737·072

Main-Line 61. (Ferozepore to Meerut).

Designation of Bench-marks		Distance from Ferozepore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
2/32	BM.28 53 G	268·4	G.T.S. ⊙ B.M. On E. parapet of culvert in Church street, ½ mile S. of St. John's Church, Meerut.	735·384	735·112
2a/32	BM.29 53 G	269·8	⊻ at Samru Bridge, Meerut. On stone parapet, to W. side of bridge over Ganda nala, at junction of Hill street with Boundary road. (P.W.D. bench-mark).	734·068	733·796
2b/32	BM.30 53 G	270·4	↑ On top of stone prism, 37 chains S. of mile-stone 390 from Allahabad.	725·764	725·495
2c/32	BM.31 53 G	272·0	↑ On top of stone prism, about 10 chains S.E. of mile-stone 2 from Meerut and 388 from Allahabad.	729·302	729·032
2d/32	BM.32 53 G	272·7	↑ On top of stone prism, about 1 furlong N.W. of mile-stone 3 from Meerut and 387 from Allahabad.	727·749	727·480
3/32	BM.33 53 G	269·2	G.T.S. ⊙ B.M. On protecting wall of catch-water on Mall, about 1 chain W. of road from kachahri to Artillery barracks named Ordnance Row, Meerut.	736·709	736·436
4/32	BM.34 53 G	270·0	G.T.S. ⊙ B.M. On flooring of suitors' waiting hall at Collector's kachahri, Meerut.	729·816	729·546
5/32	BM.35 53 G	270·3	G.T.S. Standard Bench Mark 1904 at Public Works Divisional Offices, Meerut. Situated in N.E. angle formed by junction of city road with main entrance to building, and 2 chains from central front doorway from S.W. and N.W. corners of building and from centre of gateway on city road. It is enclosed in a railed-off space 11 feet square.	730·667	730·397

Branch-Line 61A. (Saharanpur to Mussooree).

Designation of Bench-marks		Distance from Saharanpur	Description of Bench-marks	Corrected Elevation*	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1	BM.1 / 53 G	0·0	Saharanpur G.T.S. Bench Mark. Embedded below ground level, 121 feet E. of bridge across Eastern Jumna Canal at Megh Chapar Falls, and 35 feet N. of Grand Trunk road to Ambala; 83 feet from N. wall of Irrigation bungalow at Falls, 3 chains from S.E. corner of sub-overseer's bungalow, and 9 feet S. of pyramidal block of masonry on which letters G.T.S. B.M. are cut.	906·728	906·323
2	BM 36 / 53 G	0·6	○ B.M. On masonry base of mile-stone { Meerut 71 Muzaffarnagar 38 Saharanpur 2 } on N. margin of road to Ambala.	905·237	904·832
3	BM.37 / 53 G	1·6	○ B.M. On masonry base of mile-stone { Meerut 70 Muzaffarnagar 37 Saharanpur 1 } on N. margin of road to Ambala.	898·975	898·572
4	BM 38 / 53 G	2·4	G.T.S. ○ B.M. On stone pavement of verandah on E. face of Saharanpur dak bungalow.	901·353	900·950
5	BM.39 / 53 G	2·7	G.T.S. ○ B.M. On masonry platform adjoining well in S. angle formed by crossing of railway station, Ambala, Botanical Gardens, and Kachahri roads.	897·282	896·882
6	BM.40 / 53 G	3·0	○ On top of furlong-stone No. 1 on N. margin of road, between miles 37 and 38 from Muzaffarnagar.	895·793	895·393
7	BM.41 / 53 G	3·7	G.T.S. Standard Bench Mark 1904 at Saharanpur. Situated in compound of Church of England, 153 feet from N.E. corner of same, 180 feet from S. end of S.E. porch, and enclosed in a railed-off space 11 feet square.	902·204	901·802
a/7	BM.42 / 53 G	3·7	G.T.S. ○ B.M. On W. stone cap in front of E. door on S.E. side of Church of England, Saharanpur.	902·359	901·957
8	BM.43 / 53 G	7·7	G.T.S. ○ B.M. On E. cap of N. parapet of bridge No. 5/1 over Nagadeh nadi.	915·758	915·350
9	BM.44 / 53 G	10·4	B.O.M. On stone plinth, 271 feet from E. end of N. parapet of bridge over Hindan river.	929·298	928·883
1/9	BM.45 / 53 G	17·4	G.T.S. ○ B.M. at Latitude Station. On upper surface of stone at top of pillar, 55 feet from centre of E. face of Nojli tower.	886·861	886·465

* Deduced from levelling observations taken after the earthquake of 1905.

Branch-Line 61A. (Saharanpur to Mussooree).

Designation of Bench-marks			Distance from Saharanpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
	$\frac{2}{9}$	BM.46 / 53 G	*miles* 17·4	G.T.S. ○ B.M. On upper mark-stone of Mr. Shaw's Refraction Station, which consists of circular pillar 3 feet in diameter. It is 63 and 68 feet respectively from S.E. and N.E. corners of Nojli tower.	*feet* 887·099	*feet* 886·709
	$\frac{3}{9}$	BM.47 / 53 G	17·4	○ On Astronomical pillar, built in connection with Pendulum work, 35 feet from S.E. corner of Nojli Tower station.	888·393	887·996
	$\frac{4}{9}$	BM.48 / 53 G	17·5	○ at Pendulum Station. On upper surface of pillar in ground floor of Nojli Tower station.	888·578	888·181
	$\frac{5}{9}$	BM.49 / 53 G	17·5	On the ○ on top of tower of Nojli G.T. Survey Tower Station, lat. 29° 53′ 27″·76, long. 77° 40′ 24″·59. A principal station of Great Arc Meridional Series—Section 24° to 30°. (For full description *see* Synoptical Volume).	937·408	936·989
10		BM.50 / 53 G	13·6	B.O.M. On top of mile-stone No. 10 from Saharanpur.	935·960	935·541
11		BM.7 / 53 F	16·6	B.O.M. On top of mile-stone No. 13 from Saharanpur.	969·557	969·120
12		BM.8 / 53 F	17·7	B.O.M. On plinth at S.W. end of N.W. parapet of bridge No. $\frac{2}{80}$, about 4 chains beyond mile-stone No. 14 from Saharanpur.	971·202	970·763
	$\frac{a}{12}$	BM.9 / 53 F	18·7	G.T.S. ○ B.M. at Fatehpur Dak Bungalow. On stone in flooring of N.E. verandah, in front of most north-western door.	985·435	984·990
13		BM.10 / 53 F	21·7	B.O.M. On top of mile-stone No. 18 from Saharanpur.	980·922	980·475
14		BM.11 / 53 F	23·0	B.M. ○ On lower cornice on outer side of S.E. parapet of bridge over Khandur Rau, 29 feet from extreme N.E. end of same parapet, about 30 chains beyond mile-stone No. 19 from Saharanpur.	1004·540	1004·081
15		BM.12 / 53 F	23·8	B.O.M. On lower cornice on inner side, near W. end of S. parapet of bridge No. $\frac{1}{86}$, near furlong-stone No. 1, between miles Nos. 20 and 21 from Saharanpur.	1015·675	1015·211
	$\frac{a}{15}$	BM.13 / 53 F	24·8	B.M. ○ On lower cornice on outer side, near N.E. end of N.W. parapet of bridge No. $\frac{1}{87}$, about 7 chains beyond mile-stone No. 21 from Saharanpur.	1052·462	1051·981

Branch-Line 61A. (Saharanpur to Mussooree).

Designation of Bench-marks		Distance from Saharanpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
16	BM.14 / 53 F	25·7	B.O.M. On top of mile-stone No. 22 from Saharanpur.	1083·769	1083·272
17	BM.15 / 53 F	26·2	B.O.M. On lower cornice on outer side of S.E. parapet of bridge No. $\frac{1}{88}$, about midway between mile-stones Nos. 22 and 23 from Saharanpur.	1109·227	1108·717
18	BM.16 / 53 F	28·3	↑ On boundary stone, about 30 chains short of mile-stone No. 25 from Saharanpur.	1256·107	1255·527
19	BM.17 / 53 F	30·9	G.T.S. Bench-mark at Mohan. Embedded on E. side of Saharanpur-Rajpur road, about 2 feet below ground level, 55 feet from centre of metalling, at a point 22 miles from Rajpur, and 27 miles from Saharanpur. A large cairn of earth and stones has been raised over bench-mark. The foundation of old referring pillar exists 10 feet E. of bench-mark.	1489·448	1488·757
20	BM.18 / 53 F	31·7	↑ On boundary stone, opposite mile-stone No. 28 from Saharanpur.	1591·551	1590·813
21	BM.19 / 53 F	31·9	G.T.S. ○ B.M. On E. parapet of bridge No. 2, about 15 chains beyond mile-stone No. 28, Saharanpur.	1608·747	1607·999
22	BM.20 / 53 F	32·3	G.T.S. ○ B.M. On N.W. parapet of bridge No. 10, about 30 chains short of mile-stone No. 29, Saharanpur.	1644·899	1644·134
23	BM.21 / 53 F	33·6	G.T.S. ○ B.M. On stone plinth of S. parapet of W. abutment of bridge, about 12 chains short of mile-stone No. 30, Saharanpur.	1727·007	1726·202
24	BM.22 / 53 F	34·1	G.T.S. ○ B.M. On N. wall of aqueduct, below E. parapet of bridge No. 43, about 26 chains beyond mile-stone No. 30, Saharanpur.	1779·192	1778·363
25	BM.23 / 53 F	34·5	G.T.S. ○ B.M. On N.W. parapet of bridge No. 50, about 12 chains beyond mile-stone No. 31, Saharanpur.	1836·634	1835·778
26	BM.24 / 53 F	36·7	G.T.S. ○ B.M. On S.E. parapet of bridge No. 84, about 2 chains beyond mile-stone No. 33, Saharanpur.	2192·737	2191·713
27	BM 25 / 53 F	37·0	↑ On boundary stone on W. side of road, about 16 chains beyond mile-stone No. 33, Saharanpur.	2219·427	2218·391
28	BM.26 / 53 F	37·2	G.T.S. ○ B.M. On stone coping of S. parapet of bridge No. 89, about 33 chains beyond mile-stone No. 33, Saharanpur.	2270·805	2269·745
29	BM.27 / 53 F	37·7	G.T.S. ○ B.M. On stone coping, 14 feet from N. end of E. parapet of bridge No. 93, about 4 chains short of mile-stone No. 34, Saharanpur.	2365·619	2364·515
30	BM.28 / 53 F	38·0	G.T.S. ○ B.M. On stone coping of S.E. parapet of bridge No. 97, about 21 chains beyond mile-stone No. 34, Saharanpur.	2445·031	2443·888

Branch-Line 61A. (Saharanpur to Mussooree).

Designation of Bench-marks			Distance from Saharanpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
31		BM.29 / 53 F	38·3	↑ On boundary stone near Kali temple, opposite furlong-stone No. 4, about 10 chains short of tunnel at Asarori.	2510·048	2508·874
32		BM.30 / 53 F	38·4	↑ On stone embedded in tunnel wall at Asarori, about 1 chain towards Saharanpur, from furlong-stone No. 5.	2534·194	2533·009
	a / 32	BM.31 / 53 F	38·9	B.O.M. On astronomical pillar, close to and W. of dak bungalow, Asarori.	2469·217	2468·063
	b / 32	BM.32 / 53 F	38·9	O at Asarori Dak Bungalow. On flooring of front room, near threshold of E. door.	2466·193	2465·040
33		BM.33 / 53 F	39·1	G.T.S. O B.M. On stone plinth at N.E. end of S.E. parapet of bridge No. 108, about 26 chains beyond mile-stone No. 35, Saharanpur.	2394·703	2393·581
34		BM.34 / 53 F	39·3	↑ On boundary stone on W. side of road, about ½ mile beyond mile-stone No. 35, Saharanpur.	2371·907	2370·796
35		BM.35 / 53 F	39·8	G.T.S. O B.M. at Asarori. Embedded near police outpost, to W. of road within forest limits, and consists of stone slab bearing above inscription, built in a block of masonry 2 feet above ground; 4 chains and 152° to N.W. corner of police outpost, 2 chains and 105° to centre of W. parapet of road culvert, and 4 chains and 40° to mile-stone No. 36 Saharanpur.	2311·422	2310·339
36		BM.36 / 53 F	40·2	↑ On boundary stone on W. side of road, about 30 chains beyond mile-stone No. 36, Saharanpur.	2235·652	2234·601
37		BM.37 / 53 F	41·0	G.T.S. Bench Mark at Mohabawala. Embedded on W. side of Saharanpur-Rajpur road, about 2 feet below ground level, 96 feet from furlong-stone No. 1 between miles 36 and 37 Saharanpur, and 29 feet from centre of metalled road at a point 81 feet from above furlong-stone. A large masonry pillar with letters G.T.S. B.M. cut on its E. face, stands 16 feet W. of bench-mark.	2096·909	2095·923
38		BM.38 / 53 F	41·3	O On top of furlong-stone No. 4, between miles 37 and 38, Saharanpur.	2043·219	2042·259
	1 / 38	BM.39 / 53 F	43·0	O On plinth level, on S. side of tower of Dehra Dun Base-Line, E. End.	1959·879	1958·958
	2 / 38	BM.40 / 53 F	43·0	Colonel Everest's Upper Mark, lat. 30° 17′ 7″·35, long. 77° 58′ 30″·74. On ground floor of E. end of Dehra Dun Base-Line. This mark is a dot on a piece of brass, soldered on to a stone: it is 1·42 feet above mark on stone pyramid, to which base-line measurement was referred. The station is situated on one of spurs of Siwalik Range of hills, about a mile N.W. of village named Mohabawala in district Dehra Dun.	1959·384	1958·463
39		BM.41 / 53 F	41·9	G.T.S. O B.M. On E. parapet of culvert, about 3 chains beyond mile-stone No. 38, Saharanpur.	1983·984	1983·050

Branch-Line 61A. (Saharanpur to Mussooree).

Designation of Bench-marks			Distance from Saharanpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
40		BM.42 / 53 F	42·1	↑ On boundary stone on W. side of road, about 24 chains beyond mile-stone No. 38, Saharanpur.	1973·356	1972·425
	a / 40	BM.43 / 53 F	43·3	G.T.S. ○ B.M. On brick platform of well in Majra encamping ground, about 10 chains W. of Saharanpur-Rajpur road.	1987·534	1986·596
41		BM.1 / 53 J	43·7	G.T.S. B.○M. On S. parapet of culvert in front of Majra Government School and Post Office combined.	2003·410	2002·463
42		BM.2 / 53 J	44·7	G.T.S. B.○M. On plinth of S. parapet of W. abutment of bridge over Bindal river, Dehra Dun.	2042·867	2041·899
43		BM.3 / 53 J	45·2	↑ On boundry stone on W. side of road, about 22 chains beyond mile-stone No. 41, Saharanpur.	2068·137	2067·157
44		BM.4 / 53 J	46·2	G.T.S. ○ B.M. On W. parapet of culvert on road leading from Dehra bazar to Dehra railway station, about 2 chains from last railway menials' quarters towards bazar.	2135·953	2134·941
45		BM.5 / 53 J	46·8	G.T.S. ○ B.M. at Tahsil, Dehra Dun. On flooring in centre of S.W. verandah, near wall of building.	2182·961	2181·924
46		BM.6 / 53 J	47·7	G.T.S. Bench Mark 1904 at Dehra Dun. Situated to N.N.E. of Office of Superintendent Trigonometrical Surveys, 27 feet from centre of building, and enclosed by an iron railing 15 feet square.	2232·618	2231·558
	1 / 46	BM.7 / 53 J	47·7	○ On 1st step of bell-platform at Trigonometrical Branch Survey office, Dehra Dun.	2231·623	2230·563
	2 / 46	BM.8 / 53 J	47·8	Cole's Satellite Station, 1869. Masonry pillar close to and N. of small solar observatory.	2237·839	2236·776
	3 / 46	BM.9 / 53 J	47·9	G.T.S. Standard Bench Mark 1904 at Dehra Dun. Situated near Haig Observatory, 23 and 19 feet respectively from its S.E. and S.W. corners.	2236·975	2235·912
	3a / 46	BM.10 / 53 J	48·0	Shaw's Refraction Station. Consists of circular masonry pillar flush with ground level, situated close to and E. of Haig Observatory.	2235·387	2234·325
	4 / 46	BM.11 / 53 J	48·2	G.T.S. Standard Bench Mark 1904 at Dalenwala House (Office of No. 17 Party), Dehra Dun. Built in block of masonry flush with ground level, the upper surface of stone being 2 feet above masonry.	2231·224	2230·164
47		BM.12 / 53 J	47·7	Iron plug at Trigonometrical Branch Survey office, Dehra Dun. Driven into base of N. wall of main building, 13 feet W. from N.E. corner of same, and 57 feet S.E. of outer N.E. corner of portico.	2229·614	2228·556
48		BM.13 / 53 J	48·6	↑ On top of stone pillar, on W. side of road, near mile-stone No. 109 from Meerut.	2283·529	2282·443

Branch-Line 61A. (Saharanpur to Mussooree).

Designation of Bench-marks			Distance from Saharanpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
49		BM.14 / 53 J	49·2	↑ On top of stone on E. side of road near house No. 19, Rajpur road.	2339·198	2338·086
50		BM.15 / 53 J	50·6	↑ On top of stone, near mile-stone No. 111 from Meerut.	2517·046	2515·846
51		BM.16 / 53 J	52·1	↑ On top of stone on W. side of road, 32 chains N. of mile-stone No. 112 from Meerut.	2750·097	2748·783
	a / 51	BM.17 / 53 J	53·0	↑ On top of stone on E. side of road, about 4 chains N. of Crown Brewery Godown at Rajpur.	2923·546	2922·149
52		BM.18 / 53 J	54·3	G.T.S. ○ B.M. On plinth of house, facing road, near water pipe, at upper end of Rajpur bazar.	3324·206	3322·605
	1 / 52	BM.19 / 53 J	55·3	G.T.S. ∧ B.M. On rock *in situ* in field below knoll to N. side of cart road, about 1 mile N. of N. end of Rajpur bazar, close to a pakka pillar on knoll to S. of cart road, which is 154° and 171 feet from bench-mark. A hollow pillar of masonry is built over mark and carries a mark-stone 0·937 foot above it.	3402·088	3400·449
	2 / 52	BM.20 / 53 J	56·2	G.T.S. ∧ B.M. On rock *in situ* on N. margin of road, 2 miles N. of N. end of Rajpur bazar. The village of Gusaingaon is ¼ mile and 220° from mark. A hollow pillar of masonry is built over mark and carries a mark-stone 1·006 feet above it.	3684·173	3682·398
	3 / 52	BM.21 / 53 J	56·8	G.T.S. ∧ B.M. On rock *in situ* on N. side of cart road, 2 miles N. of N. end of Rajpur bazar, and 112 feet from a boundary pillar on S. margin of road which bears 148° from mark. A hollow pillar of masonry is built over mark and carries a mark-stone 1·067 feet above it.	3866·966	3865·103
53		BM.22 / 53 J	58·0	○ On rock *in situ* at N.E. abutment of drain, 60 feet E. of lowest step, to Kolukhet water-works.	4203·734	4201·704
	a / 53	BM.23 / 53 J	58·9	G.T.S. B ○M. On rock *in situ* on E. margin of road, 67 chains above Kolukhet water-works.	4427·896	4425·758
	1 / 53	BM.24 / 53 J	58·1	G.T.S. ∧ B.M. On rock *in situ* on inner margin of road, 5 chains S. of Kolukhet water-fall: S.E. corner of cistern above cart road bears 7° from mark. A hollow pillar of masonry is built over mark and carries a mark-stone 1·072 feet above it.	4190·394	4188·371
54		BM.25 / 53 J	59·1	G.T.S. ○ B.M. On rock *in situ* on E. margin of road, about a mile above Kolukhet water-works, and about 2 miles below Bhatta village.	4499·507	4497·334
	1 / 54	BM.26 / 53 J	59·4	G.T.S. ∧ B.M. On rock *in situ* on N. margin of road, about 70 chains from Kolukhet water-fall, a few chains from corner where the general direction of cart road turns from W. to N., and 15 chains from take-off of Electric Power house road from cart road. A hollow pillar of masonry is built over mark and carries a mark-stone 0·941 foot above it.	4424·617	4422·481

Branch-Line 61A. (Saharanpur to Mussooree).

Designation of Bench-marks			Distance from Saharanpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
55		BM.27 / 53 J	59·5	G.T.S. ○ B.M. On rock *in situ* on W. margin of road, about 2 miles above Kolukhet water-works, and 2 miles below Bhatta village.	4579·352	4577·137
56		BM.28 / 53 J	59·7	G.T.S. ○ B.M. On rock *in situ* on W. margin of road, about 2 miles above Kolukhet water-works, and same distance below Bhatta village.	4633·133	4630·892
	a / 56	BM.29 / 53 J	59·9	B.O.M. On rock *in situ* on W. margin of road, about 2 miles below Bhatta village.	4691·650	4689·380
57		BM.30 / 53 J	60·1	G.T.S. ○ B.M. On rock *in situ* on W. margin of road, about 1 mile below Bhatta village.	4741·730	4739·436
58		BM.31 / 53 J	60·3	G.T.S. ○ B.M. On rock *in situ* on W. margin of road, 1 mile below Bhatta village.	4776·198	4773·887
59		BM.32 / 53 J	60·5	G.T.S. ○ B.M. On rock *in situ* on N. margin of road, 72 chains below Bhatta village.	4840·003	4837·661
60		BM.33 / 53 J	61·2	G.T.S. ○ B.M. On abutment of drain on E. margin of road, about 20 chains E. of Bhatta village.	5139·403	5136·917
	1 / 60	BM.34 / 53 J	61·4	G.T.S. ∧ B.M. On rock *in situ*, 30 feet W. of N.W. corner of nearer of two water tanks at Bhatta, and 142 feet W. of Forest Ranger's bungalow. A hollow pillar of masonry is built over mark and carries a mark-stone 1·048 feet above it.	5176·469	5173·965
61		BM.35 / 53 J	62·2	B.O.M. On rock *in situ* on E. margin of road to Crown Brewery, about 49 chains above Bhatta village.	5527·831	5525·151
62		BM.36 / 53 J	63·0	B.O.M. On rock *in situ* on E. margin of road, 4 chains S. of Oakdene, and about 42 chains below junction of Kincraig and Library roads.	5820·106	5817·284
63		BM.37 / 53 J	63·1	B.O.M. On rock *in situ*, 6 chains above Oakdene, and 32 chains below junction of Kincraig and Library roads.	5873·914	5871·066
	1 / 63	BM.38 / 53 J	63·2	G.T.S. ∧ B.M. On rock *in situ* on E. side of a stream, 135 feet from point where the stream crosses road, near bench-mark No. 63 below Sunny View and about 4 chains E. of Sunny View Villa. The mark bears 75° from B.M. No. 63. A hollow masonry pillar is built over mark and carries a mark-stone 1·113 feet above it.	5903·949	5901·087
64		BM.39 / 53 J	63·4	B.O.M. On rock *in situ* on E. margin of road, 6 chains below junction of Kincraig and Library roads.	6004·752	6001·841
65		BM.40 / 53 J	63·8	B.O.M. On rock *in situ* on E. margin of road, 17 chains below junction of Hampton Court and Library roads, and about a mile below Library.	6149·379	6146·398

Branch-Line 61A. (Saharanpur to Mussooree).

Designation of Bench-marks		Distance from Saharanpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1/65	BM.41 / 53 J	64·0	G.T.S. / B.M. On rock *in situ* on N. side of Library road, 10 chains E. of B.M. No. 66, and 104 feet W. of road leading up to Hampton Court and Mall. It is below Violet Bank, and 17 feet N. of outside rail pillar on road. A hollow pillar of masonry is built over mark and carries a mark-stone 0·949 foot above it.	6241·284	6238·258
66	BM.42 / 53 J	64·2	G.T.S. ○ B.M. On rock *in situ* on E. margin of road, 23 chains below Falcon's Nest, and 57 chains below Library.	6284·473	6281·426
1/66	BM.43 / 53 J	64·3	G.T.S. / B.M. On rock *in situ*, 35 feet from outer rail pillar of road, 23 chains below Falcon's Nest, and 24 feet from B.M. No. 66 which bears 285° from mark. A hollow pillar of masonry is built over mark and carries a mark-stone 0·777 foot above it.	6290·609	6287·559
67	BM 44 / 53 J	64·6	B.○M. On rock *in situ* on E. margin of road, 12 chains above Falcon's Nest, and 23 chains below Library.	6461·748	6458·616
68	BM.45 / 53 J	64·9	G.T. Survey ○ Bench Mark On flooring of verandah of Mussoorce Library, 11 and 72 feet respectively from S.E. and N.E. corners, and a few inches N. of Librarian's door.	6581·118	6577·928
a/68	BM 46 / 53 J	65·5	B.○M. On rock *in situ* on W. margin of road, near S.W. end of bazar at Vincent's hill, about 3 chains N.W. of Ex-Amir's police guard.	6913·442	6910·091
b/68	BM 47 / 53 J	65·6	On upper mark-stone of Eagle's Nest G.T. Survey Hill Station, lat. 30° 27′ 37″·13, long. 78° 3′ 29″·58. On S.W. corner of lawn, in compound of Eagle's Nest. It consists of a ⊙ engraved on stone embedded centrally in, and flush with top of circular masonry pillar 40 inches in diameter and surrounded by a concentric masonry ring and has a platform of earth and stones 14 feet square and 1 foot high round it. Vertically below upper mark are two other mark-stones embedded in centre and bottom of pillar respectively.	6926·502	6923·145
c/68	BM.48 / 53 J	65·8	G.T.S. / B.○M. On rock *in situ*, 3 chains S.W. of Dunseverick, and 6 feet below level of same.	7126·261	7122·807
d/68	BM.49 / 53 J	65·9	G.T.S. ○ B.M. On flooring of glazed verandah of Dunseverick, on N. side of door of southernmost room, which contained the Pendulum station.	7131·739	7128·282
69	BM 50 / 53 J	65·2	G.T.S. ○ B.M. at Christ Church, Mussooree. On 2nd step from bottom of W. door of main entrance.	6649·131	6645·908
a/69	BM.51 / 53 J	65·3	B.○M. On rock *in situ* on outer margin of road to Evelyn Hall, about 10 chains above church.	6743·552	6740·283
70	BM.52 / 53 J	65·6	Shaw's Refraction Station, Mussooree. A masonry pillar close to and S.E. of Mussooree Dome Observatory: the pillar is 3 feet in diameter, with its upper surface flush with ground.	6933·292	6929·931

Branch-Line 61A. (Saharanpur to Mussooree).

Designation of Bench-marks		Distance from Saharanpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
71	BM.53 / 53 J	65·6	On mark-stone on surface of pillar of Mussooree Dome Observatory G. T. Survey Hill Station, lat. 30° 27′ 40″·55, long. 78° 4′ 17″·41. A principal station of Great Arc Meridional Series—Section 24° to 30°. (For full description *see* Synoptical Volume).	6938·327	6934·964
1 / 71	BM.54 / 53 J	66·0	○ B.M. On rock *in situ*, 16 feet from N.E. corner of Connaught Castle, and 19 feet from northern entrance to same.	6622·849	6619·639
1a / 71	BM.55 / 53 J	66·0	G.T.S. ○ B.M. at Connaught Castle, Mussooree. On flooring of N. verandah, to E. of inner door leading into corridor.	6623·237	6620·027
1b / 71	BM.56 / 53 J	66·3	G.T.S. ○ B.M. On lowest step at entrance, on N. side, to Methodist Episcopal Church, Kulri, Mussooree.	6572·627	6569·441
1c / 71	BM.57 / 53 J	66·3	G.T.S. B.M. 1908 at Methodist Church, Kulri. A stone monolith 1 foot high, is let into a large and similarly shaped block of stone, resting on a bed of concrete. The bench-mark is enclosed in a railed-off space 8 feet square.	6573·212	6567·026
1d / 71	BM.58 / 53 J	66·5	G.T.S. ○ B.M. On platform flooring at S.E. angle formed by S.W. wall of portico with S.E. face of Union Church, Mussooree.	6567·181	6563·998
2 / 71	BM.59 / 53 J	67·0	G.T.S.○B.M. On coping of drain at Reservoir in Landour bazar, 2 chains E. of Yusuf Muhammad's shop.	6675·381	6672·145
2a / 71	BM.60 / 53 J	67·1	G.T. Survey ○ Bench Mark at Mussooree. On S.E. corner of masonry pillar under Rickshaw shed, at main entrance to Castle Hill estate, and 22 feet from S.W. corner of gate-keeper's lodge.	6683·955	6680·715
3 / 71	BM.61 / 53 J	67·2	B.○M. On summit of Cantonment boundary pillar No. 8 at Landour bazar, on N. side of road and opposite S. face of Ivanhoe cottage.	6672·869	6669·635
4 / 71	BM.62 / 53 J	67·6	B.○M. On rock *in situ* in drain, on inner margin of road below out-offices of Edenfell, 32 chains from St. Paul's Church, Landour, the "Soldiers' Furlough Home" bearing 196° from bench-mark.	6961·914	6958·539
5 / 71	BM.63 / 53 J	68·0	○ B.M. On lowest step of N. corner, of flight of stairs leading up through gateway at main entrance to St. Paul's Church, Landour Cantonment.	7222·664	7219·163
5a / 71	BM 64 / 53 J	68·0	○ G.T.S. B.M. On E. end of 2nd step at N. entrance to porch at W. side of St. Paul's Church, Landour Cantonment.	7235·022	7231·515
5b / 71	BM.65 / 53 J	68·3	G.T.S. ○ B.M. On flooring under S.E. corner of E. porch of Kellog Memorial Church, Landour Cantonment.	7325·945	7322·394
5c / 71	BM.66 / 53 J	68·4	G.T.S. ∧ B.M. On boulder in drain on inner margin of road, 63 feet E. of E. gate of Rokeby house, Landour.	7282·023	7278·493

Branch-Line 61A. (Saharanpur to Mussooree).

Designation of Bench-marks			Distance from Saharanpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	5d/71	BM.67 / 53 J	68·4	G.T.S. / B.M. On rock *in situ* close to and S. of Depot Canteen, Landour, 62 feet from N.E corner of barrack No. 19, and 37 feet E. of S.E. corner of same. A hollow pillar of masonry is built over mark and carries a mark-stone 0·928 foot above it.	7457·091	7453·476
	6/71	BM.68 / 53 J	68·4	B.M. On rock *in situ* at inner margin of road, near junction of Lal Tibba road with main road from Quarter Guard, Landour, to station Hospital and Jabarkhet: the Refuse Incinerator chimney bears 4° and Lal Tibba peak 121° approximately from bench-mark.	7314·561	7311·015
	6a/71	BM.69 / 53 J	68·7	B.O.M. at Barracks, Landour. On plinth at N. end of barrack-room, 0·745 foot above ground, near old site of Landour h s. No. 1, and close to Roman Catholic chapel. The bench-mark is 2 feet E. of centre of building below apex of roof.	7531·983	7528·332
	7/71	BM.70 / 53 J	68·6	B.M. ⊕ On single rock projecting out of ground on Lal Tibba peak, Landour, in grounds of American Presbyterian Mission.	7462·472	7458·855
72		BM 71 / 53 J	65·9	B.O.M. On rock *in situ* on N. margin of Blucher's Hill road, about 6 chains E. of junction of road to Park with same.	6831·250	6827·939
73		BM.72 / 53 J	65·9	G.T.S. / B.M. On same rock as B.M. No. 72 on a lower step and to W. side of it. A hollow masonry pillar is built over mark and carries a mark-stone 0·68 foot above it.	6829·163	6825·853
74		BM.73 / 53 J	66·2	B.M. On rock *in situ* on S. margin of road to Park at junction of Municipal Gardens road with same.	6730·324	6727·062
75		BM.74 / 53 J	67·5	B.O.M. On rock *in situ* on N. margin of road to Banog, about 9 chains W. of toll bar, and about 10 chains E. of house in park.	6376·059	6372·968
76		BM.75 / 53 J	67·5	G.T.S. / B.M. On same rock as B.M. No. 75, and 3 feet S. of it.	6375·665	6372·574
77		BM.76 / 53 J	67·5	G.T.S. / B.M. On rock *in situ* amongst a cluster of outcropping rocks on N. margin of a shallow pool on Banog road. It is 8 chains W. of toll bar, and 1 chain E. of B.M No. 75. A hollow masonry pillar is built over mark and carries a mark-stone 0·68 foot above it.	6374·518	6371·427
78		BM.77 / 53 J	68·2	B.O.M. On rock *in situ* on S. margin of road to Banog to S. of Shiv Ram Chaudhuri's bungalow.	6598·010	6594·805
79		BM.78 / 53 J	69·0	B.O.M. On rock *in situ* on S. margin of road to Banog, about 26 feet W. of Mackinnon's forest chauki, at junction of roads to Banog and Cloud End.	6918·950	6915·596

Branch-Line 61A. (Saharanpur to Mussooree).

Designation of Bench-marks		Distance from Saharanpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
80	BM.79 / 53 J	69·1	G.T.S. / B.M. On rock *in situ* on S. margin of road to Dudhili and Cloud End, about 10 chains W. of Mackinnon's forest chauki, 89 feet W. of a conical masonry pillar on N. margin of road, and 81 feet W. of a pyramidal masonry pillar on S. margin of road. A hollow masonry pillar is built over mark and carries a mark-stone 0·67 foot above it.	6973·061	6969·681
81	BM 80 / 53 J	69·9	B.O.M. On rock *in situ* on S. margin of road to Banog, 11 chains above point from where ascent on Banog hill commences.	6604·321	6601·113
82	BM.81 / 53 J	70·5	G.T.S. / B.M. On rock *in situ* amongst a cluster of outcropping rocks, on a flat ridge about 4 chains S. of a bend in road to Banog, near forest chauki which bears 335° and is about 9 chains from mark; the bend is about 15 chains below B.M. No. 83. A hollow masonry pillar is built over mark and carries a mark-stone 0·61 foot above it.	6839·928	6836·613
83	BM.82 / 53 J	70·6	B.O.M. On rock *in situ* on S. margin of road to Banog, about 38 chains below B.M. No. 84, and about 13 chains above Banog forest chauki (Mackinnon's).	7039·516	7036·104
84	BM.83 / 53 J	71·1	On mark-stone on top of pillar of Banog G. T. Survey Hill Station, lat. 30° 28′ 36″·91, long. 78° 0′ 55″·96. A principal station of Dehra Dun Base-Line figures of Great Arc Meridional Series—Section 24° to 30°. (For full description *see* Synoptical Volume).	7432·851	7429·233

Branch-Line 61B. (Nojli to Hardwar).

Designation of Bench-marks			Distance from Nojli	Description of Bench-marks	Corrected Elevation *	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.46 / 53 G	0·0	G.T.S. ○ B.M. On upper mark-stone of Shaw's refraction station, which consists of circular pillar 3 feet in diameter. It is 63 and 68 feet respectively from S.E. and N.E. corners of Nojli Tower.	887·099	886·709
2		BM.51 / 53 G	1·8	On plinth of temple, W. of Danghara village.	882·171	881·785
3		BM.52 / 53 G	3·4	On boundary pillar, S. of Saharanpur-Manglor road.	877·294	876·911
4		BM.53 / 53 G	4·6	On plinth of shrine, E. of Bilaspur village.	872·117	871·737
5		BM.54 / 53 G	6·3	○ On parapet of bridge, W. of Palauda village.	854·867	854·495
6		BM.55 / 53 G	8·4	○ On mile-stone No. 6 from Manglor.	863·236	862·862
7		BM.56 / 53 G	11·1	○ On bridge over Sila nadi.	854·004	853·634
8		BM.57 / 53 G	11·9	⩚ On plinth of mile-stone No. 4, Deoban branch canal.	862·742	862·368
9		BM.58 / 53 G	12·9	⩚ On plinth of mile-stone No. 3, Deoban branch canal.	863·663	863·288
10		BM.59 / 53 G	13·9	⩚ On plinth of mile-stone No. 2, Deoban branch canal.	864·628	864·252
11		BM.60 / 53 G	14·9	⩚ On plinth of mile-stone No. 1, Deoban branch canal.	868·144	867·766
12		BM.61 / 53 G	15·9	⩚ On parapet of bridge at junction of Deoban branch with Ganges canal.	871·515	871·134
13		BM.62 / 53 G	17·9	⩚ On plinth of 20th mile-stone, Ganges canal.	883·496	883·108
	1 / 13	BM.63 / 53 G	18·9	G.T.S. Standard Bench Mark 1908 at Roorkee. Surrounded by an iron railing 11 feet square, 333° and 180 feet to outer face of polo pit, 277° and 56 feet to Magnetic Survey mark. It is situated to E. of Block No. 2, Sappers and Miners' barracks, and to S. of Garden road, from centre of which it is 46 feet.	879·645	879·259
	1a / 13	BM.64 / 53 G	19·0	⩚ On stone at plinth level of collimation pillar, marked M.S.L. 876·65, at back of Sappers and Miners' Orderly Room.	876·167	875·782
14		BM.65 / 53 G	18·9	⩚ On plinth of 19th mile-stone, Ganges canal.	875·507	875·122

* Deduced from levelling observations taken after the earthquake of 1905.

Branch-Line 61B. (Nojli to Hardwar).

Designation of Bench-marks		Distance from Nojli	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
15	BM.66 / 53 G	19·8	○ On top of 18th mile-stone, on Solani aqueduct.	873·023	872·638
16	BM.67 / 53 G	20·8	⩚ On 17th mile-stone, Ganges canal.	875·282	874·896
17	BM.68 / 53 G	21·8	⩚ On wall over 16th mile-stone, Ganges canal.	877·060	876·672
18	BM.69 / 53 G	22·8	○ On top of stone pillar of No. 15 mile-stone, Ganges canal.	897·460	897·062
19	BM.70 / 53 G	25·8	⩚ On plinth of 12th mile-stone, Ganges canal.	896·278	895·880
20	BM.71 / 53 G	26·8	⩚ On plinth of 11th mile-stone, Ganges canal.	913·332	912·927
21	BM.1 / 53 K	27·8	⩚ On plinth of 10th mile-stone, Ganges canal.	908·962	908·559
22	BM.2 / 53 K	28·8	⩚ On plinth of 9th mile-stone, Ganges canal.	901·474	901·075
23	BM.3 / 53 K	29·8	⩚ On plinth of mile-stone No. 8, Ganges canal.	899·222	898·824
24	BM.4 / 53 K	30·8	⩚ On plinth of mile-stone No. 7, near Bahadrabad village.	920·718	920·311
25	BM.5 / 53 K	33·0	⩚ On plinth of mile-stone No. 5 against N. wall of Ranipur inspection bungalow.	942·926	942·509
26	BM.6 / 53 K	34·0	On plinth of mile-stone No. 4, Ganges canal.	938·999	938·584
27	BM.7 / 53 K	35·0	⩚ On plinth of mile-stone No. 3, Ganges canal.	947·603	947·183
28	BM.8 / 53 K	36·0	⩚ On plinth of mile-stone No. 2, Ganges canal.	947·383	946·963
29	BM.9 / 53 K	37·0	⩚ On plinth of mile-stone No. 1, Ganges canal.	940·370	939·952
30	BM.10 / 53 K	38·0	⩚ On cornice at S.E. corner of Myapur Regulator bridge over Ganges canal, Hardwar.	940·775	940·356
31	BM.11 / 53 K	38·1	⩚ On stone slab embedded in ground to N. of Myapur canal bungalow, Hardwar.	946·022	945·601

Branch-Line 61C. (Dehra Dun to Hardwar).

Designation of Bench-marks			Distance from Dehra Dun	Description of Bench-marks	Corrected Elevation*	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.6 / 53 J	0·0	G.T.S. Bench Mark 1904 at Dehra Dun. Situated to N.N.E. of Office of Superintendent Trigonometrical Surveys, 27 feet from centre of building, and enclosed by an iron railing 15 feet square.	2232·618	2231·558
2		BM 84 / 53 J	1·4	G.T.S. ○ B.M. On 3rd stone step of bathing ghat below S. parapet of bridge over Eastern Dun canal, about a chain N.W. of temple of Dharampur village.	2108·249	2107·252
	a/2	BM.85 / 53 J	3·6	G.T.S. ○ B.M. On canal boundary stone, 42 feet from centre of E. parapet of culvert over Raipur canal, where it crosses Hardwar-Dehra road.	2083·883	2082·897
3		BM 86 / 53 J	3·9	B.O.M. On S. parapet of culvert No. 196, opposite level crossing lodge No. 41, and near telegraph post No. $\frac{45}{5}$.	2042·896	2041·934
4		BM.87 / 53 J	5·0	B.O.M. On outer ledge of E. parapet of road bridge, about 1 furlong towards Hardwar, from mile-stone No. 5 Dehra and 26 Hardwar.	1962·980	1962·057
5		BM.88 / 53 J	11·7	B.O.M. On E. end of S. abutment of bridge No. 163, near telegraph post No. $\frac{37}{2}$.	1608·554	1607·804
6		BM.89 / 53 J	12·2	B.O.M. On W. parapet of culvert No. 159, between telegraph posts Nos. $\frac{36}{10}$ and $\frac{36}{11}$.	1581·537	1580·802
7		BM.90 / 53 J	13·6	B.O.M. On E. end of N. parapet of drain No. 141, near telegraph post No. $\frac{35}{3}$.	1507·636	1506·938
8		BM.91 / 53 J	16·9	B.O.M. On E. parapet of S. abutment of bridge No. 135, near telegraph post No. $\frac{31}{16}$.	1395·928	1395·287
9		BM.92 / 53 J	18·5	B.O.M. On E. parapet of bridge No. 123, near telegraph post No. $\frac{30}{6}$.	1364·953	1364·328
10		BM.93 / 53 J	19·8	B.O.M. On E. parapet of S. abutment of bridge, near mile-plate No. 29.	1300·943	1300·348
11		BM.94 / 53 J	20·9	B.O.M. On E. parapet of bridge No. 109, near telegraph post No. $\frac{27}{17}$.	1233·324	1232·762
12		BM.95 / 53 J	22·3	B.O.M. On E. parapet of bridge No. 97, near telegraph post No. $\frac{26}{1}$.	1198·139	1197·594

* Deduced from levelling observations taken after the earthquake of 1905.

Branch-Line 61C. (Dehra Dun to Hardwar).

Designation of Bench-marks			Distance from Dehra Dun	Description of Bench-marks		Corrected Elevation	
	Geodetic	Topographic				Dynamic	Orthometric
			miles			*feet*	*feet*
13		BM.96 / 53 J	23·6	B.O.M.	On E. parapet of S. abutment of bridge No. 81, near telegraph post No. $\frac{25}{5}$.	1156·512	1155·988
14		BM.97 / 53 J	25·0	B.O.M.	On base of home signal at Rikhikesh Road railway station.	1153·291	1152·769
15		BM.98 / 53 J	27·1	○	On ledge at S.W. corner of dharmshala of Pardoni village, about 2 chains E. of level crossing lodge No. 21.	1118·340	1117·837
	a / 15	BM.12 / 53 K	29·2	○ ∧	On top of mile-stone $\frac{H}{2}-\frac{D}{29}$ on Hardwar-Dehra road.	981·094	980·653
6		BM.13 / 53 K	30·7	○	On parapet of bridge No. 37, near telegraph post No. $\frac{18}{3}$.	980·039	979·601
	a / 16	BM.14 / 53 K	30·8	G.T.S. ○ B.M.	On rock on W. side of Hardwar-Dehra Dun road and 3 chains S. of N. end of tunnel, Hardwar.	979·338	978·900
	b / 16	BM.15 / 53 K	30·9	G.T.S. ○ B.M.	On rock by sacred pool, 25 feet from N. face of S. abutment of bridge, Hardwar.	990·550	990·107
17		BM.16 / 53 K	32·1	G.T.S. ○ B.M.	On coping at N. end of platform at Hardwar railway station.	968·475	968·043
	1 / 17	BM.17 / 53 K	33·2	G.T.S. ○ B.M.	On rock on W. side of Hardwar-Dehra Dun road, near Raja's sarai, about 12 chains S. of N. end of tunnel, Hardwar.	954·088	953·659
18		BM.18 / 53 K	32·3	G.T.S. ○ B.M.	On coping at S. end of platform at Hardwar railway station.	968·540	968·108
19		BM.10 / 53 K	32·7	∧	On cornice at S.E. corner of Myapur Regulator bridge over Ganges canal, Hardwar.	940·775	940·356
20		BM.11 / 53 K	32·8	∧	On stone slab embedded in ground to N. of Myapur canal bungalow, Hardwar.	946·022	945·601

Branch-Line 61D. (Dehra Dun to Kalsi).

Designation of Bench-marks			Distance from Dehra Dun	Description of Bench-marks	Corrected Elevation *	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM G / 53 J	0·0	G.T.S. Bench Mark 1904 at Dehra Dun. Situated to N.N.E. of Office of Superintendent Trigonometrical Surveys, 27 feet from centre of building, and enclosed by an iron railing 15 feet square.	2232·618	2231·558
2		BM.12 / 53 J	0·0	Iron plug at Trigonometrical Branch Survey office, Dehra Dun. Driven into base of N. wall of main building, 13 feet W. from N.E. corner of same, and 57 feet S.E. of outer N.E. corner of portico.	2229·614	2228·556
3		BM.99 / 53 J	4·6	G.T.S. O B.M. On parapet of bridge of Kaulagir Branch canal, about 4 miles from Dehra.	2080·060	2079·070
4		BM.44 / 53 F	6·5	G.T.S. O B.M. On pillar at P.W.D. Tons hut, about 6 miles from Dehra.	1891·574	1890·674
	a/4	BM.45 / 53 F	10·9	O On up stream parapet of bridge, about 10 miles from Dehra.	1790·665	1789·811
5		BM.46 / 53 F	12·6	G.T.S. O B.M. On well at Seli Kua, about 11 miles from Dehra.	1675·507	1674·708
6		BM.47 / 53 F	16·4	G.T.S. O B.M. On pillar at Sahaspur P.W.D. bungalow, about 16 miles from Dehra.	1604·621	1603·851
7		BM.48 / 53 F	20·4	G.T.S. O B.M. On left wing of Lakhanwala branch, near down stream bridge, about 19 miles from Dehra.	1495·327	1494·605
	a/7	BM.49 / 53 F	28·3	G.T.S. O B.M. On pillar at Ambari Canal bungalow, near rain gauge.	1605·043	1604·260
8		BM.50 / 53 F	30·5	G.T.S. O B.M. On up stream wheel guard of iron bridge at Kalsi.	1568·452	1567·683

* Deduced from levelling observations taken after the earthquake of 1905.

Main-Line 62. (Meerut to Agra).

Designation of Bench-marks			Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.26 / 53 G	0·0	+ at St. John's Church, Meerut. On surface of stone slab opposite N. pillar of central W. doorway (main entrance).	738·645	738·372
2		BM.1 / 53 H	5·6	Top of mile-stone Meerut 4 / Allahabad 386.	732·118	731·852
3		BM.2 / 53 H	12·6	Kharkhaoda Bench Mark. Stone B.M. embedded in S.E. corner of encamping ground near *bardashtkhana*.	712·823	712·568
4		BM.3 / 53 H	20·2	Hapur Bench Mark. Stone B.M. embedded in encamping ground on S.W. side of road.	692·228	691·988
5		BM.4 / 53 H	22·6	Top of mile-stone Meerut 21 / Allahabad 369.	694·411	694·172
6		BM.5 / 53 H	30·4	Galaoli Bench Mark. Stone B.M. embedded in encamping ground on S.W. side of road opposite thana.	679·786	679·557
7		BM.6 / 53 H	44·4	Plinth of S.W. pillar, or level of spring of arches of Walipur bridge over Ganges canal.	672·951	672·735
8		BM.7 / 53 H	44·4	Walipur Bench Mark. Stone B.M. embedded in front of toll office, about a yard from southernmost pillar of verandah.	670·020	669·805
	1/8	BM.8 / 53 H	46·9	On ground level mark-stone of Bulandshahr G.T. Survey Tower Station, lat. 28° 24′ 15″·29, long. 77° 51′ 45″·20. A principal station of Great Arc Meridional Series—Section 24° to 30°. (For full description *see* Synoptical Volume).	726·235	726·002
9		BM.9 / 53 H	48·4	Top of mile-stone Meerut 47 / Allahabad 343.	658·339	658·130
10		BM.10 / 53 H	54·7	Khurja Bench Mark. Stone B.M. embedded on W. side of road opposite dak bungalow, and about 10 chains N. of junction of roads from Delhi and Meerut to Agra.	646·976	646·775
11		BM.11 / 53 H	65·5	Top of mile-stone Delhi 62 / Allahabad 326.	635·442	635·252
12		BM.12 / 53 H	67·7	Somna Bench Mark. Stone B.M. embedded in encamping ground, near well and close to S.E. boundary pillar.	621·496	621·312
13		BM.13 / 53 H	79·4	E.I. Railway Bench Mark. A wooden peg in masonry pillar in centre of embankment, 50 yards N. of Kanowe Deota road level crossing.	623·943	623·760
14			81·8	Destroyed.	609·051	608·878

Main-Line 62. (Meerut to Agra).

Designation of Bench-marks			Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
15		BM.1 / 54 I	81·8	Aligarh G.T.S. Bench Mark. Embedded in encamping ground to N.E. of road facing *bardashtkhana*, and about 3 chains from camp well; 54 feet from N. end of E. culvert, 50 feet from N. end of W. culvert on S. side of encamping ground, 48 feet from furlong-stone No. 6, and 8 feet S. of centre of S. side of base of pyramidal block on which inscription G.T.S. B.M. is cut.	605·016	604·844
	a / 15	BM.2 / 54 I	82·9	E.I. Railway Bench Mark. Pillar on S. flank of engine house at Aligarh railway station, about 2 feet above level of ground, and defined by Mr. Shaw, District Engineer, as being 101·00 on Delhi District Datum.	607·916	607·743
	1 / 15	BM.3 / 54 I	81·8	G.T.S. ○ B.M. On inner circle of masonry on surface of largest block of yellow stone on coping of well in encamping ground at Aligarh opposite *bardashtkhana*.	609·645	609·472
	2 / 15	BM.4 / 54 I	82·3	G.T.S. ○ B.M. On W. side of base of up distant signal at Aligarh railway station.	612·278	612·104
	3 / 15	BM.5 / 54 I	82·4	⊕ On W. parapet of culvert near S. angle of District Jail wall at Aligarh.	605·925	605·753
	3a / 15	BM.6 / 54 I	82·7	G.T.S. ○ B.M. On flooring at N. end of W. verandah of Post Office, Aligarh.	606·176	606·004
	4 / 15	BM.7 / 54 I	82·9	G.T.S. Standard Bench Mark 1904 at Aligarh. Situated in compound of District Engineer's office, to N.W. of building, 78 and 138 feet respectively from N.W. and S. corners of same, and 34 feet from centre of N. wall of kitchen: it is enclosed in a railed-off space 11 feet square.	612·036	611·862
16		BM.8 / 54 I	86·5	Surface of plinth of 4th mile-stone from Aligarh.	601·564	601·396
	a / 16	BM.9 / 54 I	87·9	Bench Mark. Stone B.M. embedded 200 feet E. of road, 2 miles N. of Mr. Nickterlein's bungalow.	601·723	601·555
17		BM.10 / 54 I	92·5	Surface of plinth of 10th mile-stone from Aligarh.	591·528	591·366
18			95·2	Destroyed.	588·340	588·181
19		BM.11 / 54 I	95·5	Surface of plinth of 13th mile-stone from Aligarh.	586·214	586·056
20		BM.12 / 54 I	99·5	Surface of plinth of 17th mile-stone from Aligarh.	587·168	587·012

Main-Line 62. (Meerut to Agra).

Designation of Bench-marks			Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
21		BM.13 / 64 I	102·5	Hathras G.T.S. Block-stone Bench Mark. Embedded about 2 feet below ground level, 173, 128 and 154 feet respectively from N.E., S.E. and S.W. corners of inspection bungalow, 97 and 93 feet respectively from S.W. and S.E. corners of octroi chauki, and 10 feet W. of pyramidal block of masonry on which letters G.T.S. / B.M. are cut.	585·134	584·982
22		BM.14 / 64 I	109·4	Kewulguri Bench Mark. Stone B.M. embedded about 40 yards W. of 27th mile-stone from Aligarh.	574·276	574·130
23		BM.15 / 64 I	110·5	Surface of plinth of 28th mile-stone from Aligarh.	573·515	573·370
	a / 23	BM.16 / 64 I	116·5	Jowahirgarh Bench Mark. Stone B.M. embedded at E. side of road, in front of Mr. Sander's Indigo Factory, on mound a few yards S. of vats.	564·999	564·856
24		BM.17 / 64 I	119·5	Top of mile-stone No. 87 from Aligarh.	556·592	556·457
25		BM.18 / 64 I	123·5	Khandaoli Bench Mark. Stone B.M. embedded about 8 feet N. of S.E. boundary pillar of encamping ground.	553·978	553·846
	a / 25	BM.19 / 64 I	130·1	Nandlalpur Bench Mark. Stone B.M. embedded in high ground about 225 yards W. of chauki of that name, which lies between 47th and 48th mile-stones.	543·085	542·956
26			133·1	Destroyed.	515·317	515·199

Branch-Line 62A. (Meerut to Delhi).

Designation of Bench-marks			Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.26 / 53 G	0·0	+ at St. John's Church, Meerut. On surface of stone slab opposite N. pillar of central W. doorway (main entrance).	738·645	738·372
2		BM.72 / 53 G	0·8	Lower plinth on W. side of Meerut mile pillar, Delhi 40 miles, Aligarh 81½ miles, Muzaffarnagar 33 miles, Saharanpur 70 miles.	731·986	731·716
3		BM.14 / 53 H	1·2	On E. parapet wall of Begum's bridge, Meerut.	734·320	734·049
4		BM.15 / 53 H	1·7	Top of mile-stone Delhi 39 miles, Meerut 1 mile.	731·738	731·469
5		BM.16 / 53 H	2·7	Top of mile-stone Delhi 38 miles, Meerut 2 miles.	731·778	731·509
6		BM.17 / 53 H	3·2	S. platform of Kalian Singh's well.	731·909	731·640
	1/6	BM.18 / 53 H	4·3	Meerut Railway Station. Top of platform, at centre of station house.	738·337	738·066
7		BM.19 / 53 H	3·7	Top of mile-stone No. 37 from Delhi towards Meerut.	732·684	732·416
8		BM.20 / 53 H	4·2	On E. parapet wall of syphon bridge over rajbaha.	732·279	732·011
9		BM.21 / 53 H	4·6	Top of mile-stone No. 36 from Delhi towards Meerut.	728·026	727·760
10		BM.22 / 53 H	5·1	On W. parapet wall of bridge over rajbaha and close to flour mills.	736·797	736·528
11		BM.23 / 53 H	5·6	Top of mile-stone No. 35 from Delhi towards Meerut.	730·438	730·172
12		BM.24 / 53 H	6·6	Top of mile-stone No. 34 from Delhi towards Meerut.	727·546	727·281
13		BM.25 / 53 H	7·6	Top of mile-stone No. 33 from Delhi towards Meerut.	726·673	726·409
14		BM.26 / 53 H	8·0	On E. parapet wall of E. I. railway bridge.	726·976	726·712
15		BM.27 / 53 H	8·6	Top of mile-stone No. 32 from Delhi towards Meerut.	728·769	728·505
16		BM.28 / 53 H	9·6	Top of mile-stone No. 31 from Delhi towards Meerut.	723·527	723·265
17		BM.29 / 53 H	10·6	Top of mile-stone No. 30 from Delhi towards Meerut.	720·704	720·444

Branch-Line 62A. (Meerut to Delhi).

Designation of Bench-marks			Distance from Meerut	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
18		BM.30 / 53 H	11·6	Top of mile-stone No. 29 from Delhi towards Meerut.	722·408	722·148
19		BM.31 / 53 H	13·5	Surface of well, E. side of Bissakhur chauki.	716·998	716·741
20		BM.32 / 53 H	13·6	Top of mile-stone No. 27 from Delhi towards Meerut.	716·375	716·118
21		BM.33 / 53 H	14·6	Top of mile-stone No. 26 from Delhi towards Meerut.	717·686	717·429
22		BM.34 / 53 H	15·1	2nd step to N. of well outside compound of Begumabad road bungalow.	720·680	720·422
23		BM.35 / 53 H	15·6	Top of mile-stone No. 25 from Delhi towards Meerut.	720·893	720·636
24		BM.36 / 53 H	17·6	Top of mile-stone No. 23 from Delhi towards Meerut.	722·334	722·077
25		BM.37 / 53 H	18·6	Top of mile-stone No. 22 from Delhi towards Meerut.	719·204	718·949
26		BM.38 / 53 H	19·0	On E. parapet wall of bridge over rajbaha.	722·544	722·287
27		BM.39 / 53 H	19·6	Top of mile-stone No. 21 from Delhi towards Meerut.	716·103	715·850
28		BM.40 / 53 H	20·6	Top of mile-stone No. 20 from Delhi towards Meerut.	711·223	710·972
29		BM.41 / 53 H	21·0	On E. parapet wall of bridge over rajbaha.	712·498	712·247
30		BM.42 / 53 H	21·6	Top of mile-stone No. 19 from Delhi towards Meerut.	710·509	710·259
31		BM.43 / 53 H	22·6	Top of mile-stone No. 18 from Delhi towards Meerut.	707·892	707·643
	a / 31	BM 44 / 53 H	22·7	On W. parapet wall of bridge over rajbaha.	708·979	708·730
32		BM.45 / 53 H	23·6	Top of mile-stone No. 17 from Delhi towards Meerut.	704·154	703·908
33		BM 46 / 53 H	24·2	On E. parapet wall of bridge crossing rajbaha.	707·408	707·161
34		BM.47 / 53 H	24·6	Top of mile-stone No. 16 from Delhi towards Meerut.	704·649	704·403
35		BM.48 / 53 H	25·6	Top of mile-stone No. 15 from Delhi towards Meerut.	703·460	703·215

Branch-Line 62A. (Meerut to Delhi).

Designation of Bench-marks			Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
36		BM.49 / 53 H	25·9	S.E. side surface of well, 27 feet from 15th mile-stone.	699·109	698·866
37		BM.50 / 53 H	26·6	Top of mile-stone No. 14 from Delhi towards Meerut.	708·104	707·858
38		BM.51 / 53 H	27·6	Top of mile-stone No. 13 from Delhi towards Meerut.	704·223	703·979
39		BM.52 / 53 H	28·2	Oblique bridge, E. parapet wall.	698·128	697·887
40		BM.53 / 53 H	28·6	Top of mile-stone No. 12 from Delhi towards Meerut.	699·441	699·200
41		BM 54 / 53 H	30·0	Top of mile-stone No. 10 from Delhi towards Meerut.	676·109	675·876
	1/41	BM 55 / 53 H	30·1	On W. side surface of well, near S.W. corner of Ghaziabad city wall.	696·478	696·238
	2/41	BM.56 / 53 H	31·6	3rd step of N.W. corner of platform of Ghaziabad railway station.	697·262	697·022
	3/41	BM.57 / 53 H	31·7	Ghaziabad Railway Station. Level of rails opposite centre of platform, N. side.	695·235	694·996
42		BM.58 / 53 H	30·4	Stone edging on W. end of bridge over Hindan nadi.	682·882	682·647
43		BM.59 / 53 H	31·0	B.M. on top of mile-stone No. 9 from Delhi towards Meerut.	672·745	672·513
44		BM.60 / 53 H	31·9	B.M. on plinth of mile-stone No. 8 from Delhi towards Meerut.	695·777	695·538
45		BM 61 / 53 H	32·9	B.M. on plinth of mile-stone No. 7 from Delhi towards Meerut.	674·232	674·000
46		BM.62 / 53 H	33·9	B.M. on top of mile-stone No. 6 from Delhi towards Meerut.	673·538	673·306
47		BM.63 / 53 H	34·9	Top of mile-stone No. 5 from Delhi towards Meerut.	669·110	668·880
48		BM.64 / 53 H	35·8	Top of mile-stone No 4 from Delhi towards Meerut.	670·094	669·864
49		BM.65 / 53 H	36·8	Top of mile-stone No. 3 from Delhi towards Meerut.	669·505	669·275
	1/49	BM.66 / 53 H	37·0	$\overline{\wedge}$ On lower cornice below E. cap of N. parapet of bridge close to Salimpur village and S. of railway skew bridge.	675·939	675·706

Branch-Line 62A. (Meerut to Delhi).

Designation of Bench-marks		Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1a/49	BM 67/53 H	39·8	G.T.S. ○ B.M. On uppermost stone step in front of W. main door of Roman Catholic Church, Delhi.	706·029	705·786
1b/49	BM.68/53 H	39·9	G.T.S. ○ B.M. On W. stone footing of Lahori gate of fort, Delhi.	693·589	693·350
1c/49	BM.69/53 H	40·1	G.T.S. ○ B.M. On stone flooring of *nakarkhana*, near S. end of E. arch of central hall, inside fort, Delhi.	694·922	694·683
1d/49	BM 70/53 H	40·2	G.T.S. ○ B.M. On uppermost stone step on N. side of ***Diwan-i-am***, inside fort, Delhi.	697·305	697·065
1e/49	BM 71/53 H	40·3	○ On marble plinth at extreme S.W. corner of *Diwan-i-khas*, inside fort, Delhi.	694·714	694·475
2a/49	BM.72/53 H	40·2	G.T.S. ○ B.M. On stone coping towards E. end of No. 1 main platform, 480 feet from centre of Delhi railway station.	709·547	709·303
2b/49	BM.73/53 H	40·3	G.T.S. ○ B.M. On stone near S.E. tower at back of Delhi railway station, 159 feet E. from centre of building.	709·729	709·485
2c/49	BM.74/53 H	40·3	G.T.S. ○ B.M. On stone near S.W. tower at back of Delhi railway station, 159 feet W. from centre of building.	709·613	709·369
2d/49	BM.75/53 H	40·6	∧ at Town Hall, Delhi. On W. end of uppermost marble step under S. porch of building.	709·095	708·851
2e/49	BM.76/53 H	40·6	∧ On 2nd marble step from bottom on N. side of Empress Victoria's statue, in front of Town Hall, Delhi.	707·060	706·817
2/49	BM.77/53 H	38·4	G.T.S. ○ B.M. On stone coping at N. end of E. abutment wall, 15 feet N. of iron girder at E. end of E.I. railway bridge over Jumna river.	682·132	681·897
3/49	BM.78/53 H	39·0	G.T.S. ○ B.M. On stone coping at N. end of W. abutment wall, 31 feet N. of iron girder at W. end of E.I. railway bridge over Jumna river.	684·162	683·927
4/49	BM.79/53 H	39·7	G.T.S. ○ B.M. On W. side of stone base of Mutiny Memorial in compound of Government Telegraph Office, Delhi.	696·886	696·646
5/49	BM.80/53 H	40·0	G.T.S. ○ B.M. On middle stone step on N.E. side of the memorial in compound of St. James' Church, sacred to the memory of those Christians who were murdered at Delhi in May 1857.	700·550	700·309
6/49	BM.81/53 H	40·0	G.T.S. ○ B.M. On stone flooring of front or S.W. verandah near most south-easterly door of St. James' Church, Delhi.	699·464	699·223
7/49	BM.82/53 H	40·3	G.T.S. ○ B.M. On 2nd marble step on S. side of John Nicholson's statue in Nicholson's Gardens, Delhi.	692·261	692·023

Branch-Line 62A. (Meerut to Delhi).

Designation of Bench-marks			Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	8/49	BM.83/53 H	41·8	G.T.S. Standard Bench Mark 1904 at Delhi. Situated on ridge close to and N.E. of flag-staff tower and enclosed by an iron railing 11 feet square.	757·746	757·485
	9/49	BM.84/53 H	42·8	G.T.S. ⊙ B.M. at Pirghaib G.T. Survey Tower Station. On stone embedded in ground floor of station. Lat. 28° 40′ 35″·09, long. 77° 12′ 52″·03. Situated on dome of shrine of a mahomedan saint, on Ridge at Delhi.	787·748	787·477
	10/49	BM.85/53 H	43·0	G.T.S. ⊙ B.M. On 1st stone step on E. side of King Asoka's pillar situated on Ridge at Delhi.	791·194	790·922
	11/49	BM.86/53 H	43·2	B.O.M. On 5th step from bottom of right or W. flight on N. side of Mutiny Memorial Tower on Ridge, Delhi.	792·699	792·426
	12/49	BM.87/53 H	43·2	B.O.M. On 4th step from bottom of N. flight on E. side of Mutiny Memorial Tower, Delhi.	791·979	791·707
50		BM.88/53 H	37·8	Top of mile-stone No. 2 from Delhi towards Meerut.	669·959	669·729
51			38·4	Destroyed.	681·629	681·394
52			39·5	Destroyed.	684·651	684·416
53			40·0	Destroyed.	684·614	684·379
54			41·2	Destroyed.	706·217	705·975
55			41·7	Destroyed.	714·588	714·343
56		BM.89/53 H	41·8	Top of down stream parapet wall of Zunjeree bridge (W. Jumna canal).	716·570	716·324

Branch-Line 62B. (Hathras to Muttra).

Designation of Bench-marks			Distance from Hathras	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.13 / 54 I	0·0	Hathras G.T.S. Block-stone Bench Mark. Embedded about 2 feet below ground level, 173, 128 and 154 feet respectively from N.E., S.E. and S.W. corners of inspection bungalow, 97 and 93 feet respectively from S.W. and S.E. corners of octroi chauki, and 10 feet W. of pyramidal block of masonry on which letters G.T.S. / B.M. are cut.	585·134	584·982
	a / 1	BM.20 / 54 I	0·0	G.T.S. ○ B.M. On masonry platform to N. of N.W. corner of Hathras inspection bungalow.	587·523	587·370
2		BM.21 / 54 I	1·2	G.T.S. ○ B.M. On pavement of verandah at E. end of Hathras City railway station, near waiting room door.	587·080	586·927
	a / 2	BM.22 / 54 I	1·2	G.T.S. □ B.M. at Hathras City Railway Station. Embedded at S. side or back of station, about ground level, to S.E. of 3rd class passengers' waiting hall alongside pointsman's house, and 17 and 7 feet respectively from S. and W. corners of same; 41 feet N.W. of a well in station yard, 51 feet from B.M. No. 3, 56 and 85 feet respectively from S.E. and S.W. corners of passengers' waiting hall. The inscription V / B.M. has been marked on pointsman's hut.	584·147	583·995
3		BM.23 / 54 I	1·2	G.T.S. ○ B.M. at Hathras City Railway Station. On centre of S. side of cattle-trough adjoining station well.	586·293	586·141
	1 / 3	BM.24 / 54 I	2·5	G.T.S. ○ B.M. On centre of N. parapet of culvert, near telegraph post No. 190/12.	581·729	581·578
	2 / 3	BM.25 / 54 I	3·9	567 On S. parapet of culvert No. 567, between telegraph posts Nos. 189/6 and 189/7.	585·213	585·061
	3 / 3	BM.26 / 54 I	4·5	G.T.S. ○ B.M. On centre of N. parapet of culvert No. 566, between telegraph posts Nos. 188/14 and 188/15.	584·581	584·429
	4 / 3	BM.27 / 54 I	5·3	G.T.S. B.M. ○ On top of stone prism, near S. gate of level crossing, near telegraph post No. 187/18, and near W. home signal of Mendu railway station.	584·022	583·870
	5 / 3	BM.28 / 54 I	6·6	G.T.S. ○ B.M. On E. end of S. platform at overhead station at Hathras Road railway station.	602·578	602·421
	6 / 3	BM.29 / 54 I	6·6	G.T.S. ○ B.M. On S. side of base of home signal at overhead station at Hathras Road railway station.	603·260	603·103
4		BM.30 / 54 I	1·8	G.T.S. ○ B.M. On S. side of base of W. distant signal at Hathras City railway station.	585·358	585·206
5		BM.31 / 54 I	3·2	G.T.S. ○ B.M. On N. abutment of drain, about 1 chain E. of mile-stone No. 194.	582·161	582·010

Branch-Line 62B. (Hathras to Muttra).

Designation of Bench-marks			Distance from Hathras	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
6		BM.32 / 54 I	3·4	B.⊕M. On top of stone embedded to S. of Trunk road and railway line, between telegraph posts Nos. 194/3 and 194/4.	582·785	582·633
7		BM.1 / 54 E	3·9	⩚ No. 52 On well platform at chauki on road side opposite Hathisa village, near telegraph post No. 194/12. (P.W.D. bench-mark).	581·621	581·470
8		BM.2 / 54 E	4·9	G.T.S. ○ B.M. On S. abutment of drain No. 587, between telegraph posts Nos. 195/11 and 195/12.	581·448	581·297
9		BM.3 / 54 E	6·6	G.T.S. ○ B.M. On S. abutment of drain, between telegraph posts Nos. 197/5 and 197/6.	581·164	581·013
10		BM.4 / 54 E	8·8	G.T.S. ○ B.M. On E. side of base of home signal at Mursan railway station.	577·618	577·468
11		BM.5 / 54 E	8·8	G.T.S. □ B.M. at Mursan Railway Station. Embedded at N. side of station, and slightly below ground level; 216 feet from N.W. corner of Traffic menials' quarters, 109 feet from N.W. corner of station staff's quarters adjoining station house, 11 feet from N.E. corner of latrine, and 4 feet from E. wall of same.	572·063	571·915
12		BM.6 / 54 E	10·2	G.T.S. ○ B.M. On N. parapet of culvert, near mile-stone No. 201.	578·514	578·364
13		BM.7 / 54 E	10·4	G.T.S. ○ B.M. On N. abutment of drain, near telegraph post No. 201/3.	577·692	577·542
14		BM.8 / 54 E	11·4	G.T.S. ○ B.M. On N.W. return wall of bridge, near telegraph post No. 202/3.	584·582	584·431
15		BM.9 / 54 E	13·0	G.T.S. ○ B.M. On masonry pillar at level crossing, near telegraph post No. 203/12.	581·449	581·298
	a/15	BM.10 / 54 E	14·5	G.T.S. ○ B.M. On N.W. return wall of bridge, near telegraph post No. 205/1.	584·201	584·050
16		BM.11 / 54 E	16·1	G.T.S. ○ B.M. On N.W. cap of bridge, near telegraph post No. 206/15.	583·274	583·123
17		BM.12 / 54 E	17·6	G.T.S. ○ B.M. On masonry pillar at level crossing, near telegraph post No. 208/6, and 5 feet N.W. of N.W. corner of gate lodge.	582·463	582·313
18		BM.13 / 54 E	18·3	G.T.S. □ B.M. at Raya Railway Station. Embedded flush with plinth of platform enclosure wall, and 3 feet S.W. of nearest corner of S.W. name-board on platform; 65 feet from S. corner of station building, 49 feet from S. corner of waterman's house, and 11 feet N.E. of S.E. end of platform enclosure wall.	584·671	584·521

Branch-Line 62B. (Hathras to Muttra).

Designation of Bench-marks		Distance from Hathras	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
19	BM.14 / 54 E	20·2	G.T.S. ○ B.M. On N.W. cap of bridge, near telegraph post No. 210/15.	589·857	589·706
20	BM.15 / 54 E	21·8	G.T.S. ○ B.M. On N. parapet of culvert No. 612, near telegraph post No. 212/8.	569·335	569·189
21	BM 16 / 54 E	23·5	G.T.S. ○ B.M. On masonry pillar to S. of railway line, 61 feet from centre of door of gate lodge, near telegraph post No. 214/4.	563·817	563·673
22	BM.17 / 54 E	25·1	G.T.S. ○ B.M. On N. end of N.E. abutment of Jumna bridge, Muttra.	561·430	561·287
23	BM 18 / 54 E	25·4	G.T.S. ○ B.M. On W. end of N. abutment of overbridge at S. end of Jumna bridge, near telegraph post No. 216/1.	561·668	561·525
24	BM.19 / 54 E	26·0	G.T.S. □ B.M. at Muttra Cantonment Railway Station. Embedded near masonry base of N.W. end of platform enclosure, 6 chains from N.W. corner of 3rd class passengers' waiting hall, 85 feet from N. door of pumping station and water-column, and 2 chains from E. end of abutment of overbridge at N. end of station.	573·548	573·403
25	BM 20 / 54 E	26·1	G.T.S. ○ B.M. On stone coping of platform in front of N.E. name-board at Muttra Cantonment railway station.	573·340	573·195
a/25	BM 21 / 54 E	26·7	G.T.S. ○ B.M. On stone coping of S. parapet of road culvert, near British Cavalry stables, at junction of roads from Muttra Cantonment railway station, and Muttra Junction railway station.	565·491	565·348
1a/25	BM.22 / 54 E	27·2	⊕ On lowest step under porch on S. side of Christ's Church, Muttra, 6 feet E. of centre of door at main entrance.	557·088	556·947
2a/25	BM 23 / 54 E	27·5	G T.S. ○ B.M. On lowest step of middle flight of stairs, leading up to verandah of middle room, on N.W. face of dak bungalow, Muttra.	552·321	552·181
3a/25	BM.24 / 54 E	27·7	G.T.S. ○ B.M. at Muttra Junction Railway Station. On platform coping on station side, metre-gauge line, 102 feet from centre of E. wall under dome above N. projection of E. face of building; 105 feet from inner angle formed by above projection with body of building, and 84 feet from angle formed by S. projection with building.	581·398	581·251
26	BM.25 / 54 E	27·5	G.T.S. Standard Bench Mark 1904 at Muttra. Situated in compound of Sessions Judge's kachahri, to E. of building; 89 and 107 feet respectively from S.E. and N.E. ends of building, 82 feet from N.E. corner of outer projection of same, and 72 and 85 feet respectively from S.W. and S.E. corners of godown and kitchen.	559·810	559·668

Main-Line 63. (Agra to Sironj).

Designation of Bench-marks		Distance from Agra	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1		0·0	Destroyed.	515·317	515·199
2	BM.18 / 54 I	9·6	Khandaoli Bench Mark. Stone B.M. embedded about 3 feet N. of S.E. boundary pillar of encamping ground.	553·978	553·846
3	BM 33 / 54 I	21·9	Agra G.T.S. Block-stone Bench Mark. Embedded alongside octagonal well, in S.W. corner of compound of Cantonment Church, Agra, 8 feet N. of base of a pyramidal pillar having letters G.T.B. cut on it, and 2 feet from nearest apex of one of the angles of octagon. On well platform, an arrow is cut in the direction of bench-mark.	550·098	549·973
1 / 3	BM.26 / 54 E	22·0	G.T.S. ○ B.M. at Agra Cantonment Church. On surface of plinth, 9 feet N. of W. door, in a corner formed by a half pillar with wall of building.	552·831	552·706
2 / 3	BM.27 / 54 E	22·6	G.T.S. ○ B.M. at Post Office, Agra. On verandah flooring under delivery window on E. face of building.	551·140	551·015
3 / 3	BM.28 / 54 E	22·8	G.T.S. ○ B.M. On abutment of drain on Ajmer road, about 12 feet E. of Cantonment boundary pillar No. 68, at S. end of Boileauganj bazar.	544·725	544·601
3a / 3	BM 29 / 54 E	23·4	On plinth of General Adam's monument, in Public Gardens, Agra, about 1 foot above ground, and 7 inches N. of S.W. corner of monument.	546·404	546·280
3b / 3	BM.30 / 54 E	23·6	⊕ B.M. On W. or front side of Metcalfe Testimonial, Agra Cantonment, in space between 2nd set of two pillars counting from N., 17 feet from N.W. corner of building, and 25 feet from N.W. corner of portico.	547·684	547·560
4 / 3	BM.31 / 54 E	23·7	G.T.S. ○ B.M. On stone coping of octagonal well, about ¼ mile S.W. of Delhi Gate, Agra Fort, and 1 chain E. of Gwalior road.	514·627	514·510
5 / 3	BM.32 / 54 E	23·9	G.T.S. Standard Bench Mark 1904 at Agra Fort. Situated in grounds of garden immediately in front and N.W. of Delhi Gate at Agra Fort, 167 feet from centre of that gate, and 262 feet from S.W. corner of projection at S.W. end of Agra Fort railway station, and enclosed in a railed off space 11 feet square.	525·119	525·000
6 / 3	BM.33 / 54 E	24·0	G.T.S. ○ B.M. at Agra Fort Railway Station. On S. verandah under 3rd arch, 34 feet from inner angle formed by verandah and E. projection of telegraph office, and 35 feet from W. pillar of same projection.	528·024	527·904
6a / 3	BM.34 / 54 E	24·5	⊕ On S. end of 7th pier from W. of railway bridge across Jumna river at Agra.	513·446	513·329
7 / 3	BM 35 / 54 E	24·7	G.T.S. ○ B.M. On S. end of 14th pier from W. of railway bridge across Jumna river at Agra.	513·328	513·211

Main-Line 63. (Agra to Sironj).

Designation of Bench-marks		Distance from Agra	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
$\frac{8}{3}$	$\frac{\text{BM.36}}{\text{54 E}}$	24·9	G.T.S. ○ B.M. $\frac{350}{5}$, On S.E. parapet of culvert, near telegraph post No. on left bank of Jumna river.	515·560	515·443
$\frac{9}{3}$	$\frac{\text{BM.37}}{\text{54 E}}$	25·3	G.T.S. ○ B.M. On coping of S. platform at Goods shed, Agra railway station, on left bank of Jumna river.	515·147	515·030
$\frac{a}{3}$	$\frac{\text{BM.38}}{\text{54 E}}$	28·7	Mulpur Bench Mark. Stone B.M. embedded on E. side of road, near 8th mile-stone from Agra, about 800 yards S. of police chauki.	545·731	545·607
4	$\frac{\text{BM.1}}{\text{54 F}}$	35·6	Birai Bench Mark. Stone B.M. embedded about 800 yards S.S.E. of village of that name, and about 50 yards to W. of road, just behind police chauki, district Agra.	548·753	548·636
5	$\frac{\text{BM.2}}{\text{54 F}}$	43·4	Seopur Bench Mark. Stone B.M. embedded on E. side of road opposite chauki of that name, about 3 miles N. of Munia dak bungalow, in Dholpur Territory.	557·751	557·636
6	$\frac{\text{BM.3}}{\text{54 F}}$	51·1	For Bench Mark, Dholpur Territory. Stone B.M. embedded on W. side of mound through which roadway has been cut, about 4 miles N. of Dholpur. A chauki and road bungalow stand on E. side of mound.	586·237	586·121
$\frac{1}{6}$	$\frac{\text{BM.4}}{\text{54 F}}$	57·1	On upper mark-stone of Dholpur G.T. Survey Hill Station, lat. 26° 39′ 11″·75, long. 77° 49′ 32″·50. A principal station of Great Arc Meridional Series—Section 24° to 30°. (For full description *see* Synoptical Volume).	938·197	938·011
7	$\frac{\text{BM.5}}{\text{54 F}}$	60·7	Chola Serai Bench Mark. Stone B.M. embedded about 50 feet E. of road, where it turns and descends to Chambal river. Chola Serai lies about a mile further southwards.	565·857	565·750
8		69·8	Destroyed.	572·494	572·391
$\frac{a}{8}$	$\frac{\text{BM.6}}{\text{54 F}}$	73·4	On surface of E. and upper corner of pediment of monument erected at Maharajpur in memory of Lt.-Colonel Sanders, C.B., Bengal Engineers.	580·342	580·240
9		79·2	Destroyed.	586·944	586·844
10		97·2	Destroyed.	813·425	813·299
11	$\frac{\text{BM.1}}{\text{54 J}}$	106·2	Paniar Bench Mark. Stone B.M. embedded on a mound, 50 yards E. of road in front of Thakur Fateh Singh's garden.	946·912	946·771
12	$\frac{\text{BM.7}}{\text{54 F}}$	115·8	Sirsawa Bench Mark. Stone B.M. embedded 20 yards E. of road, and 90 yards E. of a bungalow near village.	1111·433	1111·273
$\frac{a}{12}$	$\frac{\text{BM.1}}{\text{54 G}}$	125·3	Deyrar Bench Mark. Stone B.M. embedded on W. side of road, 160 yards N.W. of dak chauki, about 2 miles S.E. by E. Seysari village.	1079·450	1079·295
13	$\frac{\text{BM.2}}{\text{54 G}}$	134·9	Bhangarh Bench Mark. Stone B.M. embedded 100 yards W. of road, about midway between Bhangarh and Bhainswara chaukies.	1108·677	1108·534

Main-Line 63. (Agra to Sironj).

Designation of Bench-marks			Distance from Agra	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	a/13	BM.3/54G	144·5	Gharaghat Bench Mark. Stone B.M. embedded on a knoll just outside hedge surrounding dak bungalow, and to N. of it.	1142·329	1142·182
14		BM.4/54G	153·7	Satambara Bench Mark. Stone B.M. embedded on high ground, about 150 yards W. of road. The village lies about ½ mile to N.E.	1336·884	1336·738
	a/14	BM.5/54G	163·4	Sipri Bench Mark. Stone B.M. embedded in N.E. corner of dak bungalow compound, a few yards off road.	1514·672	1514·507
15		BM.6/54G	176·1	Kolarus Bench Mark. Stone B.M. embedded near Makhund Imli chauki, on a ridge 2 miles N. of town.	1517·614	1517·482
16		BM.7/54G	185·5	Lakwasa Bench Mark. Stone B.M. embedded about 150 yards W. of road, on a ridge to N. of village.	1500·610	1500·493
17		BM.22/54H	195·5	Badurwas Bench Mark. Stone B.M. embedded about 200 yards N. of dak bungalow.	1491·360	1491·259
18		BM.23/54H	205·3	Dungasra Bench Mark. Stone B.M. embedded in lands of Dungasra, known as Dundi Imli, 1 mile W.S.W. of village.	1540·232	1540·141
19		BM 24/54H	215·7	Miapur Bench Mark. Stone B.M. embedded by wayside, about ½ mile S.W. of hamlet of that name, and about 6 miles N. of Shadaura.	1596·911	1596·833
20		BM 25/54H	227·9	Kakurwa Bench Mark. Stone B.M. embedded on ridge, about 1 mile S.S.E. of hamlet, ½ mile N.E. of tank called Nakatalao, and 7 miles N. of Kuchnar sarai.	1735·526	1735·462
21		BM.10/54H	238·0	Mohasa bench-mark. Embedded 40 yards W. of village of that name in Jagir of Inami Sahib of Arun, Gwalior State, and 5 miles N. from Moghal Sarai, on road between Gwalior and Sironj. The bench-mark consists of a pyramidal stone buried flush with ground level.	1738·857	1738·848
22		BM.8/54H	248·7	On mark-stone on upper surface of pillar of Surantal, G.T. Survey Hill Station, lat. 24° 14′ 20″·42, long. 77° 40′ 43″·91. A principal station of Sironj Base-Line Figures of Great Arc Series—Section 24° to 30°. (For full description *see* Synoptical Volume).	1801·544	1801·535
23		BM.11/54H	261·3	On lower mark-stone of Sironj Base-Line, S.W. End, G.T. Survey Station, lat. 24° 4′ 45″·99, long. 77° 45′ 26″·21. A principal station of Sironj Base-Line Figures of Great Arc Series—Section 24° to 30°. (For full description *see* Synoptical Volume).	1528·458	1528·449
24		BM.12/54H	265·4	Stone measuring 6 inch by 5 inches at surface, with hole ¾ inch in diameter, embedded ¾ mile W. of Patharia village. It is on ray between two ends of Sironj Base-Line, 3 miles from N.E. end and 4 miles from S.W. end.	1477·251	1477·239
25		BM.13/54H	268·5	On mark-stone on upper surface of pillar of Sironj Base-Line, N E. End, G. T. Survey Station, lat. 24° 8′ 53″·57, long. 77° 50′ 41″·14. A principal station of Sironj Base-Line Figures of Great Arc Series—Section 24° to 30°. (For full description *see* Synoptical Volume).	1478·358	1478·343

Branch-Line 63A. (Gwalior to Jhansi).

Designation of Bench-marks		Distance from Sander's Monument, Maharajpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1	BM.6 / 54 F	0·0	On surface of E. and upper corner of pediment of monument erected at Maharajpur in memory of Lt.-Colonel E. Sanders, C.B., Bengal Engineers.	580·342	580·240
a / 1	BM.8 / 54 F	3·6	Jora G.T.S. Block-stone Bench Mark. Embedded in earth, about 2 feet projecting above ground level, near site of old "Pipalwali Chauki" in lands of Jora village. Morena railway station is 97°, S.W. end of road culvert No. 13, 11 chains and 315°, a *nim* tree 43 feet and 91°, mound to N.W. of Jora 176°, and Agra-Bombay Trunk road 121 feet from bench-mark.	573·973	573·872
2	BM.2 / 54 J	5·2	G.T.S. ⊙ B.M. On stone coping at N. end of E. parapet of culvert No. 24, 1 mile N. of Nurabad inspection bungalow.	570·806	570·707
3	BM.3 / 54 J	5·7	G.T.S. ⊙ B.M. On bottom step at road level, 1st opening from N., on E. side of parapet of stone bridge across Sak river at Nurabad.	570·055	569·956
4	BM.4 / 54 J	6·0	G.T.S. ⊙ B.M. On platform of well to S. of Nurabad inspection bungalow.	583·107	583·007
5	BM.5 / 54 J	8·7	⊕ On S.W. cap of bridge No. 385, near telegraph post No. 774/9.	607·231	607·128
6	BM.6 / 54 J	10·0	G.T.S. ⊙ B.M. On platform coping, about 33 feet above ramp, at Banmor railway station.	615·493	615·389
1 / 6	BM.7 / 54 J	11·8	○ On rock *in situ* on N. margin of road, S. of Matoli village.	610·661	610·558
2 / 6	BM.8 / 54 J	14·0	G.T.S. ⊙ B.M. On S.W. corner of base of Hindu monument, W. of Baroli village.	613·225	613·121
3 / 6	BM.9 / 54 J	16·5	⊕ On S.E. parapet of culvert, ¼ mile W. of Gadajar village.	640·280	640·172
4 / 6	BM.10 / 54 J	18·4	⊕ On bed rock of Sanichri G. T. Survey Hill Station, lat. 26° 23′ 31″·20, long. 78° 13′ 2″·82. A principal station of Budhon Meridional Series. (For full description *see* Synoptical Volume).	813·307	813·170
a / 6	BM.11 / 54 J	10·1	G.T.S. ⊙ B.M. at Banmor Railway Station. Embedded with surface of stone about 2 inches above ground level, 151 feet from S. corner of back verandah of railway station, 130 feet from W. corner of main building, 134 feet from name-board at N. end of platform, 6 chains from S. corner of water tanks and 93 feet from N. end of N. parapet of culvert on road leading out from station yard.	610·203	610·100
7	BM.12 / 54 J	10·1	⩚ On platform coping in front of S. name-board, 58 feet N.E. of mile-stone No. 773 at Banmor railway station. (Railway bench-mark).	615·499	615·395

Branch-Line 63A. (Gwalior to Jhansi).

Designation of Bench-marks			Distance from Sander's Monument, Maharajpur	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
8		BM.13 / 54 J	10·8	On N.W. cap of bridge No 383, near telegraph post No. 772/8. (Railway bench-mark).	621·986	621·882
9		BM.14 / 54 J	12·3	On W. parapet of culvert No. 380, near telegraph post No. 770/20. (Railway bench-mark).	632·130	632·024
10		BM.15 / 54 J	13·3	On W. parapet of culvert No. 379, near telegraph post No. 769/17. (Railway bench-mark).	636·960	636·854
11		BM 16 / 54 J	14·9	On W. parapet of culvert No. 376, near telegraph post No. 768/4. (Railway bench-mark).	642·789	642·683
12		BM 17 / 54 J	15·8	On W. parapet of culvert No. 374, near telegraph post No. 767/7. (Railway bench-mark).	644·980	644·874
13		BM.18 / 54 J	17·1	On S.W. parapet of culvert No. 371, near telegraph post No. 766/1. (Railway bench-mark).	651·433	651·327
14		BM.19 / 54 J	17·7	On W. return wall of bridge, near telegraph post No. 765/9. (Railway bench-mark).	664·174	664·066
15		BM.20 / 54 J	19·4	On S.W. parapet of culvert No. 366, near telegraph post No. 763/4. (Railway bench-mark).	670·888	670·781
16		BM 21 / 54 J	19·9	On W. parapet of culvert No. 365, near telegraph post No. 763/17. (Railway bench-mark).	671·914	671·806
	a/16	BM.22 / 54 J	20·3	at Morar Railway Station. On platform coping near S. name-board. (Railway bench-mark).	673·636	673·528
17		BM.23 / 54 J	20·3	On W. parapet of culvert No. 361, near telegraph post No. 762/17. (Railway bench-mark).	671·332	671·225
18		BM.24 / 54 J	20·9	On N. parapet of culvert No. 390, near telegraph post No. 762/3. (Railway bench-mark).	680·852	680·744
19		BM.25 / 54 J	21·5	On N. cap of bridge No. 358, near telegraph post No. 761/13. (Railway bench-mark).	694·584	694·474
20		BM.26 / 54 J	21·9	G.T.S. ○ B.M. On stone coping of platform, between pump and name-board to N.E. of Gwalior railway station.	697·801	697·691

Branch-Line 63A. (Gwalior to Jhansi).

Designation of Bench-marks			Distance from Sander's Monument, Maharajpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
21		BM.27 / 54 J	21·9	⩚ at Gwalior Railway Station. On stone coping of platform near S. name-board. (Railway bench-mark).	697·771	697·661
22		BM.28 / 54 J	22·6	G.T.S. ○ B.M. On W. parapet of culvert No. 356, near telegraph post No. 760/11, alongside railway bench-mark inscribed 702·80 ⩚.	703·646	703·536
23		BM.29 / 54 J	23·8	⩚ On N.W. parapet of culvert No. 352, near telegraph post No. 759/5. (Railway bench-mark).	736·383	736·269
	a/23	BM.30 / 54 J	24·5	G.T.S. ○ B.M. On stone coping of W. parapet of culvert, between telegraph posts Nos. 758/7 and 758/8.	742·360	742·245
	1a/23	BM.31 / 54 J	25·9	G.T.S. Standard Bench Mark 1904 at Gwalior. Situated in compound of Memorial Hospital, immediately in front of central building, from both S.E. and N.E. corners of which it is 127 feet, and 87 feet from centre of front or E. portico. It is enclosed in a railed-off space 11 feet square.	734·688	734·574
24		BM.32 / 54 J	25·7	⩚ On W. parapet of bridge No. 346, near telegraph post No. 757/8. (Railway bench-mark).	753·330	753·215
25		BM.33 / 54 J	26·7	G.T.S. ○ B.M. On W. parapet of S. abutment of bridge, near telegraph post No. 756/8.	744·301	744·188
26		BM.34 / 54 J	27·3	G.T.S. □ B.M. at Sithouli Railway Station. Embedded to E. of railway line, and about 6 inches below ground level; 30 feet and 161° to N.W. corner of station building, 33 feet and 133° to N.E. corner of same, 60 feet and 121° to W. end of N. parapet wall of road culvert, on E. side of station, 51 feet and 175° to home signal, and 68 feet E. of centre of main line of rails.	739·086	738·974
27		BM.35 / 54 J	27·7	G.T.S. ○ B.M. On S.W. parapet of culvert, near telegraph post No. 755/7.	739·921	739·809
28		BM.36 / 54 J	28·9	⩚ On W. parapet of culvert No. 339, near telegraph post No. 754/2. (Railway bench-mark).	784·178	784·060
29		BM.37 / 54 J	29·9	G.T.S. ○ B.M. On W. parapet of culvert, between telegraph posts Nos. 753/3 and 753/4.	799·862	799·743
30		BM.38 / 54 J	31·3	G.T.S. ○ B.M. On W. cap of S. abutment of bridge, near telegraph post No. 751/10.	858·710	858·583

Branch-Line 63A. (Gwalior to Jhansi).

Designation of Bench-marks			Distance from Sander's Monument, Maharajpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
31		BM.39 / 54 J	32·2	G.T.S. ○ B.M. On W. cap of S. abutment of bridge, near telegraph post No. $\frac{750}{22}$.	889·769	889·638
32		BM.40 / 54 J	33·8	G.T.S. ○ B.M. On S.E. end of W. parapet of bridge No. 326, near telegraph post No. $\frac{749}{5}$. Railway bench-mark $\overline{\wedge}^{864\cdot46}$ is on centre of same parapet.	865·006	864·880
33		BM.41 / 54 J	35·3	G.T.S. ○ B.M. On S. end of W. parapet of bridge, near telegraph post No. $\frac{747}{17}$.	827·083	826·964
	a / 33	BM.42 / 54 J	35·6	G.T.S. ○ B.M. On stone coping at N. end of platform, near N. name-board at Antri railway station.	835·826	835·706
	b / 33	BM.43 / 54 J	35·6	G.T.S. □ B.M. at Antri Railway Station. Embedded about 4 inches below ground level, 30 feet and 168° to centre of N.W. buttress of station building, 41 feet and 113° to centre of N.E. buttress, 63 feet and 332° to S.W. corner of assistant station master's quarters, and 70 feet to edge of platform above rails.	833·685	833·565
34		BM.44 / 54 J	35·7	$\overline{\wedge}$ On stone coping of platform, between home signal and S. name-board at Antri railway station. (Railway bench-mark).	835·734	835·614
35		BM.45 / 54 J	37·2	G.T.S. ○ B.M. On S. end of W. parapet of bridge No. 317, near telegraph post No. $\frac{745}{18}$. Railway bench-mark $\overline{\wedge}^{819\cdot31}$ is on same parapet.	820·054	819·938
36		BM.1 / 54 K	39·4	G.T.S. ○ B.M. On W. cap of S. abutment of bridge No. 314, near telegraph post No. $\frac{743}{16}$.	810·234	810·121
37		BM.2 / 54 K	40·0	$\overline{\wedge}$ On S.W. parapet of culvert No. 313, near telegraph post No. $\frac{743}{1}$. (Railway bench-mark).	802·864	802·752
38		BM.3 / 54 K	41·8	G.T.S. ○ B.M. On W. cap of S. abutment of bridge No. 312, between telegraph posts Nos. $\frac{741}{5}$ and $\frac{741}{6}$.	758·423	758·318
39		BM.4 / 54 K	43·4	G.T.S. ○ B.M. On W. parapet of culvert No. 308, near telegraph post No. $\frac{739}{15}$. Railway bench-mark $\overline{\wedge}^{723\cdot48}$ is on same parapet.	724·204	724·105
40		BM.5 / 54 K	44·7	$\overline{\wedge}$ On W. parapet of culvert No. 303, near telegraph post No. $\frac{738}{9}$. (Railway bench-mark).	701·664	701·569

Branch-Line 63A. (Gwalior to Jhansi).

Designation of Bench-marks			Distance from Sander's Monument, Maharajpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
	a/40	BM.6/54K	*miles* 45·7	G.T.S. ○ B.M. On W. cap of S. abutment of bridge No. 299, near telegraph post No. 737/11.	*feet* 692·274	*feet* 692·181
41		BM.7/54K	46·4	⩚ On W. parapet of culvert No. 297, near telegraph post No. 736/16. (Railway bench-mark).	680·054	679·963
42		BM.8/54K	47·4	G.T.S. ○ B.M. On W. cap of S. abutment of bridge No. 295, near telegraph post No. 735/16.	679·819	679·729
43		BM.9/54K	48·1	G.T.S. ○ B.M. On stone coping at N. end of platform, opposite N. name-board at Dabra railway station.	680·695	680·604
	a/43	BM.10/54K	48·1	G.T.S. □ B.M. at Dabra Railway Station. Embedded about 6 inches below ground level, 3 feet and 164° to N.W. corner of station building, 49 feet and 116° to N.E. corner of station front verandah, 66 feet to edge of platform above rails, and 29 feet to centre of station road.	676·947	676·857
44		BM.11/54K	48·1	⩚ On stone coping of platform, between station building and S. name-board at Dabra railway station. (Railway bench-mark).	680·649	680.558
45		BM.12/54K	48·9	G.T.S. ○ B.M. On W. parapet of culvert No. 294, near telegraph post No. 734/5.	678·362	678·273
46		BM.13/54K	49·9	G.T.S. ○ B.M. On W. parapet of culvert No. 292, near telegraph post No. 733/4. Railway bench-mark $\overset{677\cdot48}{⩚}$ is on same parapet.	678·095	678·006
47		BM.14/54K	51·2	G.T.S. ○ B.M. On W. parapet of drain No. 290, near telegraph post No. 731/19. Railway bench-mark $\overset{669\cdot03}{⩚}$ is on same parapet.	669·589	669·501
48		BM.15/54K	52·8	G.T.S. ○ B.M. On W. parapet of bridge No. 288, near telegraph post No. 730/5. Railway bench-mark $\overset{645\cdot64}{⩚}$ is on same parapet.	646·150	646·066
49		BM.16/54K	54·3	G.T.S. ○ B.M. On W. parapet of culvert No. 286, near telegraph post No. 728/19. Railway bench-mark $\overset{674\cdot51}{⩚}$ is on same parapet.	674·974	674·887
50		BM.17/54K	55·5	⩚ On W. cap of N. abutment of bridge No. 284, near telegraph post No. 727/13. (Railway bench-mark).	676·794	676·708
51		BM.18/54K	57·1	G.T.S. ○ B.M. On W. cap of S. abutment of bridge No. 283, near telegraph post No. 725/22.	677·253	677·168

Branch-Line 63A. (Gwalior to Jhansi).

Designation of Bench-marks			Distance from Sander's Monument, Maharajpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
52		BM.19 / 54 K	59·0	G.T.S. ○ B.M. On W. parapet of bridge No. 280, near telegraph post No. 724/2. Railway bench-mark 682·46 ⩚ is on same parapet.	683·039	682·955
53		BM.20 / 54 K	59·9	G.T.S. ○ B.M. On stone coping at N. end of platform at Sonagir railway station.	688·271	688·187
	a/53	BM 21 / 54 K	59·9	G.T.S. □ B.M. at Sonagir Railway Station. Embedded about 3 inches below ground level, 35 feet and 182° to N.W. corner of station building, 41 feet and 125° to N.E. corner of front verandah of station, 65 feet to edge of platform above rails, and 34 feet from centre of station road.	683·544	683·461
54		BM 22 / 54 K	59·9	⩚ On stone coping of platform opposite S. name-board at Sonagir railway station. (Railway bench-mark).	688·236	688·152
	a/54	BM.23 / 54 K	62·0	G.T.S. ○ B.M. On W. cap of S. abutment of bridge No. 275, near telegraph post No. 721/4.	718·873	718·785
55		BM.24 / 54 K	63·5	G.T.S. ○ B.M. On W. cap of S. abutment of bridge No. 273, near telegraph post No. 719/14.	768·161	768·069
56		BM 25 / 54 K	65·4	G.T.S. ○ B.M. On W. parapet of bridge No. 266, near telegraph post No. 717/17. Railway bench-mark 817·37 ⩚ is on same parapet.	817·866	817·769
	a/56	BM.26 / 54 K	66·9	G.T.S. ○ B.M. On stone coping at N. end of platform opposite N. name-board at Datia railway station.	863·202	863·100
57		BM.27 / 54 K	67·0	G.T.S. □ B.M. at Datia Railway Station. Embedded about 3 inches below ground level, 45 feet and 173° to N.W. corner of station building, 45 feet and 125° to N.E. corner of front verandah of station, 143 feet and 204° to bench-mark No. b/57, 344° to bench-mark No. a/56, 60 feet to edge of platform above rails, and 34 feet to centre of station road.	863·139	863·039
	a/57	BM.28 / 54 K	67·0	⩚ On stone coping of platform towards S. end at Datia railway station. (Railway bench-mark).	863·301	863·201
	b/57	BM 29 / 54 K	67·0	G.T.S. ○ B.M. On platform of well, about 2 chains behind Datia railway station.	865·278	865·178
58		BM.30 / 54 K	68·6	G.T.S. ○ B.M. On W. parapet of bridge No. 258, near telegraph post No. 714/13. Railway bench-mark 820·89 ⩚ is on same parapet.	821·313	821·219

Branch-Line 63A. (Gwalior to Jhansi).

Designation of Bench-marks			Distance from Sander's Monument, Maharajpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
59		BM.31 / 54 K	69·0	⩚ On W. parapet of culvert No. 257, near telegraph post No. 714/3. (Railway bench-mark).	809·011	808·919
	a / 59	BM.32 / 54 K	71·1	G.T.S. ○ B.M. On W. cap of S. abutment of bridge No. 252, near telegraph post No. 712/2.	777·889	777·800
60		BM.33 / 54 K	72·3	G.T.S. ○ B.M. On W. parapet of culvert No. 248, near telegraph post No. 710/2. Railway bench-mark 787·28 ⩚ is on same parapet.	787·660	787·573
61		BM.34 / 54 K	73·3	⩚ On W. cap of bridge No. 247, near telegraph post No. 709/19. (Railway bench-mark).	786·866	786·779
	a / 61	BM.35 / 54 K	75·3	G.T.S. □ B.M. at Karari Railway Station. Embedded about 6 inches below ground level, 74 feet and 165° to N.W. corner of station building, 70 feet and 139° to N.E. corner of same, and 52 feet in a direct line to centre of main line of rails.	797·748	797·660
62		BM.36 / 54 K	75·4	G.T.S. ○ B.M. On base of home signal at Karari railway station.	801·922	801·835
	a / 62	BM.37 / 54 K	77·9	G.T.S. ○ B.M. On S. cap of E. abutment of bridge, near telegraph post No. 705/8. Railway bench-mark 764·56 ⩚ is on same cap.	765·043	764·960
63		BM.38 / 54 K	79·8	G.T.S. ○ B.M. On W. parapet of culvert No. 236, near telegraph post No. 703/6. Railway bench-mark 804·87 ⩚ is on same parapet.	805·147	805·062
64		BM.39 / 54 K	80·3	⩚ On W. parapet of culvert No. 235, near telegraph post No. 702/19. (Railway bench-mark).	811·162	811·078
65		BM.40 / 54 K	81·8	G.T.S. ○ B.M. On S.W. wing wall of bridge, near telegraph post No. 701/6.	843·659	843·572
	a / 65	BM.41 / 54 K	82·2	G.T.S. ○ B.M. at Jhansi Railway Station. Embedded about 6 inches below ground level, 59 feet and 225° to B.M. No. 66, 48 feet and 129° to N.E. end of paling, 119 feet and 286° to N.E. corner of Carriage Examiner's Office, and 46 feet to nearest rail.	847·599	847·512
66		BM.42 / 54 K	82·3	G.T.S. ○ B.M. On stone coping at N. end of main platform at Jhansi railway station.	851·996	851·909
67		BM.43 / 54 K	82·4	⩚ On stone coping in centre of main platform opposite main exit at Jhansi railway station. (Railway bench-mark).	851·989	851·902

Branch-Line 63A. (Gwalior to Jhansi).

Designation of Bench-marks		Distance from Sander's Monument, Maharajpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
a/67	BM.44/54 K	82·5	G.T.S. ○ B.M. On stone coping at S. end of main platform at Jhansi railway station.	851·953	851·866
b/67	BM.45/54 K	82·7	G.T.S. ○ B.M. at G.I.P. Railway Offices, Jhansi. On stone flooring of N. verandah, just below N. window of District Engineer's room No. 7 District, and N. end of large block known as Railway Offices.	864·742	864·654
c/67	BM.46/54 K	82·9	G.T.S. ○ B.M. at G.I.P. Railway Offices, Jhansi. On N.E. corner of stone flooring of W. verandah, in front of school rooms. The verandah is the last but one projected, at S. end of above building.	864·642	864·554
d/67	BM 47/54 K	83·0	G.T.S. ○ B.M. at G.I.P. Railway Officers' Rest House, Jhansi. On stone flooring of E. verandah, opposite porch.	872·938	872·849
e/67	BM 48/54 K	83·2	G.T.S. ○ B.M. at G.I.P. Railway Institute, Jhansi. On stone flooring of semi-circular verandah, at N.E. end of building.	858·130	858·042
68	BM 49/54 K	83·6	G.T.S. ○ B.M. at St. Martin's Church, Jhansi. On lowest stone step, in front of main entrance, under steeple tower.	848·833	848·747
a/68	BM.50/54 K	83·7	G.T.S. ○ B.M. at St. Martin's Church, Jhansi. On lowest stone step, in front of vestry entrance.	848·782	848·696
69	BM.51/54 K	83·7	G.T.S. Standard Bench Mark 1904 at Jhansi. Situated in compound of St. Martin's Church, to S.E. of building, 134 feet and 307° to B.M. No. a/68, 74 feet and 91° to 4th pillar of E. compound wall, and 100 feet and 178° to 3rd pillar of S. compound wall. It is surrounded by an iron railing.	849·579	849·493

Main-Line 64. (Meerut to Lucknow).

Designation of Bench-marks		Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1	BM.26 / 53 G	0·0	+ at St. John's Church, Meerut. On surface of stone slab opposite N. pillar of central W. doorway (main entrance).	738·645	738·372
2	BM.72 / 53 G	0·8	Lower plinth on W. side of Meerut mile pillar, Delhi 40 miles, Aligarh 81½ miles, Muzaffarnagar 33 miles, Saharanpur 70 miles.	731·986	731·716
3	BM.14 / 53 H	1·2	On E. parapet wall of Begum's bridge, Meerut.	734·320	734·049
4	BM.90 / 53 H	2·0	On E. parapet wall of culvert at intersection of 5 roads and on E. side of one commencing towards Gurmukhtesar.	726·521	726·253
5	BM.91 / 53 H	3·9	On plinth of mile-stone 1st from Meerut on main road to Gurmukhtesar.	722·857	722·592
6	BM.92 / 53 H	4·2	On middle of N. parapet wall of bridge over Khudera nala.	724·157	723·892
7	BM.93 / 53 H	4·9	On plinth of mile-stone 2nd from Meerut on main road to Gurmukhtesar.	723·581	723·316
8	BM.94 / 53 H	5·9	On plinth of mile-stone 3rd from Meerut on main road to Gurmukhtesar.	723·967	723·703
9	BM.95 / 53 H	6·4	On N. parapet wall over centre arch of bridge.	719·620	719·357
10	BM.96 / 53 H	6·5	On iron bar at right angles to road way, at E. end of iron suspension bridge over Kali nadi.	721·634	721·370
11	BM.97 / 53 H	7·0	On plinth of mile-stone 4th from Meerut on main road to Gurmukhtesar.	723·912	723·648
12	BM.98 / 53 H	8·0	On plinth of mile-stone 5th from Meerut on main road to Gurmukhtesar.	723·743	723·479
13	BM.99 / 53 H	9·0	On plinth of mile-stone 6th from Meerut on main road to Gurmukhtesar.	724·091	723·828
14	BM.100 / 53 H	10·0	On plinth of mile-stone 7th from Meerut on main road to Gurmukhtesar.	724·679	724·416
15	BM.101 / 53 H	11·1	On plinth of mile-stone 8th from Meerut on main road to Gurmukhtesar.	721·474	721·213
16	BM.102 / 53 H	11·5	On S. parapet wall of bridge over its centre, N. of Mao village.	721·275	721·014
17	BM.103 / 53 H	11·9	On plinth of mile-stone 9th from Meerut on main road to Gurmukhtesar.	721·816	721·555
18	BM.104 / 53 H	12·9	On plinth of mile-stone 10th from Meerut on main road to Gurmukhtesar.	718·657	718·397

Main-Line 64. (Meerut to Lucknow).

Designation of Bench-marks		Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
19	BM.105 / 53 H	13·3	On S. parapet wall of syphon bridge crossing a rajbaha.	721·405	721·145
20	BM.106 / 53 H	13·9	On plinth of mile-stone 11th from Meerut on main road to Gurmukhtesar.	717·287	717·028
21	BM.107 / 53 H	14·9	On plinth of mile-stone 12th from Meerut on main road to Gurmukhtesar.	711·822	711·566
22	BM.108 / 53 H	15·3	On S. parapet wall of bridge.	711·174	710·918
23	BM.109 / 53 H	15·9	On plinth of mile-stone 13th from Meerut on main road to Gurmukhtesar.	712·355	712·099
24	BM.110 / 53 H	17·0	On plinth of mile-stone 14th from Meerut on main road to Gurmukhtesar.	722·572	722·312
25	BM.111 / 53 H	18·0	On plinth of mile-stone 15th from Meerut on main road to Gurmukhtesar.	716·293	716·036
26	BM.112 / 53 H	18·8	On centre of N. parapet wall of Kithaor syphon bridge, E. of village and over a main rajbaha.	717·857	717·599
27	BM.113 / 53 H	19·0	On plinth of mile-stone 16th from Meerut on main road to Gurmukhtesar.	711·957	711·702
28	BM.114 / 53 H	19·3	On top of middle of N. parapet wall of bridge crossing Jaoli branch, Ganges canal, over central one of 3 arches.	724·926	724·666
29	BM.115 / 53 H	20·0	On plinth of mile-stone 17th from Meerut on main road to Gurmukhtesar.	710·807	710·552
30	BM.116 / 53 H	20·6	On S. parapet wall at centre of bridge across a narrow rajbaha.	711·938	711·683
31	BM.117 / 53 H	21·0	On plinth of mile-stone 18th from Meerut on main road to Gurmukhtesar.	710·381	710·127
32	BM.118 / 53 H	21·1	On S. parapet wall at centre of bridge over rajbaha at Nanpur village.	716·549	716·292
33	BM.119 / 53 H	22·0	On plinth of mile-stone 19th from Meerut on main road to Gurmukhtesar.	708·917	708·664
34	BM.1 / 53 L	23·0	On plinth of mile-stone 20th from Meerut on main road to Gurmukhtesar.	707·031	706·779
35	BM.2 / 53 L	24·0	On plinth of mile-stone 21st from Meerut on main road to Gurmukhtesar.	704·995	704·744
36	BM.3 / 53 L	25·0	On plinth of mile-stone 22nd from Meerut on main road to Gurmukhtesar.	701·807	701·558

Main-Line 64. (Meerut to Lucknow).

Designation of Bench-marks			Distance from Meerut	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
37		BM.4 / 53 L	26·0	On plinth of mile-stone 23rd from Meerut on main road to Gurmukhtesar.	698·141	697·893
38		BM 5 / 53 L	27·0	On plinth of mile-stone 24th from Meerut on main road to Gurmukhtesar.	699·575	699·327
39		BM.6 / 53 L	28·0	On plinth of mile-stone 25th from Meerut on main road to Gurmukhtesar.	708·070	707·820
40		BM.7 / 53 L	28·7	On N. parapet wall of culvert at intersection of roads to Meerut, Moradabad, Gurmukhtesar and Hapur.	700·724	700·477
41		BM.8 / 53 L	29·0	On plinth of mile-stone 26th on main road from Meerut to Gurmukhtesar.	693·693	693·448
	a / 41	BM.9 / 53 L	29·5	On E. parapet wall of Garh bridge, close to city of Gurmukhtesar, on its W. side.	665·296	665·061
42		BM.10 / 53 L	29·6	On S. rim of well, N. of road and near Kishan Chand's Shivala.	657·725	657·493
43		BM.11 / 53 L	34·9	On N. parapet wall, of Grand Trunk road bridge over 3rd pier from E. end.	663·501	663·265
44		BM.12 / 53 L	35·1	Top of mile-stone Moradabad 37 miles on Grand Trunk road.	660·680	660·445
45		BM.13 / 53 L	36·1	Top of mile-stone Moradabad 36 miles on Grand Trunk road.	659·435	659·200
	a / 45	BM.14 / 53 L	36·3	On S. parapet wall over centre arch of bridge.	657·915	657·681
46		BM.15 / 53 L	37·1	On S.E. side of pakka well, near Kumrara village and on N. side of road.	664·638	664·401
47		BM.16 / 53 L	37·1	On N. side of plinth of mile-stone Moradabad 35 miles on Grand Trunk road.	664·809	664·572
48		BM.17 / 53 L	37·9	On N. parapet wall over centre arch of Gujraula bridge.	668·667	668·429
49		BM.18 / 53 L	38·1	At foot of pillar on N. side of mile-stone Moradabad 34 miles on Grand Trunk road.	660·704	660·468
50		BM.19 / 53 L	38·6	On N. parapet wall over centre arch of bridge.	666·942	666·704
51		BM.20 / 53 L	39·2	At foot of pillar on N. side of mile-stone Moradabad 33 miles on Grand Trunk road.	675·950	675·709
52		BM.21 / 53 L	40·2	On plinth, on N. side of mile-stone Moradabad 32 miles on Grand Trunk road.	683·434	683·190

Main-Line 64. (Meerut to Lucknow).

Designation of Bench-marks		Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
53	BM.22 / 53 L	41·2	On plinth on N. side of mile-stone Moradabad 31 miles, on Grand Trunk road.	683·370	683·126
54	BM.23 / 53 L	41·6	On S. parapet wall, at centre of bridge crossing swamp.	683·283	683·039
55	BM.24 / 53 L	42·2	On plinth at N. side of mile-stone Moradabad 30 miles, on Grand Trunk road.	687·453	687·208
56	BM 25 / 53 L	43·2	On plinth at N. side of mile-stone Moradabad 29 miles, on Grand Trunk road.	687·967	687·721
57	BM.26 / 53 L	44·2	On plinth at N. side of mile-stone Moradabad 28 miles, on Grand Trunk road.	690·106	689·860
58	BM.27 / 53 L	45·2	On plinth at N. side of mile-stone Moradabad 27 miles, on Grand Trunk road.	690·561	690·314
59	BM.28 / 53 L	46·2	On plinth at N.W. side of mile-stone Moradabad 26 miles, on Grand Trund road.	694·701	694·453
60	BM.29 / 53 L	47·2	On plinth at W. side of mile-stone Moradabad 25 miles, on Grand Trunk road.	692·845	692·598
61	BM.30 / 53 L	47·3	On W. parapet wall, at centre of culvert, at entrance to Rajipur encamping ground.	692·187	691·940
62	BM 31 / 53 L	47·5	On N. side of rim of Maman Kalal's well, in village of Rajipur.	702·368	702·117
63	BM.32 / 53 L	47·6	On S. parapet wall of 1st culvert, E. of Rajipur village on Grand Trunk road.	692·335	692·088
64	BM 33 / 53 L	48·2	On plinth of mile-stone Moradabad 24 miles, on Grand Trunk road.	694·375	694·127
a 64	BM.34 / 53 L	49·4	On S. parapet wall at centre of bridge on Grand Trunk road.	692·995	692·748
65	BM 35 / 53 L	49·2	On plinth of mile-stone Moradabad 23 miles, on Grand Trunk road.	692·153	691·906
a 65	BM 36 / 53 L	50·2	On S. parapet wall, at centre of culvert on Grand Trunk road.	690·237	689·991
66	BM.37 / 53 L	50·2	On plinth of mile-stone Moradabad 22 miles, on Grand Trunk road.	689·149	688·903
67	BM 38 / 53 L	51·1	On S. parapet wall, at centre of bridge on Grand Trunk road.	688·303	688·057
68	BM.39 / 53 L	51·2	Top of mile-stone Moradabad 21 miles, on Grand Trunk road.	688·834	688·588
69	BM.40 / 53 L	51·6	On S. parapet wall over centre arch of bridge on Grand Trunk road.	687·828	687·582

Main-Line 64. (Meerut to Lucknow).

Designation of Bench-marks			Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
70		BM.41 / 53 L	52·2	On plinth of mile-stone Moradabad 20 miles, on Grand Trunk road.	688·748	688·502
71		BM.42 / 53 L	53·2	Top of mile-stone Moradabad 19 miles, on Grand Trunk road.	682·808	682·564
72		BM.43 / 53 L	53·5	On S. parapet wall at centre of culvert on Grand Trunk road.	684·666	684·421
73		BM 44 / 53 L	54·2	On plinth on N. side of mile-stone Moradabad 18 miles, on Grand Trunk road.	686·778	686·533
74		BM.45 / 53 L	54·8	On N. parapet wall at centre of culvert, at N.W. end of Huriana village on Grand Trunk road.	686·110	685·865
75		BM 46 / 53 L	55·2	On plinth on N. side of mile-stone Moradabad 17 miles, on Grand Trunk road.	687·335	687·090
76		BM.47 / 53 L	55·4	On N. parapet wall at centre of culvert on Grand Trunk road.	685·284	685·039
77		BM.48 / 53 L	56·2	On plinth on N. side of mile-stone Moradabad 16 miles, on Grand Trunk road.	685·001	684·756
	a / 77	BM.49 / 53 L	56·7	On rim to E. side of well, at Dedauli dak chauki, called Jahori Mal Bania's well.	685·590	685·345
	1a / 77	BM.50 / 53 L	62·9	On upper mark-stone of Sirsa G.T. Survey Tower Station, lat. 28° 54′ 39″·64, long. 78° 32′ 6″·14. A principal station of Budhon Meridional Series. (For full description *see* Synoptical Volume).	738·830	738·566
78		BM.51 / 53 L	57·2	At foot of pillar to N. side of mile-stone Moradabad 15 miles, on Grand Trunk road.	677·556	677·314
79		BM.52 / 53 L	58·0	On N. parapet wall at centre of bridge on Grand Trunk road.	678·694	678·452
80		BM 53 / 53 L	58·2	Top of mile-stone Moradabad 14 miles, on Grand Trunk road.	678·953	678·711
81		BM.54 / 53 L	58·5	On single broad step to N. of Hazari Mal's well.	677·731	677·489
82		BM 55 / 53 L	59·2	On plinth on N. side of mile-stone Moradabad 13 miles, on Grand Trunk road.	674·906	674·666
83		BM.56 / 53 L	59·5	On N. parapet wall at centre of bridge on Grand Trunk road.	676·781	676·540
	a / 83	BM.57 / 53 L	61·5	On N. parapet wall over centre arch of bridge on Grand Trunk road.	675·777	675·536
84		BM.58 / 53 L	62·2	On plinth on N. side of mile-stone Moradabad 10 miles, on Grand Trunk road.	671·624	671·385

Main-Line 64. (Meerut to Lucknow).

Designation of Bench-marks		Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
85	BM.59 / 53 L	63·2	On plinth on N. side of mile-stone Moradabad 9 miles, on Grand Trunk road.	669·682	669·443
86	BM.60 / 53 L	64·1	On S. parapet wall of culvert on Grand Trunk road.	664·922	664·685
87	BM.61 / 53 L	64·3	On plinth on N. side of mile-stone Moradabad 8 miles, on Grand Trunk road.	664·299	664·063
88	BM.62 / 53 L	65·3	On plinth on N. side of mile-stone Moradabad 7 miles, on Grand Trunk road.	664·086	663·850
89	BM 63 / 53 L	66·3	At foot of mile-stone Moradabad 6 miles, on Grand Trunk road.	661·895	661·659
90	BM 64 / 53 L	66·8	On N. parapet wall over centre arch of bridge on Grand Trunk road.	656·533	656·299
91	BM 65 / 53 L	67·3	Top of mile-stone Moradabad 5 miles, on Grand Trunk road.	647·692	647·461
92	BM 66 / 53 L	67·5	On N. parapet wall of bridge on Grand Trunk road.	642·551	642·322
93	BM 67 / 53 L	68·3	Top of mile-stone Moradabad 4 miles, on Grand Trunk road.	640·784	640·556
94	BM 68 / 53 L	68·5	On N.E. wing wall of bridge over Gangan river.	639·848	639·620
95	BM 69 / 53 L	69·3	On plinth on N. side of mile-stone Moradabad 3 miles, on Grand Trunk road.	636·708	636·481
96	BM.70 / 53 L	69·6	On N. parapet wall over centre arch of bridge on Grand Trunk road.	636·849	636·622
97	BM.71 / 53 L	70·1	On S. parapet wall of bridge on Grand Trunk road.	637·146	636·919
98	BM.72 / 53 L	70·3	On plinth on N. side of mile-stone Moradabad 2 miles, on Grand Trunk road.	637·712	637·485
99	BM 73 / 53 L	70·8	On N. parapet wall of culvert on Grand Trunk road.	632·899	632·674
100	BM.74 / 53 L	70·9	On N. parapet wall of bridge on Grand Trunk road.	635·802	635·576
1/100	BM 75 / 53 L	71·2	On top of pillar of Executive Engineer's B.M. No. 26, inscribed on W. side of pillar.	637·874	637·647
2/100	BM.76 / 53 L	71·9	On S. parapet wall of culvert, under road leading to Post Office on W. side.	653·666	653·433
2a/100	BM 77 / 53 L	71·9	On top of pillar of Executive Engineer's B.M. inscribed B.M./28.	653·638	653·405

Main-Line 64. (Meerut to Lucknow).

Designation of Bench-marks		Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
3/100	BM 78 53 L	72·0	On E. parapet wall of bridge over inscription B.M./29.	652·491	652·259
3a/100	BM 79 53 L	72·1	On S. parapet wall of culvert marked No. 11, under branch road to Bijnor.	652·427	652·195
3b/100	BM 80 53 L	72·4	On N. parapet wall of skew bridge No. 7.	655·363	655·130
3c/100	BM 81 53 L	72·7	On top of pillar of Executive Engineer's B.M. inscribed B.M. 13	653·990	653·757
3d/100	BM 82 53 L	72·9	On top of pillar of Executive Engineer's B.M. inscribed B.M. 10	655·127	654·894
3e/100	BM 83 53 L	73·3	On E. parapet wall of bridge over inscription B.M./5, on E. face.	653·117	652·884
3f/100	BM 84 53 L	73·9	On E. parapet wall over centre of culvert.	640·479	640·251
3g/100	BM 85 53 L	74·2	On E. parapet wall over centre of culvert.	654·171	653·938
3h/100	BM 86 53 L	74·5	On curb, N. side of Girdhari Lall's pakka well on E. side of road.	651·448	651·216
3i/100	BM 87 53 L	74·5	On E. parapet wall over centre of culvert, S. of and near mile-stone Moradabad 3 miles.	644·963	644·733
3j/100	BM 88 53 L	74·7	On E. parapet wall, at centre of culvert on road to Bijnor.	643·312	643·083
3k/100	BM 89 53 L	74·8	On E. parapet wall, at centre of culvert on road to Bijnor.	644·721	644·491
3l/100	BM 90 53 L	74·9	On W. parapet wall, at centre of culvert on road to Bijnor.	643·838	643·609
3m/100	BM 91 53 L	75·0	On E. parapet wall, at centre of culvert on road to Bijnor.	643·721	643·492
3n/100	BM 92 53 L	75·7	On cap of pillar, at S. end of E. parapet wall of bridge on road to Bijnor.	653·474	653·241
3o/100	BM 93 53 L	76·5	On mark on upper surface of Bhatauli G. T. Survey Tower Station, lat. 28° 54′ 0″·60, long. 78° 43′ 33″·51. A principal station of Budhon Meridional Series. (For full description *see* Synoptical Volume).	688·736	688·491
4/100	BM 94 53 L	72·0	On W. parapet wall of culvert No. 14.	650·966	650·734

Main-Line 64. (Meerut to Lucknow).

Designation of Bench-marks			Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	5/100	BM 95 / 53 L	72·4	Moradabad Church Bench Mark. On 3rd or upper step, on S. side of western doorway, under porch.	653·896	653·663
	a/100	BM 96 / 53 L	71·1	On top of S.W. boundary pillar of Cantonment encamping ground No. 13, on E. side.	634·457	634·231
101		BM 97 / 53 L	71·6	On S. parapet wall of bridge near and N.W. of octroi chauki.	639·734	639·506
102		BM.98 / 53 L	72·0	On N. parapet wall of culvert, 139 feet W. of Narpatganj gate of Moradabad city.	643·426	643·197
103		BM 99 / 53 L	73·0	On S.W. parapet wall of culvert on Grand Trunk road.	640·996	640·768
104		BM.100 / 53 L	77·1	At centre of N. parapet wall of culvert on road to Rampur.	624·625	624·403
105		BM.101 / 53 L	78·4	On S. parapet wall of bridge on N. road from Moradabad to Rampur.	622·230	622·009
106		BM.102 / 53 L	78·5	On E. parapet wall, at centre of Raghera nadi bridge.	629·488	629·265
107		BM.103 / 53 L	80·4	On S. parapet wall, at centre of bridge having a well at W. end on Trunk road.	619·174	618·954
108		BM.104 / 53 L	80·6	On S. parapet wall, at centre of bridge on Trunk road.	620·050	619·831
109		BM.105 / 53 L	81·0	On S. parapet wall over pier of bridge adjoining a culvert on Trunk road.	619·753	619·534
110		BM.106 / 53 L	81·9	On W. parapet wall of culvert, the southern of two, S. of Bhadasna village, and 60 yards W. of a road bridge.	617·651	617·432
111		BM.107 / 53 L	81·9	On N. parapet wall, at centre of bridge on Trunk road.	618·092	617·873
112		BM.108 / 53 L	82·1	On N. parapet wall, at centre of bridge on Trunk road.	619·129	618·910
113		BM.109 / 53 L	82·7	On S. parapet wall, at centre of bridge adjoining a culvert on Trunk road.	620·275	620·056
114		BM.110 / 53 L	83·6	On N. parapet wall, at centre of bridge on Trunk road.	616·439	616·221
115		BM.111 / 53 L	83·8	On S. parapet wall, at centre of bridge on Trunk road.	614·956	614·738
116		BM.112 / 53 L	84·6	On N. parapet wall, at centre of Trunk road bridge in mauza Sehora.	617·028	616·810
117		BM.113 / 53 L	85·0	On top of N.W. boundary pillar of Ganespur encamping ground.	615·364	615·146

Main-Line 64. (Meerut to Lucknow).

Designation of Bench-marks		Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
118	BM.114 / 53 L	85·1	On flooring of S. verandah of Barwaro road bungalow, between two doorways, and 1 foot from wall.	613·713	613·496
119	BM.1 / 53 P	88·8	On N. parapet wall, at centre of Barkusia nala bridge.	614·851	614·635
120	BM.2 / 53 P	89·9	On N. parapet wall, at centre of bridge in mauza Panbara on road Moradabad to Bareilly.	613·402	613·187
121	BM.3 / 53 P	91·0	On N. parapet wall, at centre of bridge in mauza Durugnaga on road to Bareilly.	610·717	610·503
122	BM 4 / 53 P	91·5	On S. parapet wall, at centre of bridge in mauza Durugnaga on road to Bareilly.	608·090	607·878
123	BM.5 / 53 P	91·9	On S. parapet wall, at centre of bridge in mauza Shazadnagar on road to Bareilly.	608·265	608·053
124	BM.6 / 53 P	96·6	On N. parapet wall, at centre of bridge in mauza Dhamora on road to Bareilly.	597·235	597·029
125	BM.7 / 53 P	100·5	On S. parapet wall, at centre of road culvert, near Loiah road bungalow.	586·863	586·663
126	BM.8 / 53 P	101·3	On N.N.E. side of curb of well on S. edge of road, Moradabad to Bareilly, in mauza Naguna.	581·656	581·458
127	BM.9 / 53 P	102·6	On N. parapet wall, at centre of bridge in mauza Millik on road Moradabad to Bareilly.	582·844	582·646
128	BM 10 / 53 P	103·1	On N.E. parapet wall of bridge close to Millik village on road Moradabad to Bareilly.	583·508	583·311
129	BM 11 / 53 P	103·3	On N. parapet wall, at centre of bridge.	581·338	581·142
130	BM.12 / 53 P	103·6	On S.W. parapet wall, at centre of road culvert.	580·536	580·340
131	BM 13 / 53 P	105·2	On N.E. parapet wall, at centre of culvert in mauza Dhaneli.	577·281	577·088
132	BM 14 / 53 P	105·7	On S.W. parapet wall, at centre of bridge in mauza Labhan.	577·375	577·182
133	BM.15 / 53 P	107·0	Platform at triple junction of Chorai, Kolcha and Pipra villages.	570·658	570·467
134	BM.16 / 53 P	107·6	On N.E. parapet wall, at centre of culvert in mauza Chorai.	572·721	572·530
135	BM.17 / 53 P	108·2	On N.W. parapet wall of southern of two culverts leading to Mogani encamping ground.	569·077	568·888
136	BM.18 / 53 P	109·6	On S.W. parapet wall, at centre of bridge in mauza Parora.	567·142	566·954

Main-Line 64. (Meerut to Lucknow).

Designation of Bench-marks			Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
137		BM.19 / 53 P	109·9	On S.W. parapet wall, at centre of bridge in mauza Deosas.	570·470	570·281
138		BM.20 / 53 P	110·7	Platform at triple junction of Deosas, Husuri and Parora villages.	561·801	561·615
139		BM.21 / 53 P	111·9	On S. parapet wall, at centre of culvert in mauza Singra.	561·041	560·856
140		BM.22 / 53 P	112·5	On S. parapet wall, at centre of bridge in mauza Gularia.	562·929	562·743
141		BM.23 / 53 P	112·6	On N. parapet wall, at centre of bridge in mauza Gularia.	561·084	560·899
142		BM.24 / 53 P	113·6	On N.E. parapet wall, at centre of bridge in mauza Piparia.	560·275	560·091
143		BM.25 / 53 P	114·5	Platform at triple junction of Dimna, Gaontia and Khirka villages.	552·751	552·569
144		BM.26 / 53 P	114·9	On S. parapet wall, at centre of bridge in mauza Khirka, the westernmost of two bridges near road bungalow.	561·830	561·645
145		BM.27 / 53 P	115·4	On N. parapet wall, at centre of bridge in mauza Khirka, alongside of B.M. engraved T.	558·174	557·990
146		BM.28 / 53 P	115·6	On S. parapet wall, at centre of bridge in mauza Khirka.	558·253	558·070
147		BM.29 / 53 P	116·5	On N.E. cap of bridge in mauzas Bhitaora and Thirria alongside of B.M. engraved T.	561·327	561·143
148		BM.30 / 53 P	117·6	On N.E. parapet wall, at centre of Bhitoria bridge, alongside of B.M. engraved T.	555·618	555·436
	1 / 148	BM.31 / 53 P	117·8	On ground level mark-stone of Fatehganj G.T. Survey Tower Station, lat. 28° 27′ 28″·69, long. 79° 18′ 38″·69. A principal station of Rangir Meridional Series. (For full description *see* Synoptical Volume).	571·471	571·284
149		BM.32 / 53 P	119·3	Sankha nadi bridge, alongside of B.M. engraved T.	557·623	557·441
150		BM.33 / 53 P	119·5	On N.E. parapet wall, at centre of bridge in mauza Dhantia.	554·278	554·097
151		BM.34 / 53 P	119·8	Top of mile-stone { Bareilly 9 / Moradabad 48 }.	551·018	550·838
152		BM.35 / 53 P	120·1	On curb W. of Moti Halwai's well, S.W. of road alongside of B.M. marked T.	550·933	550·753
153		BM.36 / 53 P	120·4	On W. parapet wall of bridge in mauza Parsakhera alongside of B.M. marked T.	553·838	553·658

Main-Line 64. (Meerut to Lucknow).

Designation of Bench-marks			Distance from Meerut	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
154		BM.37 / 53 P	120·8	Top of mile-stone { Bareilly 8 / Moradabad 49 }.	549·844	549·665
155		BM 38 / 53 P	120·9	On N.N.E. parapet wall, at centre of bridge in mauza Nandosi.	553·855	553·675
156		BM.39 / 53 P	121·7	On W. parapet wall, at centre of bridge in mauza Mathrapur.	553·101	552·922
157		BM 40 / 53 P	121·8	Top of mile-stone { Bareilly 7 / Moradabad 50 }.	548·791	548·613
158		BM.41 / 53 P	122·2	On N.W. parapet wall, at centre of bridge in mauza Mathrapur.	554·260	554·081
159		BM.42 / 53 P	122·8	Top of mile-stone { Bareilly 6 / Moradabad 51 }.	548·269	548·092
160		BM 43 / 53 P	123·8	Top of mile-stone { Bareilly 5 / Moradabad 52 }.	548·579	548·402
161		BM 44 / 53 P	124·8	Top of mile-stone { Bareilly 4 / Moradabad 53 }.	546·191	546·015
162		BM.45 / 53 P	125·1	On edge of curb, N.E. side, of Kadur Husain's well, S. of road alongside of B.M. marked T.	545·559	545·383
163		BM.46 / 53 P	125·8	Top of mile-stone { Bareilly 3 / Moradabad 54 }.	551·920	551·743
164		BM.47 / 53 P	125·9	On E. parapet wall of culvert opposite W. entrance to Nawab of Rampur's house on road to Bareilly Cantonment.	546·394	546·219
	a / 164	BM.48 / 53 P	126·3	On W. parapet wall of bridge in Mohulla Jasauli.	551·579	551·402
165		BM 49 / 53 P	126·7	On S.W. parapet wall, at centre of culvert at Nawab Murtaza Khan's *naka* or boundary, near octroi chauki.	550·275	550·099
166		BM 50 / 53 P	126·8	Top of mile-stone { Bareilly 2 / Moradabad 55 }.	548·124	547·949
167		BM.51 / 53 P	126·9	On S. parapet wall, at centre of culvert.	551·039	550·863
168			127·3	Destroyed.	555·213	555·035
169		BM.52 / 53 P	127·9	Bareilly Bench Mark (Commissioner's office). On 4th or top step, at N. face.	565·504	565·323
170			128·5	Destroyed.	562·931	562·751
171			128·6	Destroyed.	561·391	561·212

Main-Line 64. (Meerut to Lucknow).

Designation of Bench-marks			Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
172		BM.53 / 53 P	129·7	G.T.S. ○ B.M. On lowest step of western doorway under western tower of Cantonment Church, Bareilly.	558·905	558·727
	1 / 172	BM.54 / 53 P	130·1	G.T.S. ○ B.M. On coping of an octagonal pakka well, near junction of roads from Bareilly Church and station hospital.	560·891	560·713
	2 / 172		130·7	Destroyed.	561·616	561·437
	3 / 172	BM 55 / 53 P	131·0	⊕ On E. parapet of culvert opposite Messrs. Dinshaw Sorabjee's, on road to Cantonments, Bareilly.	561·219	561·041
	4 / 172	BM 56 / 53 P	131·0	G.T.S. ○ B.M. On E. side of well-curb in Pachpera, opposite Messrs. Dinshaw Sorabjee's, on W. edge of road to Cantonments, Bareilly.	560·053	559·875
	5 / 172	BM 57 / 53 P	131·2	G.T.S. Standard Bench Mark 1904 at Bareilly. Situated in centre of a grass plot in Sessions Judge's kachahri compound, 1 chain from E. corner of central porch of building, 1 chain from E. end of central verandah, and 2 chains from a pillar at N.E. end of verandah of office, the suitors' waiting hall being about 2 chains E. It is enclosed in a railed-off space 11 feet square.	563·781	563·602
	6 / 172	BM 58 / 53 P	131·7	⊕ On top step of flooring, at N. face of Commissioner's Office, Bareilly.	565·430	565·250
173			130·3	Destroyed.	554·757	554·581
174		BM 59 / 53 P	131·0	G.T.S. / B.M. On S. parapet wall of bridge, about 200 yards from Native Cavalry Quarter Guard, Bareilly Cantonment.	558·238	558·061
175		BM 60 / 53 P	132·4	Top of S.W. parapet wall of Trunk road bridge, across Naktia nadi.	556·162	555·986
176		BM.61 / 53 P	133·4	G.T.S. / B.M. On top of N.E. parapet wall of Bitchia Choti Trunk road bridge, in mauza Mohanpur.	551·850	551·676
177		BM 62 / 53 P	135·2	Top of N.E. parapet wall of Trunk road culvert, in mauza Bhurulia.	551·480	551·307
178		BM.63 / 53 P	136·7	Top of N.E. parapet wall of Trunk road bridge, in mauza Rajao.	549·931	549·759
179		BM.64 / 53 P	138·2	Top of N.N.W. side edge of curb of well, near Trunk road at Kesarpur-Ketakia.	551·618	551·446
180		BM 65 / 53 P	138·9	Top of E.N.E. parapet wall of Trunk road culvert, in mauza Meghnera.	549·394	549·223
181		BM.66 / 53 P	139·1	Top of mile-stone { 65 Fatehgarh / 40 Shahjahanpur / 10 Bareilly }.	548·710	548·539

Main-Line 64. (Meerut to Lucknow).

Designation of Bench-marks			Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
182		BM 67 / 53 P	140·1	Top of mile-stone { 64 Fatehgarh / 39 Shahjahanpur / 11 Bareilly }.	545·533	545·364
183		BM.68 / 53 P	140·9	Top of N.E. parapet wall of Trunk road bridge, in mauza Gausganj.	548·154	547·985
184		BM.69 / 53 P	141·1	Top of mile-stone { 63 Fatehgarh / 38 Shahjahanpur / 12 Bareilly }.	547·051	546·882
185		BM 70 / 53 P	142·7	Top of E. side of curb of Lala Sanehi Lal's well, S.S.W. of and close to Trunk road.	541·535	541·369
186		BM 71 / 53 P	143·0	G.T.S. / B.M. On top of S.W. parapet of Trunk road bridge in mauza Faridpur, 26 chains from B.M. No. 185.	541·771	541·605
	a / 186	BM.72 / 53 P	143·2	G.T.S. / B.M. On top of E. parapet of culvert, on N. edge of Trunk road leading to road bungalow in mauza Faridpur, 72 chains from mile-stone 60 Fatehgarh, 35 Shahjahanpur, 15 Bareilly.	539·487	539·321
187		BM.73 / 53 P	143·4	Top of E. parapet wall of Trunk road bridge, in mauza Faridpur, 58 chains from mile-stone 60 Fatehgarh, 35 Shahjahanpur, 15 Bareilly.	540·958	540·792
188		BM.74 / 53 P	144·2	Top of 2nd or middle step on N. side of well, S. of Trunk road in Nawadaban chauki, in mauza Sisaia.	538·533	538·368
189		BM.75 / 53 P	145·1	Top of mile-stone { 59 Fatehgarh / 34 Shahjahanpur / 16 Bareilly }.	538·283	538·119
190		BM.76 / 53 P	145·9	Top of S. side curb of Dhani Lal's well in mauza Pachaoni.	536·152	535·989
191		BM.77 / 53 P	146·1	Top of mile-stone { 58 Fatehgarh / 33 Shahjahanpur / 17 Bareilly }.	538·186	538·022
192		BM.78 / 53 P	147·1	Top of mile-stone { 57 Fatehgarh / 32 Shahjahanpur / 18 Bareilly }.	533·442	533·280
193		BM.79 / 53 P	147·7	Top of N.E. parapet of Trunk road bridge, in mauza Tisua.	528·087	527·927
194		BM.80 / 53 P	148·1	Top of mile-stone { 56 Fatehgarh / 31 Shahjahanpur / 19 Bareilly }.	529·712	529·551
195		BM.81 / 53 P	149·1	Top of mile-stone { 55 Fatehgarh / 30 Shahjahanpur / 20 Bareilly }.	530·190	530·030

Main-Line 64. (Meerut to Lucknow).

	Designation of Bench-marks		Distance from Meerut	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
196		BM.82 / 53 P	150·1	Top of mile-stone { 54 Fatehgarh / 29 Shahjahanpur / 21 Bareilly }.	524·481	524·323
197		BM.83 / 53 P	151·0	Top of N.E. parapet of Trunk road bridge, in mauza Bhagwanpur.	526·310	526·152
198		BM.84 / 53 P	151·4	On pillar at triple junction of Uchasia, Bhagwanpur and Bilpur villages.	522·924	522·767
199		BM 85 / 53 P	151·9	On platform at triple junction of Uchasia, Jhada-ki-putti and Bilpur villages, on N.E. edge of Trunk road.	523·382	523·226
200		BM.86 / 53 P	152·1	Top of mile-stone { 52 Fatehgarh / 27 Shahjahanpur / 23 Bareilly }.	523·738	523·581
201		BM 87 / 53 P	153·1	Top of mile-stone { 51 Fatehgarh / 26 Shahjahanpur / 24 Bareilly }.	524·652	524·496
202		BM.88 / 53 P	153·1	Fatehganj G.T.S. Bench Mark. B.M. embedded between two roads, (the Trunk road and a short cut) leading to large bridge over Baigul nadi, opposite eastern of two sarais and Police chauki at Fatehganj, 2 chains from Police chauki well and 1 chain from B.M. No. 201.	519·639	519·484
203		BM 89 / 53 P	153·6	Top of W. end cap of S. parapet wall of Trunk road bridge across Baigul nadi.	519·524	519·370
204		BM 90 / 53 P	153·6	Top of mile-stone { 50 Fatehgarh / 25 Shahjahanpur / 25 Bareilly }.	518·417	518·263
205		BM 91 / 53 P	155·6	Top of mile-stone { 48 Fatehgarh / 23 Shahjahanpur / 27 Bareilly }.	521·178	521·024
206		BM.92 / 53 P	156·6	Top of mile-stone { 47 Fatehgarh / 22 Shahjahanpur / 28 Bareilly }.	521·531	521·378
207		BM.1 / 54M	162·0	Top of W. end of N. parapet wall of Trunk road bridge in mauza Tilhar.	511·483	511·335
208		BM.2 / 54M	166·1	G.T.S. / B.M. On top of N. parapet wall of Trunk road bridge in mauza Gurgia-Pirojpore.	499·103	498·959
209		BM.3 / 54M	168·7	On outer edge of curb on W. side of well, at Police chauki in mauza Banthara.	493·217	493·076
210		BM.4 / 54M	169·6	Top of boundary pillar of Banthara and Nagaria villages, about 40 yards S. of Trunk road bridge.	488·208	488·069
211		BM.5 / 54M	174·5	Top of boundary pillar, about 50 yards N. of Jalanagar village, on bank of tank.	490·447	490·309

Main-Line 64. (Meerut to Lucknow).

Designation of Bench-marks		Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
212	BM.6 / 54 M	175·4	G.T.S. / B.M. On top of E. parapet wall of Trunk road bridge No. 36.	504·929	504·787
a / 212	BM.7 / 54 M	175·7	On top surface of Bullan Shah's tomb, 1 chain W. of road bungalow at Lodhipur village, and 8 inches E. of head pillar. (Oudh Irrigation Department bench-mark).	505·670	505·527
b / 212	BM.8 / 54 M	176·1	⊕ On N. parapet of culvert on Trunk road, about ¼ mile S.E. of kachahri, Shahjahanpur.	500·085	499·944
c / 212	BM.9 / 54 M	176·2	⊕ On a cylindrical prism of stone fixed E. of culvert on road leading into E. gate of caravan sarai at Shahjahanpur.	500·065	499·924
1 / 212	BM.10 / 54 M	175·8	G.T.S. / ○ / B.M. at St. Mary's Church, Shahjahanpur. On flooring at N.W. angle of junction of transept with body of church.	506·103	505·960
1a / 212	BM.11 / 54 M	175·8	G T.S. Standard Bench Mark 1904 at Shahjahanpur. Situated in N.W. corner of churchyard, 1 chain from W. corner of stone monolith—a mutiny memorial—3 chains from E. corner of St. Mary's church formed by junction of body and transept of building, 3 chains from both N.W. corner and N. door of church, and enclosed in a railed-off space 11 feet square.	508·466	508·323
213	BM.12 / 54 M	177·5	G.T.S. / ○ / B.M. On top surface of platform of pillar at trijunction of Lodhipur, Hitaora and Jahanganj villages, 4 chains N. of Trunk road to Sitapur.	504·646	504·504
214	BM.13 / 54 M	178·5	Top of N. parapet wall of western of 2 large bridges, in mauza Arsalia-Hitaura. This bridge has mile-stone 3 fixed at E. end of its S. parapet wall.	499·168	499·027
215	BM.14 / 54 M	181·6	Top of W. end cap of N. parapet wall of Trunk road bridge in mauza Bhitara.	502·698	502·557
216	BM.1 / 63 A	190·3	Top of platform at triple junction of Kotra, Sanaoa, and Muhammadpur villages, 16 chains S. of road Shahjahanpur to Lucknow.	489·386	489·251
1 / 216	BM.2 / 63 A	191·6	Top of S.W. side plinth of dilapidated pillar, at angle of boundary of Lonah and Jamnapur villages within ½ inch of Oudh Irrigation Department bench-mark.	486·601	486·466
217	BM 3 / 63 A	193·7	Top of platform at triple junction of Barkhora, Mattipur and Sallia villages.	489·548	489·413
218	BM.4 / 63 A	194·5	Top of platform at triple junction of Gobindapur, Barkheria and Sallia villages, about ½ mile N. of Trunk road.	485·950	485·817
219	BM.5 / 63 A	196·5	Top of platform at quarter junction of Delparerua, Jalalpur, Ambari and Saraina villages.	488·764	488·631
220	BM 6 / 63 A	202·8	Top of curb on S. side of Lalta Parsad's well in mauza Harraia, near a grove of mango trees, between old and new roads Shahjahanpur to Lucknow.	479·349	479·219

Main-Line 64. (Meerut to Lucknow).

Designation of Bench-marks			Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
221		BM.7 / 63 A	206·1	Top of platform at triple junction of Khakra, Lidhiai and Maigalganj villages, on S. edge of old Trunk road.	474·103	473·975
222		BM.8 / 63 A	211·3	Top of N E. corner of plinth of boundary pillar between Kachura and Karipakar villages, to S. of new and N. of old Trunk roads.	464·546	464·422
223		BM.9 / 63 A	214·2	Top of S. parapet wall, near E. end of old pakka bridge on old road over Kathna nadi.	442·713	442·595
224		BM.10 / 63 A	215·1	Top of N. parapet wall of culvert in mauza Kaitha, about 112 feet W. of mile-stone 14 Sitapur, 38 Shahjahanpur.	466·265	466·142
	1 / 224	BM.11 / 63 A	217·7	Top of curb of Din Dial's well on N.N.E. side of mauza Parsera, Majra of Barmhauli.	469·120	468·996
	2 / 224	BM.12 / 63 A	220·3	Top of platform at quarter junction of Bahera, Chao, Hardaspur and Malpur villages.	464·755	464·632
	3 / 224	BM.13 / 63 A	223·8	On ground level mark-stone of Parser G.T. Survey Tower Station, lat. 27° 46′ 16″·81, long. 80° 29′ 55″·80. A principal station of Amua Meridional Series. (For full description *see* Synoptical Volume).	483·811	483·683
	a / 224	BM.14 / 63 A	221·8	On ground level mark-stone of Darawal G.T. Survey Tower Station, lat. 27° 33′ 35″·96, long. 80° 28′ 48″·63. A principal station of Amua Meridional Series. (For full description *see* Synoptical Volume).	472·386	472·261
225		BM.15 / 63 A	218·4	Boundary pillar between Bhurkura village and Dr. Dodd's grant, 101 feet N. of new Trunk road, Shahjahanpur to Lucknow.	465·277	465·154
226		BM.16 / 63 A	219·3	Top of S. parapet wall of culvert on new road Shahjahanpur to Lucknow, near Gaddi-ka-Purwa.	462·243	462·121
227		BM.17 / 63 A	219·3	G.T.S. Bench Mark, Gaddi-ka-Purwa. Embedded on N. edge of new Trunk road, Shahjahanpur to Lucknow, 3 and 2 chains respectively from S. and N. parapets of culvert in Dr. Carter's grant in mauza Pagha.	460·966	460·845
228		BM.18 / 63 A	224·8	Top of lowest step on S. side of well in Khagasiamau village.	453·995	453·877
	1 / 228	BM.19 / 63 A	227·7	On ground level mark-stone of Sirwaia G.T. Survey Tower Station, lat. 27° 37′ 43″·43, long. 80° 38′ 23″·16. A principal station of Amua Meridional Series. (For full description *see* Synoptical Volume).	470·692	470·569
229		BM.20 / 63 A	228·5	G.T.S. ○ B.M. On top of inner rim on N. side of Mirza Abbas Beg's well at Sitapur, on S. edge of new Trunk road.	448·382	448·267
230			228·9	Destroyed.	446·500	446·384
231			229·5	Destroyed.	444·446	444·331

Main-Line 64. (Meerut to Lucknow).

Designation of Bench-marks			Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
232		BM.21 / 63 A	230·2	G.T.S. ○ B.M. On 2nd or middle step near E. end of vestry, on N.E. side of Cantonment Church, Sitapur.	447·268	447·153
	1 / 232	BM 22 / 63 A	230·9	G.T.S. ○ B.M. On W. parapet of culvert No. $\frac{8}{1}$, on road between Cantonment Church and kachahri, about 36 chains S. of latter.	446·940	446·825
	2 / 232	BM.23 / 63 A	231·4	⊕ On centre step of central entrance on S.S.W. face of Collector's kachahri, Sitapur.	446·208	446·093
	2a / 232	BM.24 / 63 A	231·4	Sitapur O.I.D. Bench Mark. On lower cornice, 8 feet from foot of inner edge of S.W. pillar of pakka Trunk road bridge marked No. 76.	444·891	444·776
	2b / 232	BM.25 / 63 A	232·0	G.T.S. ○ B.M. On E. end of top of N. parapet of S.W. drain adjoining bridge marked 76.	443·097	442·982
	3 / 232	BM.26 / 63 A	231·5	G.T.S. Standard Bench Mark 1904 at Sitapur. Situated N.W. of back of Sessions Judge's kachahri, 80 and 139 feet respectively from its N. and S.W. corners, 76 feet from top of steps under rear portico, and enclosed in a railed-off space 11 feet square.	447·130	447·015
	4 / 232	BM 27 / 63 A	231·8	○ On top of stone prism fixed in ground on S. margin of road, 4 chains E. of Abbas Beg's well. The stone is marked with $\overset{\uparrow}{\text{B.P.}}$.	445·826	445·711
233		BM.28 / 63 A	233·0	Top of N. parapet wall of Trunk road bridge marked 72.	447·274	447·160
234		BM.29 / 63 A	234·0	Top of S. parapet wall of Trunk road bridge marked 70.	446·847	446·733
235		BM.30 / 63 A	235·4	Top of N. parapet wall of Trunk road bridge marked 66.	438·544	438·432
236		BM.31 / 63 A	237·9	Top of platform at triple junction of Dharaicha, Binaura and Baba-ka-Purwa villages, a few yards S. of Trunk road, Sitapur to Lucknow.	430·986	430·877
237		BM.32 / 63 A	238·1	Top of S. parapet wall of Trunk road bridge marked 59.	442·338	442·227
238		BM.33 / 63 A	240·7	G.T.S. Bench Mark, Jalalpur. Embedded on N. edge of Trunk road, Sitapur to Lucknow, 103 feet S.E. from inner edge of well at encamping ground.	432·462	432·354
239		BM.34 / 63 A	240·8	Top of S. parapet wall of Trunk road bridge marked 55.	435·030	434·922
240		BM.35 / 63 A	241·9	Top of S. parapet wall of Trunk road bridge marked 53.	426·564	426·458
241		BM.36 / 63 A	244·3	Top of E. parapet wall of Trunk road bridge marked 51.	435·513	435·406

Main-Line 64. (Meerut to Lucknow).

Designation of Bench-marks			Distance from Meerut	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
242		BM.87 / 63 A	244·7	Top of platform at triple junction of Patare, Ruhr and Garhi villages, about 2 chains W. of road.	431·887	431·781
243		BM.38 / 63 A	246·8	Top of W. parapet wall of Trunk road bridge marked 48.	434·572	434·466
244		BM.39 / 63 A	250·9	Top of E. parapet wall of Trunk road bridge marked 39.	432·947	432·844
245		BM 40 / 63 A	254·9	Top of platform at triple junction of Sarsauli, Mankapur and Bijuamau villages.	424·058	423·957
246		BM.41 / 63 A	260·2	G.T.S. Bench Mark, Ataria. Embedded on E. side of Trunk road, 1 chain S.S.W. of well built by Tehsildar of Bari.	417·458	417·363
247		BM.42 / 63 A	261·7	Top of curb on E. side of well at Balwantpur encamping ground, W. of Trunk road.	417·752	417·658
248		BM.43 / 63 A	262·5	Top of W. parapet wall of Trunk road bridge marked 24.	418·084	417·990
249		BM.44 / 63 A	265·3	Top of W. parapet wall of Trunk road bridge marked 21, S. of and close to Manpur village.	416·108	416·015
	a / 249	BM 1 / 63 B	273·3	G.T.S. / B.M. On top of slab at N.E. corner of Baksi-ka-Talao in mauza Rudhui, on W. edge of road.	406·465	406·374
250		BM 2 / 63 B	273·3	G.T.S. Bench Mark. Embedded on E. side of Trunk road in mauza Rudhui, 1 chain from N.E. corner of Baksi-ka-Talao, and 3 chains from N.W. pillar of Rudhui encamping ground.	401·089	401·003
251		BM.3 / 63 B	275·9	Top of W. parapet wall of Trunk road bridge marked 9 in mauza Nawa Kher.	393·601	393·517
252		BM.4 / 63 B	281·3	Top of E. parapet wall of Trunk road skew bridge marked 2, N. of iron bridge over Gumti river, in mauza Kutabpur at Lucknow.	365·168	365·093
	a / 252	BM.5 / 63 B	281·5	On N.E. wing wall of Lucknow iron bridge across Gumti river. (O.I.D. bench-mark).	371·330	371·254
253			282·5	Destroyed.	376·338	376·261
	1 / 253	BM.6 / 63 B	282·9	G.T.S. / B.M. at Lucknow Museum. On S.E. side, near edge of platform under portico of N.E. or principal entrance.	364·240	364·165
254			283·5	Destroyed.	361·747	361·673
255		BM.7 / 63 B	283·7	G.T.S. / B.M. On top of paved sill on S. side of W. entrance to Christ's Church, Lucknow, in Civil lines, Hazratganj.	362·851	362·777
256		BM.8 / 63 B	284·8	G.T.S. Block-stone Bench Mark, Lucknow. Embedded about 1 inch below ground level, 36 feet from both E. and W. corners of Kalubir's Than platform, and 5 chains N.W. of offices of Commanding Royal Engineer and Garrison Engineer. It is on S. side of railway lines, near telegraph post No. $\frac{195}{6}$.	383·064	382·986

Branch-Line 64A. (Bareilly to Pilibhit).

Designation of Bench-marks		Distance from Bareilly	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1	BM.53 / 53 P	0·0	G.T.S. ⊙ B.M. On lowest step of western doorway under western tower of Cantonment Church, Bareilly.	558·905	558·727
2		1·1	Destroyed.	561·391	561·212
3		1·2	Destroyed.	562·931	562·751
4	BM.52 / 53 P	1·8	Bareilly Bench Mark (Commissioner's office). On 4th or top step, at N. face.	565·504	565·323
5		2·5	Destroyed.	555·213	555·035
6	BM 51 / 53 P	2·8	On S. parapet wall, at centre of culvert.	551·039	550·863
7	BM.50 / 53 P	3·0	Top of mile-stone { Bareilly 2 / Moradabad 55 }.	548·124	547·949
8	BM.49 / 53 P	3·1	On S.W. parapet wall, at centre of culvert at Nawab Murtaza Khan's *naka* or boundary, near octroi chauki.	550·275	550·099
9	BM 47 / 53 P	3·8	On E. parapet wall of culvert opposite W. entrance to Nawab of Rampur's house on road to Bareilly Cantonment.	546·394	546·219
10	BM 46 / 53 P	4·0	Top of mile-stone { Bareilly 3 / Moradabad 54 }.	551·920	551·743
11	BM.93 / 53 P	4·5	On E. parapet wall at centre of road culvert, near Garhi police chauki, on road to Pilibhit.	546·670	546·495
12	BM 94 / 53 P	4·9	On curb on E. side of well, near octroi chauki, on road to Pilibhit.	546·679	546·504
13	BM.95 / 53 P	5·3	On curb on E. side of Raja Naubat Ram's well.	559·113	558·934
14	BM.96 / 53 P	6·8	On E. parapet wall, at centre of road culvert in mauza Daulatpur.	565·484	565·302
15	BM.97 / 53 P	9·5	Top of mile-stone, Bareilly 5 miles, on main road, Bareilly to Pilibhit.	573·712	573·526
16	BM.98 / 53 P	11·2	On S. end cap of E. parapet wall of bridge over Naktia nadi, in mauza Muria.	569·304	569·118
17	BM 99 / 53 P	14·6	On curb on N. side of well in Bilandnagar village.	574·677	574·489
18	BM.100 / 53 P	15·7	On W. end cap of S. parapet wall of Kanru nadi bridge, alongside of B.M. marked T, in mauza Khaikhera.	574·272	574·083
19		16·6	Destroyed.	575·317	575·127

Branch-Line 64A. (Bareilly to Pilibhit).

Designation of Bench-marks			Distance from Bareilly	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	a/19	BM.101/53 P	16·6	G.T.S./B.M. On 1st or lower step of central doorway of Sitra bungalow.	573·053	572·864
20		BM.102/53 P	16·8	On E. parapet wall of bridge, alongside of B.M. marked T, in mauza Sitra-Udhanapur.	575·623	575·433
21		BM.103/53 P	18·0	On S.E. parapet wall of culvert, not alongside of B.M. marked T, owing to masonry being broken.	579·775	579·583
22		BM.104/53 P	18·2	On curb on N. side of well to E. of road.	579·287	579·095
23		BM.105/53 P	18·4	On S.E. side of curb of bania Ghazi Ram's well, alongside of B.M. marked T, in village of Hafizganj.	579·898	579·706
24		BM.106/53 P	18·6	On E. parapet wall of road bridge, alongside of B.M. marked T, in mauza Hafizganj.	586·066	585·872
	a/24	BM.107/53 P	19·2	On S.E. parapet wall of bridge in mauza Suriao.	582·074	581·881
25		BM.108/53 P	20·6	On S. parapet wall of Baigul nadi bridge, alongside of B.M. marked T.	596·337	596·139
26		BM.109/53 P	21·0	On E. parapet wall of road bridge, alongside of northern of two B.M.s marked T, in mauza Hardoi.	585·523	585·328
27		BM.110/53 P	21·3	On E. parapet wall of 2nd road bridge, alongside of B.M. marked T, in mauza Hardoi.	586·654	586·459
28		BM.111/53 P	22·0	On E. parapet wall of road bridge, alongside of B.M. marked T, in mauza Richola.	586·950	586·755
29		BM.112/53 P	22·3	On S. end of E. parapet wall of culvert alongside of B.M. marked T over a rajbaha from Baigul nadi, in mauza Richola.	586·962	586·767
30		BM.113/53 P	22·9	Persadi Teli's well. On top of covered archway over W. side of circular reservoir, alongside of B.M. marked T, opposite Nawabganj tehsil.	585·079	584·884
	a/30	BM.114/53 P	23·3	On E. parapet wall of road bridge.	587·039	586·843
31		BM.115/53 P	23·4	On N.E. parapet wall of bridge, alongside of B.M. marked T, crossing Panghaili nadi at Nawabganj.	594·019	593·821
32		BM.116/53 P	23·7	On curb on E.N.E. side of Bhopa Teli's well, near B.M. marked T on N. side of road.	589·291	589·094
33		BM.117/53 P	24·1	On E. end of S. parapet wall of road bridge in mauza Ind.	591·277	591·079
34		BM.118/53 P	24·6	Top of mile-stone Bareilly 20 miles, on main road Bareilly to Pilibhit.	587·634	587·437

Branch-Line 64A. (Bareilly to Pilibhit).

Designation of Bench-marks			Distance from Bareilly	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
35		BM.119 / 53 P	24·7	On S.E. parapet wall of road bridge in mauza Gargaia.	592·482	592·284
36		BM.120 / 53 P	26·4	On S. end of E. parapet wall of bridge in mauza Dhaurera Inaitpur.	594·020	593·820
37		BM.121 / 53 P	26·6	Top of mile-stone Bareilly 22 miles, on W. side of road.	589·083	588·885
38		BM.122 / 53 P	27·3	On W. parapet wall of culvert, alongside of B.M. marked T, over water course.	593·938	593·738
39		BM.123 / 53 P	27·6	Top of mile-stone Bareilly 23 miles, on E. side of road Bareilly to Pilibhit.	595·800	595·600
40		BM.124 / 53 P	27·9	On W. parapet wall of bridge in mauza Sahi.	595·720	595·519
41		BM.125 / 53 P	28·6	On S. parapet wall of Khamaria bridge, alongside of B.M. marked T, crossing Afsaria nadi.	601·834	601·631
	1/41	BM.126 / 53 P	37·3	On lower mark-stone of Ataria G.T. Survey Tower Station, lat. 28° 38′ 9″·53, long. 79° 35′ 15″·08. A principal station of N.E. Longitudinal Series. (For full description *see* Synoptical Volume).	618·694	618·486
42		BM.127 / 53 P	29·1	On W. end of S. parapet wall of road culvert, alongside of B.M. marked T, in mauza Khamaria.	597·248	597·047
43		BM.128 / 53 P	30·1	On E. side of curb of well in mauza Jatipur, on road from Bareilly to Pilibhit. B.M. marked T is engraved on W. curb.	602·475	602·271
	1/43	BM.129 / 53 P	31·4	On upper mark-stone of Kalianpur G.T. Survey Tower Station, lat. 28° 35′ 11″·10, long. 79° 44′ 33″·75. A principal station of N.E. Longitudinal Series. (For full description *see* Synoptical Volume).	628·219	628·007
44		BM.130 / 53 P	30·7	Top of mile-stone Bareilly 26 miles, on main road Bareilly to Pilibhit.	601·473	601·270
45		BM.131 / 53 P	31·5	On N.W. end of N.W. ghat step of bridge over rajbaha, alongside of B.M. marked T, in mauza Harchuia.	602·498	602·294
46		BM.132 / 53 P	31·6	Top of mile-stone Bareilly 27 miles, on main road Bareilly to Pilibhit.	606·155	605·950
47		BM.133 / 53 P	33·7	On N.W. end of W. parapet wall of bridge in mauza Gauntia or Daulatpur, near 29th mile-stone from Bareilly.	596·495	596·292
48		BM.134 / 53 P	34·0	On S. parapet wall of road bridge in mauza Gauntia or Daulatpur.	598·597	598·393
49		BM.135 / 53 P	34·8	On E. parapet wall of culvert under road to kachahri, Pilibhit, and W. of city.	604·664	604·458

Branch-Line 64A. (Bareilly to Pilibhit).

Designation of Bench-marks		Distance from Bareilly	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
50	BM.136 / 53 P	35·4	On W. end of S. parapet wall of culvert on E. side of road to kachahri, in mauza Pakaria, in suburbs of Pilibhit.	604·785	604·579
51	BM.137 / 53 P	36·0	G.T.S. B.M. at No. 3. On curb on N. side of well, to E. of Government School and S.W. of Nawab Hafiz Rahmat Khan's Juma Masjid, Pilibhit.	609·198	608·990
1/51	BM 138 / 53 P	36·4	On edge of curb on S.E. side of Sher Muhammad's well in suburbs of Pilibhit.	605·197	604·991
2/51		37·6	Destroyed.	608·016	607·810
3/51	BM.139 / 53 P	41·5	Platform at triple junction of Ikghara, Sarain and Muria villages.	600·111	599·909
4/51	BM 140 / 53 P	42·9	On curb on S. side of Raja Naubat Ram's well, on W. side of Barthuna village.	600·930	600·729
5/51	BM 141 / 53 P	48·6	Top of boundary pillar at corner of field between Lukhana and Daulapur villages.	578·381	578·190
6/51	BM 142 / 53 P	49·8	On upper mark-stone of Umra G. T. Survey Tower Station, lat. 28° 28′ 39″·44, long. 79° 52′ 43″·93. A principal station of N.E. Longitudinal Series. (For full description *see* Synoptical Volume).	609·343	609·143
a/51	BM.143 / 53 P	36·0	On middle step of verandah on N. face of Government Charitable Dispensary, Pilibhit.	613·249	613·040
52	BM.144 / 53 P	36·1	Pilibhit, G.T.S. Bench Mark No. 4. On S. side of E. doorway of principal entrance to Hafiz Rahmat Khan's Juma Masjid.	612·463	612·254

Main-Line 65. (Lucknow to Cawnpore).

Designation of Bench-marks		Distance from Lucknow	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1	BM.8 / 63 B	0·0	G.T.S. Block-stone Bench Mark, Lucknow. Embedded about 1 inch below ground level, 36 feet from both E. and W. corners of Kalubir's Than platform, and 5 chains N.W. of offices of Commanding Royal Engineer and Garrison Engineer. It is on S. side of railway lines, near telegraph post No. 195/6.	383·064	382·986
2	BM.7 / 63 B	1·1	G.T.S. / B.M. On top of paved sill on S. side of W. entrance to Christ's Church, Lucknow, in Civil lines, Hazratganj.	362·851	362·777
3	BM 9 / 63 B	3·2	Top of middle of platform of Lucknow railway station. (O. & R. railway).	398·681	398·600
4		3·7	Destroyed.	399·053	398·973
a/4	BM.10 / 63 B	5·3	G.T.S. / B.M. On top of paved seat on N. side of principal entrance gateway to Alam Bagh, Lucknow.	403·067	402·986
5	BM.11 / 63 B	12·6	Top of W. parapet wall of road bridge marked 26 in mauza Mirapur-Pinot.	398·264	398·186
6	BM.12 / 63 B	17·0	Top of W. parapet wall of road culvert marked 34 in mauza Saraina.	397·988	397·912
a/6	BM.13 / 63 B	18·4	G.T.S. / B.M. On top of curb on N.E. side of Chotain Sardar's well, on N. edge of road, close to a temple on left bank of Sai nadi.	382·996	382·923
7	BM.14 / 63 B	24·9	Top of S. parapet wall of road culvert marked 54.	402·149	402·073
8	BM.15 / 63 B	25·1	Top of S. parapet wall of road bridge marked 55.	402·248	402·172
9	BM.16 / 63 B	26·4	G.T.S. Bench Mark, Pach-hiaon. Embedded on S. edge of road, 1 chain from W.S.W. pillar of Raja Kashi Parsad's well, bearing of B.M. from the said pillar being 303°.	401·641	401·566
10	BM.17 / 63 B	28·6	Top of N. parapet wall of road culvert marked 70.	406·548	406·472
1/10	BM.18 / 63 B	29·8	Top of edge of middle of platform, N.N.W. face at Ajgain, railway station. (O. & R. railway).	410·004	409·927
11	BM.19 / 63 B	30·0	Top of N.W. parapet wall of road culvert marked 73, in mauza Mallaon.	405·562	405·486
12	BM.20 / 63 B	32·5	Top of N.W. parapet wall of road bridge marked 77, in mauza Bitchpari-Sarain.	403·629	403·554
13	BM.21 / 63 B	34·7	Top of N. parapet wall of road culvert marked 81.	409·215	409·140

Main-Line 65. (Lucknow to Cawnpore).

Designation of Bench-marks		Distance from Lucknow	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
14	BM.22 63 B	37·2	Top of N.N.W. parapet wall of road bridge marked 84.	405·023	405·549
15	BM.23 63 B	38·7	Top of S. parapet wall of road culvert marked 87, in mauza Unao.	405·175	405·101
a/15	BM.24 63 B	39·0	Top of middle of platform of Unao railway station. (O. & R. railway).	410·359	410·284
16	BM.25 63 B	42·8	Top of N.W. parapet wall of road bridge marked 94, in mauza Mangarwar.	399·657	399·585
17	BM.26 63 B	43·7	Top of N.N.W. parapet wall of road bridge marked 96, in mauza Mangarwar.	394·365	394·294
18	BM.27 63 B	49·0	Top of stone tablet inscribed "Cantonment Boundary 1859", Cawnpore.	407·283	407·211
19	BM.28 63 B	49·4	G.T.S. Bench Mark, Cawnpore. Stone B.M. embedded 7 feet S.E. of canal mile-stone No. 137.	406·578	406·507
1/19	BM.29 63 B	50·1	Top of gauge of Ganges canal, near its terminus at Cawnpore. Top of gauge is 5 feet above its zero. (O.I.D. bench-mark).	365·847	365·783

Main-Line 66. (Agra to Cawnpore).

Designation of Bench-marks		Distance from Agra	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1		0·0	Destroyed.	515·317	515·199
2		0·2	Destroyed.	509·973	509·856
3	BM.34 / 54 I	2·0	X mark on top of N. parapet wall of railway culvert, close by 11th mile-stone from Tundla railway station.	518·906	518·787
4	BM.35 / 54 I	6·7	Level of rails opposite mile-stone No. 6 from Tundla railway station.	551·219	551·092
5	BM.36 / 54 I	12·7	Tundla Junction. Level of rails at junction of Agra branch with main line of E. I. railway.	547·705	547·578
6	BM.37 / 54 I	13·0	Level of rails opposite centre of passenger platform at Tundla railway station.	547·411	547·285
7	BM.38 / 54 I	13·1	Coping of passenger platform to N.E. of Tundla railway station, opposite termination of brick walls supporting roof of station house.	551·024	550·897
8	BM.39 / 54 I	13·2	G.T.S. Bench Mark, Tundla Railway Station. Stone B.M. embedded 9 paces S. of signal post at E. end of station, and exactly opposite signal lever.	546·583	546·457
9	BM.40 / 54 I	22·9	Level of rails at level crossing at W. end of Firozabad railway station.	539·220	539·098
10	BM.41 / 54 I	23·1	Coping of platform, to S. side of Firozabad railway station, and 33 yards from E. end of platform.	542·710	542·587
1/10	BM.42 / 54 I	23·5	On lower mark-stone of Firozabad G.T. Survey Tower Station, lat. 27° 8′ 37″·46, long. 78° 23′ 29″·05. A principal station of Budhon Meridional Series. (For full description *see* Synoptical Volume).	556·476	556·350
11	BM.43 / 54 I	23·2	G.T.S. Bench Mark, Firozabad. Stone B.M. embedded 5 feet from corner of water tank, opposite to and 6 feet from centre of bottom step of stairs leading to E. end of platform.	539·425	539·303
12	BM.44 / 54 I	27·1	Top of 30th mile-stone from Agra, on Grand Trunk road.	536·084	535·964
13	BM.45 / 54 I	28·1	Top of 31st mile-stone from Agra, on Grand Trunk road.	534·408	534·288
14	BM.46 / 54 I	29·1	Top of 32nd mile-stone from Agra, on Grand Trunk road.	533·102	532·983
a/14	BM.47 / 54 I	35·7	Shikohabad Railway Station. Level of rails, down line, opposite railway chainage, 50·00.	537·373	537·253
b/14	BM.48 / 54 I	35·7	G.T.S. Bench Mark, Shikohabad. Stone B.M. embedded 2 paces E. of steps leading to E. end of platform, close to water tank, and 2 paces inwards from ash pit.	537·807	537·687

Main-Line 66. (Agra to Cawnpore).

Designation of Bench-marks		Distance from Agra	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
15	BM.49 / 54 I	35·7	Shikohabad Railway Station. Platform coping above level of rails, down line, opposite railway chainage, 50·00.	541·079	540·958
16	BM 50 / 54 I	38·7	Top of 40th mile-stone from Agra, on Grand Trunk road.	527·032	526·914
17	BM 51 / 54 I	40·7	Top of 42nd mile-stone from Agra, on Grand Trunk road.	525·591	525·473
18	BM.52 / 54 I	41·7	Top of 43rd mile-stone from Agra, on Grand Trunk road.	524·240	524·123
19	BM.53 / 54 I	44·6	Top of 46th mile-stone from Agra, on Grand Trunk road.	525·241	525·122
20	BM 54 / 54 I	45·6	Top of 47th mile-stone from Agra, on Grand Trunk road.	534·643	534·522
21	BM.55 / 54 I	46·6	Top of 48th mile-stone from Agra, on Grand Trunk road.	521·245	521·127
22	BM.56 / 54 I	47·6	Top of 49th mile-stone from Agra, on Grand Trunk road.	524·243	524·124
23	BM 57 / 54 I	49·5	Top of 51st mile-stone from Agra, on Grand Trunk road.	521·151	521·032
24	BM.58 / 54 I	50·5	Top of 52nd mile-stone from Agra, on Grand Trunk road.	524·743	524·623
25	BM.59 / 54 I	52·3	Top of centre of N.W. parapet wall of Gihror bridge over Etawah branch, Ganges canal.	533·229	533·106
1 / 25	BM 60 / 54 I	52·4	G.T.S. Bench Mark, Gihror. Stone B.M. embedded at S.E. corner of canal chauki.	526·284	526·163
1a / 25	BM.61 / 54 I	60·0	On lower mark-stone of Baragaon G.T. Survey Tower Station, lat. 27° 15′ 2″·94, long 78° 42′ 15″·27. A principal station of Budhon Meridional Series. (For full description *see* Synoptical Volume).	572·302	572·170
26	BM.62 / 54 I	52·5	Top of 54th mile-stone from Agra, on Grand Trunk road.	524·479	524·358
27	BM.63 / 54 I	53·5	Top of 55th mile-stone from Agra, on Grand Trunk road.	523·809	523·689
28	BM.64 / 54 I	56·4	Top of 58th mile-stone from Agra, on Grand Trunk road.	520·834	520·714
29	BM 65 / 54 I	58·2	Top of centre of W. parapet wall of Dandha bridge over Cawnpore branch, Ganges canal.	530·700	530·577
30	BM.66 / 54 I	58·5	Nanun Junction, plinth of 58th mile-stone, on Cawnpore branch, Ganges canal.	524·542	524·420

Main-Line 66. (Agra to Cawnpore).

Designation of Bench-marks			Distance from Agra	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
31		BM.67 / 54 I	60·5	Nanun Junction, plinth of 60th mile-stone, on Cawnpore branch, Ganges canal.	521·256	521·136
32		BM.68 / 54 I	63·4	Nanun Junction, plinth of 63rd mile-stone, on Cawnpore branch, Ganges canal.	519·532	519·413
33		BM 15 / 54 M	65·0	Top of centre of W. parapet wall of Singhpur bridge over Cawnpore branch, Ganges canal.	522·274	522·154
	1 / 33	BM.16 / 54 M	70·4	G.T.S. Bench Mark, Mainpuri. Stone B.M. embedded opposite entrance to Mainpuri Jail, 2 paces inside of pakka well.	509·974	509·857
	a / 33	BM.17 / 54 M	65·1	G.T.S. Bench Mark, Singhpur. Stone B.M. embedded 4 feet from S.E. corner of Singhpur canal chauki.	516·811	516·693
34		BM.18 / 54 M	66·4	Nanun Junction, plinth of 66th mile-stone.	515·908	515·790
35		BM.19 / 54 M	68·4	Nanun Junction, plinth of 68th mile-stone.	514·686	514·569
36		BM.20 / 54 M	70·3	Nanun Junction, top of 70th mile-stone.	512·342	512·226
37		BM.21 / 54 M	72·3	Nanun Junction, top of 72nd mile-stone.	510·633	510·518
38		BM.22 / 54 M	74·3	Nanun Junction, plinth of 74th mile-stone.	507·058	506·944
39		BM.23 / 54 M	75·2	Nanun Junction, plinth of 75th mile-stone.	504·331	504·218
40		BM.24 / 54 M	77·4	Top of centre of W. parapet wall of Kasruda bridge.	509·423	509·309
41		BM 25 / 54 M	79·2	Nanun Junction, plinth of 79th mile-stone.	500·547	500·435
42		BM.26 / 54 M	80·2	Nanun Junction, plinth of 80th mile-stone.	499·778	499·667
43		BM 27 / 54 M	80·8	Top of centre of W. parapet wall of bridge over canal.	506·365	506·252
44		BM.28 / 54 M	81·2	Nanun Junction, plinth of 81st mile-stone.	500·673	500·561
45		BM.29 / 54 M	83·1	Nanun Junction, plinth of 83rd mile-stone.	497·509	497·399
46		BM.80 / 54 M	84·1	Nanun Junction, plinth of 84th mile-stone.	495·777	495·667
47		BM.31 / 54 M	85·1	Nanun Junction, top of 85th mile-stone.	495·726	495·616

Main-Line 66. (Agra to Cawnpore).

Designation of Bench-marks			Distance from Agra	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
48		BM 32 / 54 M	87·1	Nanun Junction, plinth of 87th mile-stone.	493·698	493·589
49		BM.33 / 54 M	87·3	Top of centre of W. parapet wall of Ramnagar bridge.	499·476	499·366
	a / 49	BM 34 / 54 M	87·3	G.T.S. Bench Mark, Ramnagar. Stone B.M. embedded 2 paces from S.E. corner of canal chauki.	493·259	493·151
	1 / 49	BM 35 / 54 M	92·8	On ground mark-stone of Bisungarh G.T. Survey Tower Station, lat. 27° 6′ 30″·27, long. 79° 24′ 48″·03. A principal station of Rangir Meridional Series. (For full description *see* Synoptical Volume).	517·826	517·712
50		BM.36 / 54 M	90·5	On Cawnpore branch, Ganges canal. Top of centre of W. parapet wall of Fatehpur bridge over canal.	496·038	495·930
51		BM.37 / 54 M	92·0	Nanun Junction, plinth of 92nd mile-stone.	489·019	488·913
52		BM.38 / 54 M	93·0	Nanun Junction, plinth of 93rd mile-stone.	486·829	486·724
53		BM.39 / 54 M	93·2	Top of centre of W. parapet wall of Mirzapur bridge.	492·556	492·450
54		BM.1 / 54 N	97·0	Nanun Junction, plinth of 97th mile-stone.	482·493	482·390
55		BM.2 / 54 N	98·9	Nanun Junction, plinth of 99th mile-stone.	479·256	479·154
56		BM 3 / 54 N	100·9	Nanun Junction, plinth of 101st mile-stone.	478·163	478·062
57		BM.4 / 54 N	102·2	Top of centre of W. parapet wall of Kanserau bridge.	482·222	482·121
58		BM 5 / 54 N	102·9	Nanun Junction, plinth of 103rd mile-stone.	474·006	473·906
59		BM.6 / 54 N	103·9	Nanun Junction, plinth of 104th mile-stone.	471·955	471·856
60		BM.7 / 54 N	106·8	Nanun Junction, plinth of 107th mile-stone.	470·212	470·114
61		BM.8 / 54 N	107·8	Nanun Junction, plinth of 108th mile-stone.	469·137	469·039
	1 / 61	BM.9 / 54 N	111·9	On lower mark-stone of Kalsan G.T. Survey Tower Station, lat. 26° 57′ 10″·27, long. 79° 38′ 40″·30. A principal station of Rangir Meridional Series. (For full description *see* Synoptical Volume).	500·143	500·039
62		BM.10 / 54 N	108·5	Top of centre of W. parapet wall of Bahosi bridge on Cawnpore branch, Ganges canal.	476·139	476·040

Main-Line 66. (Agra to Cawnpore).

Designation of Bench-marks			Distance from Agra	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	1/62	BM.11 / 54 N	108·7	G.T.S. Bench Mark Bahosi. Stone B.M. embedded 2 paces from S. corner of canal chauki.	473·002	472·904
63		BM.12 / 54 N	109·8	Nanun Junction, plinth of 110th mile-stone.	467·448	467·351
64		BM.13 / 54 N	111·7	Nanun Junction, plinth of 112th mile-stone.	465·303	465·206
65		BM.14 / 54 N	113·6	Top of centre of W. parapet wall of Umerdu bridge.	470·869	470·771
66		BM 15 / 54 N	113·7	Nanun Junction, plinth of 114th mile-stone.	463·456	463·360
67		BM 16 / 54 N	115·6	Top of centre of W. parapet wall of Suki bridge.	468·600	468·503
68		BM 17 / 54 N	118·6	Nanun Junction, plinth of 119th mile-stone.	462·932	462·836
69		BM.18 / 54 N	120·6	Nanun Junction, plinth of 121st mile-stone.	457·265	457·170
70		BM.19 / 54 N	121·7	Aimah G.T.S. Bench Mark. Stone B.M. embedded 7 feet from S.E. corner of canal chauki.	456·987	456·892
71		BM.20 / 54 N	121·7	Top of masonry pillar in centre of bridge on W. side.	462·001	461·905
72		BM 21 / 54 N	122·6	Nanun Junction, plinth of 123rd mile-stone.	453·491	453·398
73		BM.22 / 54 N	123·6	Nanun Junction, plinth of 124th mile-stone.	454·069	453·975
74		BM.23 / 54 N	124·6	Nanun Junction, plinth of 125th mile-stone.	451·470	451·378
75		BM.24 / 54 N	125·6	Nanun Junction, plinth of 126th mile-stone.	452·136	452·044
76		BM 25 / 54 N	126·8	Top of W. parapet wall of bridge over canal.	457·496	457·403
77		BM.26 / 54 N	128·6	Nanun Junction, plinth of 129th mile-stone.	450·509	450·418
78		BM.27 / 54 N	129·6	Nanun Junction, plinth of 130th mile-stone.	448·468	448·378
79		BM.28 / 54 N	130·5	Nanun Junction, plinth of 131st mile-stone.	446·645	446·555
80		BM.29 / 54 N	131·5	Nanun Junction, plinth of 132nd mile-stone.	447·660	447·570

On Cawnpore branch, Ganges canal.

Main-Line 66. (Agra to Cawnpore).

Designation of Bench-marks			Distance from Agra	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
81		BM.30 / 54 N	132·5	Nanun Junction, plinth of 133rd mile-stone.	444·995	444·907
82		BM.31 / 54 N	134·5	Nanun Junction, plinth of 135th mile-stone.	444·123	444·036
	1/82	BM.32 / 54 N	134·6	Kakwan G.T S. Bench Mark. Stone B.M. embedded 2 paces from N.E. corner of chauki.	448·683	448·595
83		BM 30 / 63 B	137·4	Nanun Junction, plinth of 138th mile-stone.	440·459	440·374
84		BM 31 / 63 B	138·4	Nanun Junction, plinth of 139th mile-stone.	438·491	438·407
85		BM.32 / 63 B	139·8	Top of centre of W. parapet wall of Kundan bridge.	444·164	444·079
86		BM.33 / 63 B	141·9	Top of centre of W. parapet wall of Tartauli bridge.	442·667	442·583
87		BM 34 / 63 B	142·4	Nanun Junction, plinth of 143rd mile-stone.	435·534	435·451
88		BM.35 / 63 B	144·4	Nanun Junction, plinth of 145th mile-stone.	434·352	434·270
89		BM.36 / 63 B	144·6	Top of centre of W. parapet wall of Bhusana bridge.	439·439	439·356
90		BM.37 / 63 B	145·4	Nanun junction, plinth of 146th mile-stone.	432·400	432·319
91		BM.38 / 63 B	146·3	Nanun junction, plinth of 147th mile-stone.	430·607	430·526
92		BM.39 / 63 B	146·5	Top of centre of W. parapet wall of Jagatpur bridge.	437·529	437·447
	1/92	BM.40 / 63 B	146·5	G.T.S. Bench Mark, Jagatpur. Stone B.M. embedded 5 feet from N.E. corner of canal chauki.	433·704	433·622
93		BM.41 / 63 B	147·3	Nanun Junction, plinth of 148th mile-stone.	429·910	429·830
94		BM.42 / 63 B	148·3	Nanun junction, plinth of 149th mile-stone.	429·909	429·829
95		BM.43 / 63 B	149·3	Nanun junction, plinth of 150th mile-stone.	427·114	427·035
96		BM.44 / 63 B	150·3	Nanun junction, plinth of 151st mile-stone.	428·393	428·314
97		BM.45 / 63 B	152·6	Top of centre of W. parapet wall of Halkapur bridge.	430·997	430·918

On Cawnpore branch, Ganges canal.

Main-Line 66. (Agra to Cawnpore).

Designation of Bench-marks		Distance from Agra	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
98	BM 46 / 63 B	153·3	On Cawnpore branch, Ganges canal. Nanun junction, plinth of 154th mile-stone.	424·278	424·200
99	BM 47 / 63 B	155·2	Nanun junction, plinth of 156th mile-stone.	423·630	423·553
100	BM.48 / 63 B	155·4	Top of centre of W. parapet wall of Kalsauli bridge.	428·175	428·098
101	BM 49 / 63 B	156·2	Nanun junction, plinth of 157th mile-stone.	422·560	422·484
102	BM.50 / 63 B	157·6	Top of centre of W. parapet wall of Barahsirohi bridge.	427·069	426·993
1/102	BM.51 / 63 B	157·8	G.T.S. Bench Mark, Barahsirohi. Stone B.M. embedded 2 paces from N.E. corner of canal chauki.	422·948	422·872
103	BM.52 / 63 B	159·2	Nanun junction, plinth of 160th mile-stone.	420·139	420·064
104	BM.53 / 63 B	161·6	Top of centre of W. parapet wall of Kajauri bridge.	422·529	422·455
105	BM.54 / 63 B	165·7	Top of parapet of railway culvert, about ½ mile W. of Cawnpore railway station, E.I. railway.	415·217	415·144
106	BM.55 / 63 B	166·2	Old Bench Mark. Mark B.□M. on cornice over N. archway of towing path of railway bridge over Ganges canal, and 13 yards from gate post at N.W. corner of bridge, on E.I. railway.	414·793	414·720
107	BM.56 / 63 B	166·9	Nanun junction, plinth of 168th mile-stone, on Cawnpore branch, Ganges canal.	411·747	411·675
108	BM.57 / 63 B	167·9	Nanun junction, plinth of 169th mile-stone, on Cawnpore branch, Ganges canal.	408·496	408·425
109	BM.28 / 63 B	168·0	G.T.S. Bench Mark, Cawnpore. Stone B.M. embedded 7 feet S.E. of canal mile-stone No. 137.	406·578	406·507

Main-Line 67. (Cawnpore to Allahabad).

Designation of Bench-marks			Distance from Cawnpore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.28 / 63 B	0·0	G.T.S. Bench Mark, Cawnpore. Stone B.M. embedded 7 feet S.E. of canal mile-stone No. 137.	406·578	406·507
2		BM 57 / 63 B	0·1	Nanun Junction, plinth of 169th mile-stone, on Cawnpore branch, Ganges canal.	408·496	408·425
	1/2	BM 58 / 63 B	0·1	Top of parapet of bridge over canal, between 127th Grand Trunk road mile-stone from Allahabad, and 169th canal mile-stone from Nanun.	412·580	412·508
3		BM.56 / 63 B	1·1	Nanun Junction, plinth of 168th mile-stone, on Cawnpore branch, Ganges canal.	411·747	411·675
4		BM.55 / 63 B	1·8	Old Bench Mark. Mark B □M. on cornice over N. archway of towing path of railway bridge over Ganges canal, and 13 yards from gate post at N.W. corner of bridge, on E.I. railway.	414·793	414·720
5		BM 59 / 63 B	2·3	Coping of N. passenger platform, exactly opposite centre of Cawnpore railway station.	416·253	416·181
6		BM.60 / 63 B	3·8	Top of mile-stone No. 118 from Allahabad.	412·001	411·929
7		BM.61 / 63 B	4·8	Top of mile-stone No. 117 from Allahabad.	412·116	412·045
8		BM 62 / 63 B	6·5	Top of mile-stone No. 122 from Allahabad and No. 266 from Delhi.	409·176	409·106
9		BM.63 / 63 B	7·5	Top of mile-stone No. 121 from Allahabad, and No. 267 from Delhi.	406·708	406·639
	1/9	BM.64 / 63 B	10·5	On upper mark-stone of Jajmau G.T. Survey Tower Station, lat. 26° 25′ 51″·52, long. 80° 24′ 42″·80. A principal station of Amua Meridional Series. (For full description *see* Synoptical Volume).	460·515	460·437
10		BM.65 / 63 B	8·6	Top of mile-stone No. 120 from Allahabad and No. 268 from Delhi.	407·546	407·477
11		BM.66 / 63 B	10·6	On plinth of mile-stone No. 118 from Allahabad and 270 from Delhi.	396·868	396·801
12		BM.67 / 63 B	11·6	Top of mile-stone No. 117 from Allahabad and No. 271 from Delhi.	401·594	401·527
13		BM.68 / 63 B	12·6	Top of mile-stone No. 116 from Allahabad and No. 272 from Delhi.	404·533	404·466
14		BM.69 / 63 B	13·4	Plinth of 2nd (from E. end) of five old pakka telegraph posts on N. side of Grand Trunk road, opposite Maharajpur *parao*.	401·616	401·549
	a/14	BM.70 / 63 B	13·4	G.T.S. Bench Mark, Maharajpur. Stone B.M. embedded 1 foot below ground, 4 paces N.W. of E. corner boundary pillar of *parao*, on S. side of Grand Trunk road.	399·229	399·163

Main-Line 67. (Cawnpore to Allahabad).

Designation of Bench-marks			Distance from Cawnpore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
15		BM.71 63 B	13·6	Top of mile-stone No. 115 from Allahabad and No. 273 from Delhi.	400·976	400·910
16		BM.72 63 B	14·6	Top of mile-stone No. 114 from Allahabad and No. 274 from Delhi.	403·967	403·901
17		BM.73 63 B	15·6	Top of mile-stone No. 113 from Allahabad and No. 275 from Delhi.	401·830	401·764
18		BM.74 63 B	17·6	Top of N. parapet wall of bridge No. XXXII on Grand Trunk road, close by 111th mile-stone.	400·822	400·757
19		BM.75 63 B	18·6	Top of mile-stone No. 110 from Allahabad and No. 278 from Delhi.	397·528	397·464
	a 19	BM.76 63 B	19·3	Top of N. parapet wall of road culvert No. XXIV, on Grand Trunk road.	398·418	398·354
20		BM 77 63 B	19·6	Top of mile-stone No. 109 from Allahabad and No. 279 from Delhi.	394·818	394·755
21		BM 78 63 B	20·6	Top of mile-stone No. 108 from Allahabad and No. 280 from Delhi.	394·532	394·469
22		BM.79 63 B	22·7	Top of mile-stone No. 106 from Allahabad and No. 282 from Delhi.	388·205	388·144
23		BM.80 63 B	23·7	Top of mile-stone No. 105 from Allahabad and No. 283 from Delhi.	380·794	380·735
24		BM 81 63 B	24·7	Top of mile-stone No. 104 from Allahabad and No. 284 from Delhi.	395·094	395·033
25		BM.82 63 B	26·7	Top of mile-stone No. 102 from Allahabad and No. 286 from Delhi.	394·371	394·311
26		BM.83 63 B	27·0	G.T.S. Bench Mark, Aung. Stone B.M. embedded 6 inches below ground, S.S.W. of S.S.W. corner of 2nd, from S. of four pakka columns in front of *parao*, E. of road and opposite thana.	391·245	391·186
27		BM.84 63 B	27·7	Top of mile-stone No. 101 from Allahabad, No. 287 from Delhi and No. 594 from Calcutta.	393·604	393·544
28		BM 85 63 B	29·7	Top of mile-stone No. 99 from Allahabad and No. 289 from Delhi.	396·713	396·653
29		BM.86 63 B	30·5	Level of rails to N. side opposite centre of Mohar railway station.	393·934	393·875
30		BM.37 63 B	31·6	Top of mile-stone No. 91 from Allahabad along E.I. railway.	391·829	391·770
31		BM.88 63 B	34·7	Top of parapet of culvert, near 88th E.I. railway mile-stone.	394·290	394·232

Main-Line 67. (Cawnpore to Allahabad).

Designation of Bench-marks			Distance from Cawnpore	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
32		BM 89 / 63 B	36·6	Top of mile-stone No. 86 from Allahabad along E.I. railway.	391·068	391·011
33		BM.90 / 63 B	37·7	Top of mile-stone No. 85 from Allahabad along E.I. railway.	389·203	389·147
34		BM.91 / 63 B	38·7	Top of mile-stone No. 84 from Allahabad along E.I. railway.	388·703	388·647
35		BM.92 / 63 B	40·0	Level of rails, in centre of Malwa railway station.	386·267	386·212
	a / 35	BM.93 / 63 B	40·4	G.T.S. Bench Mark, Malwa. Stone B.M. embedded flush with ground, 1 pace in rear of platform, at N.E. end of railway station, opposite ramp leading to platform.	384·484	384·429
36		BM.94 / 63 B	41·4	Top of N. parapet wall of culvert, near 81st E.I. railway mile-stone.	384·262	384·207
37		BM.1 / 63 C	43·7	Top of mile-stone No. 79 from Allahabad along E.I. railway.	381·934	381·880
38		BM.2 / 63 C	50·5	Surface of roadway over drain at S.E. corner of Fatehpur tehsil.	371·416	371·365
39		BM.3 / 63 C	51·7	G.T.S. Bench Mark, Fatehpur. Stone B.M. embedded in *parao*, 3 feet in rear of 78th mile-stone from Allahabad.	364·065	364·015
40		BM.4 / 63 C	53·7	Top of mile-stone No. 76 from Allahabad and No. 312 from Delhi.	365·907	365·858
41		BM 5 / 63 C	55·7	Top of mile-stone No. 74 from Allahabad and No. 314 from Delhi.	371·692	371·642
42		BM.6 / 63 C	56·7	Top of mile-stone No. 73 from Allahabad and No. 315 from Delhi.	370·022	369·972
43		BM.7 / 63 C	58·7	Top of mile-stone No. 71 from Allahabad and No. 317 from Delhi.	368·326	368·277
44		BM.8 / 63 C	59·7	Top of mile-stone No. 70 from Allahabad and No. 318 from Delhi.	364·899	364·850
45		BM.9 / 63 C	60·7	Top of mile-stone No. 69 from Allahabad and No. 319 from Delhi.	366·402	366·354
46		BM.59 / 63 G	64·8	Top of mile-stone No. 65 from Allahabad, No. 323 from Delhi and No. 558 from Calcutta.	358·775	358·728
47		BM.60 / 63 G	65·8	Top of mile-stone No. 64 from Allahabad and No. 324 from Delhi.	356·533	356·487
48		BM.61 / 63 G	66·8	Top of mile-stone No. 63 from Allahabad and No. 325 from Delhi.	356·201	356·155

Main-Line 67. (Cawnpore to Allahabad).

Designation of Bench-marks			Distance from Cawnpore	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	a/48	BM 62 / 63 G	66·8	G.T.S. Bench Mark, Arrahpur. Stone B.M. embedded in direct line between 63rd mile-stone and well in encamping ground, 17 yards from mile-stone, and 10 yards from nearest part of well.	351·039	350·994
49		BM 63 / 63 G	67·8	Top of mile-stone No. 62 from Allahabad and No. 326 from Delhi.	355·015	354·970
50		BM 64 / 63 G	68·8	Top of mile-stone No. 61 from Allahabad and No. 327 from Delhi.	356·116	356·071
51		BM.65 / 63 G	69·8	Top of mile-stone No. 60 from Allahabad, No. 553 from Calcutta and No. 328 from Delhi.	355·967	355·922
52		BM.66 / 63 G	71·9	Top of mile-stone No. 58 from Allahabad and No. 551 from Calcutta.	350·913	350·869
53		BM 67 / 63 G	72·9	Top of mile-stone No. 57 from Allahabad, No. 331 from Delhi and No. 550 from Calcutta.	353·075	353·031
54		BM 68 / 63 G	74·9	Top of mile-stone No. 55 from Allahabad, No. 333 from Delhi and No. 548 from Calcutta.	350·913	350·869
55		BM 69 / 63 G	76·9	Top of mile-stone No. 53 from Allahabad and No. 546 from Calcutta.	350·009	349·966
	a/55	BM.70 / 63 G	76·9	G.T.S. Bench Mark, Katohun. Stone B.M. embedded 5 feet S.E. of 546th mile-stone from Calcutta.	345·490	345·447
	1/55	BM 71 / 63 G	77·6	On upper mark-stone of Majilgaon, G.T. Survey Tower Station, lat 25° 45′ 15″·01, long. 81° 10′ 50″·55. A principal station of Karara Meridional Series. (For full description *see* Synoptical Volume).	394·379	394·330
56		BM.72 / 63 G	77·9	Top of mile-stone No. 52 from Allahabad and No. 545 from Calcutta.	346·482	346·439
57		BM.73 / 63 G	78·9	Top of mile-stone No. 51 from Allahabad and No. 544 from Calcutta.	344·192	344·150
58		BM.74 / 63 G	81·9	Top of mile-stone No. 48 from Allahabad.	346·461	346·419
59		BM.75 / 63 G	83·9	Top of centre of N. parapet wall of bridge No. II, passing over Sarsukarera nadi, close by road chauki, and between 46th and 47th mile-stones from Allahabad.	348·648	348·606
60		BM.76 / 63 G	86·0	Top of mile-stone No. 44 from Allahabad, No. 537 from Calcutta and No. 344 from Delhi.	345·243	345·202
61		BM.77 / 63 G	87·0	Top of mile-stone No. 345 from Delhi.	342·304	342·264
62		BM.78 / 63 G	88·0	Top of mile-stone No. 42 from Allahabad and No. 346 from Delhi.	345·900	345·860

Main-Line 67. (Cawnpore to Allahabad).

Designation of Bench-marks			Distance from Cawnpore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
63		BM 79 / 63 G	88·3	Top of N. parapet wall of bridge, opposite Saini thana.	347·724	347·683
	1/63	BM 80 / 63 G	88·4	G.T.S. Bench Mark, Saini. Stone B.M. embedded 2 paces outside of inner of two old pakka telegraph posts, at S.E. corner of *parao* and nearly opposite thana.	344·213	344·173
	2/63	BM 81 / 63 G	92·3	On lower mark-stone of Karra G.T. Survey Tower Station, lat. 25° 41′ 56″·64, long. 81° 22′ 11″·78. A principal station of Karara Meridional Series. (For full description *see* Synoptical Volume).	381·657	381·612
64		BM 82 / 63 G	89·0	Top of mile-stone No. 41 from Allahabad and No. 347 from Delhi.	345·149	345·109
65		BM.83 / 63 G	90·0	Top of mile-stone No. 40 from Allahabad and No. 348 from Delhi.	343·388	343·348
66		BM 84 / 63 G	91·0	Top of mile-stone No. 39 from Allahabad and No. 349 from Delhi.	344·189	344·149
67		BM.85 / 63 G	93·0	Top of mile-stone No. 37 from Allahabad and No. 351 from Delhi.	338·683	338·644
68		BM.86 / 63 G	95·1	Top of mile-stone No. 35 from Allahabad and No. 353 from Delhi.	341·048	341·009
69		BM.87 / 63 G	96·1	Top of mile-stone No. 34 from Allahabad and No. 354 from Delhi.	341·820	341·781
70		BM.88 / 63 G	98·1	Top of mile-stone No. 32 from Allahabad and No. 356 from Delhi.	331·295	331·258
71		BM.89 / 63 G	99·1	Top of mile-stone No. 31 from Allahabad and No. 357 from Delhi.	335·673	335·635
72		BM.90 / 63 G	100·1	Top of mile-stone No. 30 from Allahabad and No. 358 from Delhi.	334·458	334·421
73		BM.91 / 63 G	101·1	Top of mile-stone No. 29 from Allahabad, No. 359 from Delhi and No. 522 from Calcutta.	333·527	333·490
74		BM.92 / 63 G	101·5	G.T.S. Bench Mark, Kokhraj. Stone B.M. embedded 25 yards N. of N. flight of steps of well near thana, on S. side of *parao* (2nd from Allahabad).	327·190	327·153
75		BM.93 / 63 G	102·1	Top of mile-stone No. 521 from Calcutta, No. 360 from Delhi and No. 28 from Allahabad.	331·691	331·654
76		BM 94 / 63 G	103·1	Top of parapet wall of culvert No. XVIII., over Sekara nala.	313·527	313·492
77		BM.95 / 63 G	104·1	Top of mile-stone No. 26 from Allahabad, No. 362 from Delhi and No. 519 from Calcutta.	328·616	328·580
78		BM.96 / 63 G	106·1	Top of mile-stone No. 24 from Allahabad and No. 517 from Calcutta.	331·773	331·737

Main-Line 67. (Cawnpore to Allahabad).

Designation of Bench-marks			Distance from Cawnpore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
79		BM 97 / 63 G	107·1	Top of mile-stone No. 23 from Allahabad and No. 516 from Calcutta.	327·419	327·384
80		BM.98 / 63 G	109·2	Top of mile-stone No. 21 from Allahabad and No. 514 from Calcutta.	311·653	311·620
81		BM 99 / 63 G	110·2	Top of mile-stone No. 20 from Allahabad and No. 513 from Calcutta.	328·212	328·177
82		BM.100 / 63 G	111·2	Top of mile-stone No. 19 from Allahabad and No. 512 from Calcutta.	329·021	328·986
83		BM.101 / 63 G	113·2	Top of mile-stone No. 17 from Allahabad and No. 510 from Calcutta.	324·688	324·654
	1/83	BM.102 / 63 G	114·4	G.T.S. Bench Mark, Muktipurwar. Stone B.M. embedded on high ground, 73 yards E. of well near thana, in *parao* (1st from Allahabad).	314·739	314·706
84		BM.103 / 63 G	114·8	Platform coping in centre of Manauri railway station.	329·493	329·459
85		BM.104 / 63 G	116·7	Top of mile-stone No. 9 from Allahabad.	322·678	322·645
86		BM.105 / 63 G	117·7	Top of mile-stone No. 8 from Allahabad.	320·902	320·869
87		BM.106 / 63 G	120·9	Top of parapet of culvert, E. of 5th E.I. railway mile-stone.	316·790	316·758
88		BM.107 / 63 G	123·8	Top of mile-stone No. 2 from Allahabad.	315·038	315·006
89		BM.108 / 63 G	124·8	Top of mile-stone No. 1 from Allahabad.	314·898	314·866
90		BM.109 / 63 G	125·7	Coping of platform at centre of Allahabad railway station.	318·450	318·418
	a/90	BM.110 / 63 G	128·2	Jumna railway bridge. Top face of stone on which abutment bed plate of girder is bedded, on right bank of river.	295·325	295·295
	b/90	BM.111 / 63 G	128·6	Surface of masonry surrounding lever at foot of signal post, S. of Jumna bridge station.	315·814	315·782
	c/90	BM.112 / 63 G	130·7	Jubbulpore Railway Bench Mark. Mark cut in mango tree, the largest of a clump, 100 feet W. of centre line Jubbulpore Branch railway, at chainage 37 from junction, 182·48 feet above district datum.	308·039	308·008
	d/90	BM.113 / 63 G	130·7	G.T.S. Bench Mark. Stone B.M. embedded 5 yards from above railway B.M. No. c/90 between latter and railway.	307·659	307·628
	1/90	BM.114 / 63 G	128·0	Top of W. parapet wall of culvert nearest Mau Serai Ghat.	306·232	306·201

Main-Line 67. (Cawnpore to Allahabad).

Designation of Bench-marks		Distance from Cawnpore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1a/90	BM.115/63 G	128·5	Ganges flood level. Reported highest flood level at Mau Serai Ghat.	288·753	288 724
2/90	BM 116/63 G	128·6	Ganges river level. Surface of river at Mau Serai Ghat, on April 3rd, 1865 (said to be 1·9 feet above lowest known level).	255·443	255·417
3/90	BM.117/63 G	130·8	Ganges river level. Surface of Ganges river (left channel) between Mau Serai and Malaka, on 5th April 1865.	257·710	257·684
3a/90	BM.118/63 G	132·9	G.T.S. Bench Mark, Malaka. Stone B.M. embedded 2 paces from N.E. corner of road officers' chauki.	305·099	305·068
4/90	BM.119/63 G	133·1	Top of parapet of Malaka drain on slope, near chauki.	307·028	306·997
91	BM.120/63 G	128·9	Plinth of sentry box, outside sally port at E. main entrance of Allahabad fort.	287·816	287·787
92	BM 57/63 G	129·0	G.T.S. □ B.M. at Allahabad Fort. On plinth of sentry box inside sally port.	297·225	297·195
93	BM.58/63 G	129·0	G.T.S. · B.M. at Allahabad Fort. On cylindrical stone embedded, with upper surface 6 inches above ground level, within outer works, on top of glacis of N.E. gate on city side of fort, leading to main entrance; 34 feet S. of saluting battery, 11 feet N. of scarp of ditch, 13 feet E. of traverse wall, 118 feet S.S.W. of sentry box near sally port, and 125 feet N.W. of centre of draw bridge leading to Battery No. 4.	297·572	297·542

Main-Line 68. (Lucknow to Gorakhpur).

	Designation of Bench-marks		Distance from Lucknow	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		B.M.8 / 63 B	0·0	G.T.S. Block-stone Bench Mark, Lucknow. Embedded about 1 inch below ground level, 36 feet from both E and W. corners of Kalubir's Than platform, and 5 chains N.W. of offices of Commanding Royal Engineer and Garrison Engineer. It is on S. side of railway lines, near telegraph post No. $\frac{195}{6}$.	383·064	382·986
2		BM.7 / 63 B	1·1	G.T.S. B.M. On top of paved sill on S. side of W. entrance to Christ's Church, Lucknow, in Civil lines, Hazratganj.	362·851	362·777
3			1·3	Destroyed.	361·747	361·673
4			2·3	Destroyed.	376·338	376·261
5		BM 95 / 63 B	4·9	Top of S. parapet wall of Kukrail nadi road bridge.	364·980	364·905
6		BM.1 / 63 F	6·9	Top of N. parapet of road bridge marked 12, in mauza Gajipur.	381·024	380·946
7		BM.2 / 63 F	9·4	Top of N. parapet of road bridge marked 18, in mauza Matiari.	382·576	382·497
8		BM.3 / 63 F	10·7	Top of S.E. parapet of road bridge marked 20, in mauza Uttar Dahona.	384·482	384·402
9		BM 4 / 63 F	12·1	Top of mile-stone 10 } Lucknow. 68 } Fyzabad.	388·351	388·270
10		BM.5 / 63 F	13·7	Top of N.N.W. parapet of road culvert marked 23.	390·371	390·289
11		BM.6 / 63 F	14·1	Top of mile-stone 12 } Lucknow. 66 } Fyzabad.	389·560	389·478
12		BM.7 / 63 F	14·6	Top of 2nd step on N.N.W. side of Gangadin Bania's well, S. of road at Safedabad-ka-chauki.	390·615	390·533
13		BM.8 / 63 F	15·8	Top of S.S.W. parapet of road bridge marked 25.	384·189	384·109
14		BM.9 / 63 F	18·2	Top of N.N.W. parapet of road bridge marked 29, in mauza Bara Banki-Nawabganj.	385·737	385·656
15		BM 10 / 63 F	19·1	Top of mile-stone 17 } Lucknow. 61 } Fyzabad.	376·795	376·716
16		BM.11 / 63 F	19·1	G.T.S. B.M. at Bara Banki-Nawabganj. Embedded 2 chains from reservoir of pakka well of encamping ground, 1 chain from S.E. corner of police chauki and 2 chains from S.E. corner of pound enclosure.	377·323	377·244
17		BM.12 / 63 F	19·7	Top of S. parapet wall of road bridge marked 32, in mauza Pesar.	386·250	386·169

Main-Line 68. (Lucknow to Gorakhpur).

Designation of Bench-marks			Distance from Lucknow	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	1/17	BM.13 63 F	20·9	Top of E. parapet of road culvert, in mauza Fatehabad.	380·431	380·351
	1a/17	BM 14 63 F	23·7	Top of W. parapet of road culvert, in mauza Satrik.	366·768	366·691
	2/17	BM.15 63 F	27·9	On ground level mark-stone of Pesar G T. Survey Tower Station, lat. 26° 48′ 47″ 87, long. 81° 12′ 19″ 98. A principal station of Karara Meridional Series. (For full description *see* Synoptical Volume).	381·745	381·665
18		BM 16 63 F	20·5	Top of S. parapet of road bridge marked 35.	387·700	387·619
19		BM.17 63 F	21·0	Top of mile-stone 19 } Lucknow. 59 } Fyzabad.	385·302	385·221
	1/19	BM.18 63 F	23·1	Top of W. parapet of culvert on road Bara Banki-Nawabganj to Dewa.	382·205	382·125
	2/19	BM.19 63 F	26·6	On ground level mark-stone of Utiamau G.T. Survey Tower Station, lat. 26° 59′ 57″·08, long. 81° 12′ 17″·24. A principal station of Karara Meridional Series. (For full description *see* Synoptical Volume).	403·547	403·462
20		BM.20 63 F	21·4	Top of 2nd step on S.W. side of Chiraia Bagh well on N. edge of road.	388·215	388·134
21		BM.21 63 F	22·6	Top of S. parapet of road culvert marked 37, in mauza Sarsanda.	388·960	388·878
22		BM.22 63 F	23·0	Top of mile-stone 21 } Lucknow. 57 } Fyzabad.	387·595	387·514
23		BM 23 63 F	23·8	Top of S. parapet wall of road culvert marked 40, in mauza Rasauli.	390·640	390·558
24		BM.24 63 F	25·0	Top of mile-stone 23 } Lucknow. 55 } Fyzabad.	383·970	383·890
25		BM.25 63 F	25·5	Top of N. parapet wall of road bridge marked 45, in mauza Jalalpur.	388·160	388·079
26		BM 26 63 F	27·0	Top of mile-stone 25 } Lucknow. 53 } Fyzabad.	382·197	382·117
27		BM.27 63 F	28·2	Top of S. parapet of road bridge marked 50, in mauza Chandwara.	381·757	381·678
28		BM.28 63 F	29·0	Top of mile-stone 27 } Lucknow. 51 } Fyzabad.	372·624	372·546
29		BM.29 63 F	29·3	Top of N. parapet wall of road bridge marked 53, in mauza Piaripur-Saraina.	374·532	374·454

Main-Line 68. (Lucknow to Gorakhpur).

Designation of Bench-marks			Distance from Lucknow	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
30		BM.30 / 63 F	30·2	Top of N. parapet of road bridge marked 58, in mauza Sahpur-Palhri.	378·750	378·672
	1/30	BM.31 / 63 F	32·5	On ground level mark-stone of Turkani G. T. Survey Tower Station, lat. 26° 54′ 48″·85, long. 81° 22′ 53″·71. A principal station of Karara Meridional Series. (For full description *see* Synoptical Volume).	389·102	389·021
31		BM.32 / 63 F	30·9	Top of mile-stone 29 } Lucknow. 49 } Fyzabad.	374·014	373·937
32		BM 33 / 63 F	32·1	Top of N. parapet wall of road bridge marked 61, in mauza Baghaura.	379·060	378·982
33		BM.34 / 63 F	32·9	Top of mile-stone 31 } Lucknow. 47 } Fyzabad.	372·725	372·648
34		BM.35 / 63 F	34·2	On N. side curb of Ajodhya Pathak's well, S. of road, in mauza Parswala.	372·082	372·006
35		BM.36 / 63 F	34·9	Top of mile-stone 33 } Lucknow. 45 } Fyzabad.	367·214	367·139
36		BM.37 / 63 F	36·9	Top of mile-stone 35 } Lucknow. 43 } Fyzabad.	368·573	368·498
	a/36	BM 38 / 63 F	37·3	Top of trijunction platform of Rajpur-Kotwa-Hataunda villages.	364·612	364·538
37		BM.39 / 63 F	37·9	Top of mile-stone 36 } Lucknow. 42 } Fyzabad.	367·273	367·198
38		BM 40 / 63 F	39·9	Top of mile-stone 38 } Lucknow. 40 } Fyzabad.	364·291	364·217
39		BM.41 / 63 F	41·8	Top of mile-stone 40 } Lucknow. 38 } Fyzabad.	356·777	356·705
40		BM.42 / 63 F	43·2	Top of S. parapet wall of road bridge marked 77, in mauza Malinpur.	360·862	360·789
41		BM 43 / 63 F	43·5	G T.S. / B.M. Embedded 2 chains from S.E. end and 1 chain from S.W. end of *bardashtkhana* at Malinpur or Sanchighat encamping ground, and 1 chain from well opposite S. edge of road.	356·233	356·162
42		BM.44 / 63 F	43·8	Top of mile-stone 42 } Lucknow. 36 } Fyzabad.	351·860	351·790
43		BM.45 / 63 F	44·4	Top of S.W. parapet wall of Kaliani nadi bridge marked 80.	352·406	352·336

Main-Line 68. (Lucknow to Gorakhpur).

Designation of Bench-marks			Distance from Lucknow	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
44		BM.46 / 63 F	45·8	Top of mile-stone 44 } Lucknow. 34 } Fyzabad.	358·524	358·452
45		BM.47 / 63 F	47·8	Top of mile-stone 46 } Lucknow. 32 } Fyzabad.	355·558	355·487
	a / 45	BM.48 / 63 F	48·6	Top of trijunction platform of Jabardastpur-Babupur-Basanhori villages.	357·717	357·645
46		BM 49 / 63 F	49·8	Top of mile-stone 48 } Lucknow. 30 } Fyzabad.	356·706	356·635
47		BM 50 / 63 F	51·7	Top of mile-stone 50 } Lucknow. 28 } Fyzabad.	350·766	350·696
48		BM.51 / 63 F	53·7	Top of mile-stone 52 } Lucknow. 26 } Fyzabad.	349·870	349·800
49		BM.52 / 63 F	55·7	Top of mile-stone 54 } Lucknow. 24 } Fyzabad.	351·183	351·113
50		BM 53 / 63 F	56·4	Top of S. parapet of road bridge marked 99, in mauza Bhelsar.	350·845	350·775
51		BM 54 / 63 F	57·8	Top of mile-stone 56 } Lucknow. 22 } Fyzabad.	343·151	343·082
52		BM 55 / 63 F	58·8	On "Bar, dot and arrow" engraved on plinth of mile-stone 57 } Lucknow. 21 } Fyzabad. (Revenue Survey bench-mark).	341·553	341·485
53		BM 56 / 63 F	59·4	Top of S. parapet wall of Bara Barai bridge, about 150 yards from road bungalow marked 102, and dividing districts of Fyzabad and Bara Banki-Nawabganj.	339·360	339·293
54		BM 57 / 63 F	59·8	On "Bar, dot and arrow" engraved on plinth of mile-stone 58 } Lucknow. 20 } Fyzabad. (Revenue Survey bench-mark).	341·774	341·706
55		BM.58 / 53 F	61·8	Top of mile-stone 60 } Lucknow. 18 } Fyzabad.	339·716	339·648
56		BM.59 / 63 F	62·8	On "Bar, dot and arrow" engraved on plinth of mile-stone 61 } Lucknow. 17 } Fyzabad. (Revenue Survey bench-mark).	337·604	337·537
57		BM.60 / 63 F	65·7	Top of mile-stone 64 } Lucknow. 14 } Fyzabad.	333·017	332·951
58		BM 61 / 63 F	66·7	On "Bar, dot and arrow" engraved on plinth of mile-stone 65 } Lucknow. 13 } Fyzabad. (Revenue Survey bench-mark).	336·606	336·539

Main-Line 68. (Lucknow to Gorakhpur).

Designation of Bench-marks		Distance from Lucknow	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
59	BM.62 / 63 F	68·7	On "Bar, dot and arrow" engraved on plinth of mile-stone 67 Lucknow. 11 Fyzabad. (Revenue Survey bench-mark).	335·136	335·070
a / 59	BM.1 / 63 J	69·5	On "arrow and B M" engraved on top of triangular-cut stone embedded alongside of triple junction platform of Sekpur-Lakhori-Naurahi villages. (Revenue Survey bench-mark).	337·282	337·215
b / 59	BM 2 / 63 J	69·4	On "arrow and B.M." cut on tiled flooring, near S.E. doorway, in S. verandah of road bungalow at Naurahi. (Revenue Survey bench-mark).	338·675	338·608
60	BM 3 / 63 J	69·7	On "Bar and arrow" engraved on plinth of mile-stone 68 Lucknow. 10 Fyzabad. (Revenue Survey bench-mark).	337·836	337·769
61	BM.4 / 63 J	70·7	On "Bar and arrow" engraved on plinth of mile-stone 69 Lucknow. 9 Fyzabad. (Revenue Survey bench-mark).	335·741	335·674
62	BM.5 / 63 J	72·6	On "Bar and arrow" engraved on plinth of mile-stone 71 Lucknow. 7 Fyzabad. (Revenue Survey bench-mark).	331·252	331·186
a / 62	BM.6 / 63 J	73·6	Top of trijunction platform of Pirojpur *alias* Mahandapur-Chirre-Salarpur villages.	332·193	332·127
63	BM.7 / 63 J	73·6	On "Bar and arrow" engraved on plinth of mile-stone 72 Lucknow. 6 Fyzabad. (Revenue Survey bench-mark).	331·700	331·634
64	BM.8 / 63 J	74·6	On "Bar and arrow" engraved on plinth of mile-stone 73 Lucknow. 5 Fyzabad. (Revenue Survey bench-mark).	331·080	331·014
a / 64	BM.9 / 63 J	76·7	Top of S. parapet of road bridge marked 122, in mauza Mumtaznagar.	331·864	331·798
65	BM.10 / 63 J	77·6	On "Bar and arrow" engraved on plinth of mile-stone 76 Lucknow. 2 Fyzabad. (Revenue Survey bench-mark).	320·357	320·294
66	BM.11 / 63 J	79·1	G.T.S. / B.M. On top of 4th or upper flagged step under sign-board inscribed "Treasury", at central N. entrance to Fyzabad kachahri.	330·350	330·284
67	BM.12 / 63 J	79·8	O On top of 2nd or upper plinth of Cantonment Boundary pillar at S.S.W. corner of Post Office, Fyzabad.	330·129	330·063
1 / 67	BM.13 / 63 J	80·0	O On stone prism inscribed 330 53, on W. side of road between Cantonment Church and Post Office. It is a few feet N. of a culvert at junction of Post Office road and a road by N. side of Wesleyan Church, Fyzabad.	329·331	329·266

Main-Line 68. (Lucknow to Gorakhpur).

Designation of Bench-marks			Distance from Lucknow	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	2/67	BM.14 / 63 J	80·5	○ On stone prism inscribed 327·05, on E. side of road between Cantonment Church and Post Office, Fyzabad, and about 30 chains from B.M. No. 1/67.	325·803	325·738
	3/67	BM 15 / 63 J	80·8	⊕ On top of 2nd step, near W. edge of doorway, under S. porch of St. Andrew's Church, Cantonment, Fyzabad.	328·182	328·117
	a/67	BM.16 / 63 J	81·6	Fyzabad Revenue Survey Bench Mark. Embedded alongside trijunction platform of lands of village Niawan, the Nawab's estate and city lands; arrow and B.M. engraved on triangular cutstone.	327·806	327·741
68		BM.17 / 63 J	79·9	G.T.S. Block-stone Bench Mark, Fyzabad. Embedded in Post Office compound, 1 chain from S.E corner of cook-room wall attached to building, and 4 chains from S.E. angle of S. parapet wall of southern of two culverts facing W. side of Post Office.	328·139	328·074
	a/68	BM.18 / 63 J	80·3	G.T.S. Standard Bench Mark 1904 at Fyzabad. Situated in compound of and E. of P.W.D. Office, 78 and 79 feet respectively from N. and S. corners of same, 52 feet from centre of central arch, 2 chains from centre of N. gate, and enclosed in a railed-off space 11 feet square.	329·882	329·816
69			80·8	Destroyed.	334·817	334·750
	1/69	BM.19 / 63 J	81·5	On "arrow and B.M." engraved on top of outer rim of curb of Fyzabad city well, on E. edge of road to Allahabad.	329·190	329·124
	2/69	BM.20 / 63 J	82·7	Top of W. parapet wall of bridge marked 1, on road to Allahabad.	333·071	333·004
	3/69	BM 21 / 63 J	85·8	Top of W. parapet wall of road culvert marked 5, in mauza Masurwa.	330·171	330·105
	3a/69	BM.22 / 63 J	89·1	Top of trijunction platform of Naipura-Narainpur Kalian-Bhadarsa villages.	317·876	317·812
	4/69	BM.23 / 63 J	91·4	Top of W. parapet wall of bridge, 61 chains S. of mile-stone Fyzabad 10.	325·407	325·342
	5/69	BM.24 / 63 J	92·2	On ground level mark-stone of Rahet G. T. Survey Tower Station, lat. 26° 37′ 1″·92, long. 82° 8′ 26″·68. A principal station of Gurwani Meridional Series. (For full description *see* Synoptical Volume).	342·618	342·549
70		BM.25 / 63 J	83·1	Top of 1st step on S. side of well close to temple on road Fyzabad to Ajodhya, in mauza Ranu Pali.	324·942	324·877

Main-Line 68. (Lucknow to Gorakhpur).

Designation of Bench-marks		Distance from Lucknow	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1/70	BM 26 / 63 J	84·1	On upper mark-stone of Orejhar G. T. Survey Station, lat. 26° 46′ 55″·54, long. 82° 12′ 7″·60. A principal station of Gurwani Meridional Series. (For full description *see* Synoptical Volume).	390·994	390·916
71	BM.27 / 63 J	85·1	Ajodhya, Government School. Top of 4th or upper step, below floor of W. verandah, under central doorway.	327·577	327·511
72	BM 28 / 63 J	85·3	Top of S.E. corner of platform or basement of temple of Raja Bod Singh, Ajodhya, near Sarju or Ghagra river.	308·064	308·002
73	BM.29 / 63 J	87·6	Top of N.E. side of curb of Jagat Pal's well on left bank of Sarju river, in mauza Sitarampur.	304·443	304·382
74	BM.30 / 63 J	90·0	Top of 4th step on S.S.E. side of Ganesh Shah's well, Belwa Bazar.	305·417	305·356
75	BM.31 / 63 J	90·9	Top of trijunction platform of Bagha Nara-Phuldi-Bhartapur villages.	302·422	302·361
76	BM.32 / 63 J	93·7	Top of trijunction platform of Sankarpur-Ekwari-Ibrahimpur villages.	299·964	299·904
a/76	BM.33 / 63 J	97·6	Top of S.S.E. corner of upper plinth of S.W. boundary pillar of Amora, old Cantonment.	293·814	293·755
77	BM 34 / 63 J	98·0	Top of S. parapet wall of Ramrekha or Manwar nadi bridge.	301·432	301·372
1/77	BM.35 / 63 J	103·9	On ground level marks-stone of Kumeria G.T. Survey Tower Station, lat. 26° 51′ 41″·75, long. 82° 22′ 27″·38. A principal station of Gurwani Meridional Series. (For full description *see* Synoptical Volume).	303·917	303·857
a/77	BM.36 / 63 J	99·6	Top of trijunction platform of Sonbarsa-Lokaipur-Baburahwa villages.	292·370	292·312
78	BM.37 / 63 J	100·7	G.T.S. / B.M. at Barhar Khurd. Embedded 27 feet S. of S. edge of new road Fyzabad to Bustee and Gorakhpur, on W. side of a low mound.	293·404	293·345
79	BM.38 / 63 J	102·8	Top of N.N.W. parapet wall of Munwar or Manorama nadi bridge.	299·905	299·845
80	BM.39 / 63 J	103·5	Top of trijunction platform of Thana-Haraia-Rajghat villages, N. of road.	291·045	290·987
a/80	BM.40 / 63 J	104·8	Top of trijunction platform of Tendua-Judharpur-Bhadawal villages.	300·410	300·350
81	BM 41 / 63 J	105·3	G.T.S. / B.M. Embedded 1 chain S. of middle of road and 8 feet to N. of pillar, in mauza Amba.	295·737	295·678

Main-Line 68. (Lucknow to Gorakhpur).

Designation of Bench-marks		Distance from Lucknow	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
82	BM.42 / 63 J	107·3	Top of trijunction platform of Ganja-Mochipur-Rajaoli villages.	293·618	293·559
83	BM 43 / 63 J	107·7	Top of trijunction platform of Rajauli-Bijra-Behira villages.	291·931	291·873
84	BM.44 / 63 J	108·7	Top of N. parapet wall of road bridge across Machohi nadi, in mauza Narainpur-Bihra.	294·033	293·974
85	BM 45 / 63 J	109·4	Top of trijunction platform of Tiliadhi-Tilakpur-Ghatmapur villages, S. of both old and new roads.	294·393	294·335
86	BM.46 / 63 J	110·5	Top of trijunction platform of Naktidei-Jasaipur-Pakaura villages.	288·411	288·354
87	BM.47 / 63 J	112·2	Top of E. cap of S. parapet wall of road bridge over Khajua nala, in mauza Khajua.	291·500	291·442
88	BM.48 / 63 J	114·2	G.T.S. / B.M. at Jagesar. Embedded on N. edge of road Fyzabad to Basti and Gorakhpur, 1 chain and 33° N.W. from S.E. boundary pillar of encamping ground.	291·205	291·147
89	BM.49 / 63 J	115·7	Top of N. parapet of road bridge, in mauza Purena.	289·870	289·812
90	BM 50 / 63 J	119·1	Top of middle of N.W. parapet wall of Kuano nadi bridge.	284·473	284·416
91	BM.51 / 63 J	119·6	G.T.S. / B.M. On middle of verandah floor, N.E. end of Judge's kachahri, Basti Civil station.	289·447	289·389
92	BM.52 / 63 J	119·8	G.T.S. / B.M. On top of E. side curb of Basti Civil station pakka well, 2 chains S. of Collector's kachahri.	290·535	290·477
93	BM.53 / 63 J	119·8	G.T.S. / B.M. On top of 3rd or upper step below level of verandah floor, under central pillar of Basti Civil station, Collector and Magistrate's kachahri.	289·970	289·912
94	BM.54 / 63 J	120·9	Top of N. side of curb of Ram Lalla's well, S. of road, in mauza Pikaura.	290·337	290·279
95	BM 55 / 63 J	127·5	Top of E. end cap of S. parapet wall of easternmost bridge, in mauza Orwara.	284·962	284·905
96	BM.56 / 63 J	131·0	Top of W. side of curb of Sitaram Missar's well on S. edge of road, in mauza Jadispur.	278·430	278·375
97	BM.57 / 63 J	132·2	Top of E. end of S. parapet wall of bridge, in mauza Kithuri.	278·442	278·386
98	BM.58 / 63 J	133·7	Top of N.W. parapet wall of road bridge known as Budha Ban across Katnaia nadi, in mauza Umri-Budha.	279·674	279·618

Main-Line 68. (Lucknow to Gorakhpur).

Designation of Bench-marks		Distance from Lucknow	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
a/98	BM 1/63 N	138·7	Top of trijunction platform of Mirganj-Dalelganj-Khakrai villages.	272·003	271·949
99	BM 2/63 N	141·6	Top of trijunction platform of Banjaria-Maraia-Bidhiani villages, about 30 feet N. of road.	264·868	264·815
100	BM.3/63 N	142·5	Top of curb near S. pillar of Khalilabad encamping ground well, about 65 feet N. of road.	265·379	265·326
101	BM.4/63 N	143·4	Top of E. end of N. parapet of road culvert, in mauza Digha.	263·672	263·619
102	BM.5/63 N	147·0	Top of middle of E. parapet of bridge across Ambi nadi, on boundary between districts of Basti and Gorakhpur, in mauza Kazipur.	253·401	253·351
103	BM.6/63 N	151·5	Top of S. parapet of road bridge, the smaller of two, 2 chains apart, in mauza Saibajganj.	252·600	252·550
104	BM 7/63 N	154·5	Top of E. end cap of N.E. wing wall of road bridge, in mauza Kalesar.	256·231	256·181
105	BM.8/63 N	156·0	Top of N.E. side curb of Gaurjet Shah's well, on S. edge of road and close to village, in mauza Bargahan.	248·126	248·078
1/105	BM.9/63 N	156·7	On ground level mark-stone of Saraia G.T. Survey Tower Station, lat. 26° 44′ 10″·32, long. 83° 16′ 34″·08. A principal station of Gora Meridional Series. (For full description *see* Synoptical Volume).	255·493	255·443
106	BM.10/63 N	160·9	Top of N. end of lowest step of E. flight of Ramnath's temple on left bank of Rapti river, near suburbs of Gorakhpur.	246·749	246·701
107	BM.11/63 N	162·4	G.T.S./B.M. On 2nd step of paved flight below N. side pillar of W. doorway of body of Gorakhpur Church, under belfry portico. The inscription G.T.S. ○ B.M. has now been engraved.	253·429	253·379

Main-Line 69. (Gorakhpur to Dildarnagar).

Designation of Bench-marks			Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.11 / 63 N	0·0	G.T.S. / B.M. On 2nd step of paved flight below N. side pillar of W. doorway of body of Gorakhpur Church, under belfry portico. The inscription G.T.S. C B.M. has now been engraved.	253·429	253·379
2		BM.12 / 63 N	3·3	Top of W. parapet of road bridge, in mauza Khirwania, nearest to Rapti river, on N. side.	249·511	249·463
3		BM.13 / 63 N	4·6	G.T.S. / B.M. On top of pillar at N.W. end of road bridge in mauza Kallani; the northern of two bridges, about 3 chains apart.	247·180	247·132
4		BM.14 / 63 N	7·3	G.T.S. / B.M. On top of W.S.W. parapet of road bridge, in mauza Mahabir Chapra.	247·918	247·871
5		BM 15 / 63 N	10·8	Top of E.N.E. parapet of road culvert, in mauza Siar.	248·114	248·068
6		BM.16 / 63 N	14·5	G.T.S. / B.M. On top of N.E. end cap of road bridge called Bijra-ka-pul, across Ambi nadi-ka-jhil.	253·565	253·519
7		BM.17 / 63 N	15·8	G.T.S. / B.M. On top of N.E. end cap of road bridge called Kauriram-ka-pul, across Ambi nadi.	252·348	252·302
8		BM 18 / 63 N	16·5	Top of curb on W. side of Pande Balram's well, in mauza Kauriram.	248·685	248·640
	a/8	BM.19 / 63 N	24·5	On ground level mark-stone of Katwar G.T. Survey Tower Station, lat. 26° 33′ 51″·34, long. 83° 18′ 0″·41. A principal station of Gora Meridional Series. (For full description *see* Synoptical Volume).	269·893	269·844
	1/8	BM.20 / 63 N	19·8	G.T.S. / B.M. On 4th step of E. flight of Raja Kisor Chand's well on W. of road, in mauza Pakri.	248·248	248·203
	2/8	BM.21 / 63 N	21·8	On ground level mark-stone of Rajgarh G.T. Survey Tower Station, lat. 26° 25′ 14″·66, long. 83° 23′ 5″·58. A principal station of Gora Meridional Series. (For full description *see* Synoptical Volume).	256·051	256·005
9		BM 22 / 63 N	19·8	G.T.S. / B.M. On E. end of 6th step of Seodin Bania's well on W. side of road, 2 chains W. from Bidauli village.	249·162	249·118
10		BM.23 / 63 N	22·3	On E. parapet wall of mauzas Gagha-Bhalwan, road bridge over Silani nala.	239·559	239·517
11		BM.24 / 63 N	25·2	Top of E. parapet wall of mauza Dharsi, road bridge (northern of two).	240·756	240·714
12		BM.25 / 63 N	27·1	Top of E.N.E. parapet of mauza Kahla, road culvert.	237·350	237·309
13		BM.26 / 63 N	30·7	Top of S.E. end cap of mauzas Bankat-Nawada, road bridge across Tarena nadi.	235·508	235·469

Main-Line 69. (Gorakhpur to Dildarnagar).

Designation of Bench-marks		Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
14	BM 27 / 63 N	31·8	Top of 5th step of Kalwar Mangru's well in mauza Saunkhor, on W. edge of road.	239·024	238·984
15	BM.28 / 63 N	35·1	Top of 3rd step above ground of flight leading to river of Gurdial's temple on left bank of Sarju or Ghagra river in mauza Barhalganj.	229·774	229·737
16	BM.29 / 63 N	36·3	G.T.S. / B.M. On stone platform to N. of W. flight of steps of Nares Kandu Bania's well at Dhaori village Police Station, at junction of roads from Azamgarh and Ghazipur to Gorakhpur.	238·032	237·994
a / 16	BM.30 / 63 N	39·5	Top of uppermost step at W.S.W. end of N.N.W. parapet of mauza Cheontidar, Nai bazar, road bridge across Nand-ka-Tal.	233·717	233·679
17	BM.31 / 63 N	43·1	Top of E.N.E. end of N.N.W. parapet of mauza Kaukbhar-Jiapatti, road bridge.	238·184	238·146
1 / 17	BM.32 / 63 N	45·6	On ground level mark-stone of Baniapar G.T. Survey Tower Station, lat. 26° 15′ 7″·72, long. 83° 23′ 2″·28. A principal station of Gora Meridional Series. (For full description *see* Synoptical Volume).	242·792	242·753
18	BM.33 / 63 N	44·2	Top of E.N.E. end of N.N.W. parapet of mauza Kesopur, road bridge.	237·670	237·632
a / 18	BM.34 / 63 N	45·5	Top of W.N.W. end cap of mauzas Mahadewa-Missarpur, road bridge across *choti* Sarju nadi.	250·588	250·548
19	BM.35 / 63 N	47·7	Top of mile-stone Jaunpur 55.	239·248	239·211
a / 19	BM 36 / 63 N	49·0	G.T.S. / B.M. On top of S. side of *tulsi* pillar basement of Naik Gajraj's large pakka octagonal well, in mauza Punapar.	242·198	242·160
20	BM 37 / 63 N	49·7	Top of mile-stone Jaunpur 53, on E. side of road.	243·745	243·707
1 / 20	BM 38 / 63 N	50·6	Top of W. end of S. parapet of Jaunpur, Khanka-Bhairampur bazar culvert, on road branching on W. side from this bazar to tahsildari.	243·513	243·475
2 / 20	BM.39 / 63 N	57·8	On ground level mark-stone of Balariaganj G.T. Survey Tower Station, lat. 26° 12′ 0″·37, long. 83° 13′ 55″·95. A principal station of Gora Meridional Series. (For full description *see* Synoptical Volume).	258·232	258·192
21	BM 40 / 63 N	50·7	Top of mile-stone Jaunpur 52, on E.S.E. edge of road.	245·269	245·231
22	BM.41 / 63 N	51·7	Top of mile-stone Jaunpur 51, on S.S.E. side of road on slope.	244·904	244·867

Main-Line 69. (Gorakhpur to Dildarnagar).

Designation of Bench-marks			Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
23		BM.42 / 63 N	52·7	Top of mile-stone Jaunpur 50, on S. side of road.	244·934	244·897
24		BM 43 / 63 N	55·1	G.T.S. / B.M. On top of S. parapet of mauza Baghaidaur, road bridge.	241·825	241·788
25		BM 44 / 63 N	55·5	G.T.S. / B.M. On top of S.E. parapet immediately above tablet of mauza Baghaidaur, road bridge across Kaiar nala.	245·575	245·538
26		BM.45 / 63 N	56·7	Top of mile-stone Jaunpur 46, on S.E. edge of road.	246·627	246·590
27		BM 46 / 63 N	58·6	G.T.S / B.M. On top of S.E. parapet immediately above space for tablet of mauzas Ukraura-Bijarwa road bridge across Suksui nadi.	247·378	247·341
28		BM 47 / 63 N	60·7	Top of mile-stone Jaunpur 42.	252·320	252·282
29		BM.48 / 63 N	61·6	Top of platform of *tulsi* pillar (near N.N.W. corner) attached to Halwai Bechu's well, near branching of roads to Ghazipur and Azamgarh city and kachahri.	247·747	247·710
30			61·7	Destroyed.	244·983	244·947
31		BM.49 / 63 N	63·1	Top of W. parapet of Azamgarh road culvert, E. of public garden.	245·332	245·296
32		BM.50 / 63 N	63·4	Top of 2nd step of S.E. flight of Rajairam's well on W. edge of road in mauza Ailwar, Azamgarh.	244·934	244·898
	1/32	BM 51 / 63 N	63·8	Top of slab, 5 inches S. of southern edge of gnomon of sundial in compound to W. of Collector's kachahri, Azamgarh.	254·079	254·042
	2/32	BM.52 / 63 N	64·2	Top of slab, 6 inches S. of southern edge of gnomon of sundial between station church and Judge's kachahri, Azamgarh.	255·096	255·059
	3/32	BM 53 / 63 N	64·2	Top of sill near its S.S.W. end of Azamgarh station church, W.N.W. entrance.	252·326	252·289
33		BM.54 / 63 N	63·8	G.T.S. / B.M. On S.S.W. end of N.N.E. wing wall of Azamgarh bridge across Tons river.	245·039	245·003
34		BM.55 / 63 N	66·4	Top of mile-stone Ghazipur 39, on S.W. edge of road.	255·312	255·276
35		BM.56 / 63 N	67·6	Top of S.S.W. parapet of mauza Chanrensar, road bridge.	253·788	253·752
	1/35	BM.57 / 63 N	69·0	On ground level mark-stone of Samenda G.T. Survey Tower Station, lat. 26° 0′ 23″·97, long. 83° 13′ 30″·67. A principal station of Gora Meridional Series. (For full description *see* Synoptical Volume).	259·022	258·985

Main-Line 69. (Gorakhpur to Dildarnagar).

Designation of Bench-marks			Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
36		BM.58 / 63 N	68·3	Top of mile-stone Ghazipur 37, on S. edge of road.	251·647	251·611
37		BM.1 / 63 O	70·5	Top of S.W. parapet of mauza Gudhaura road bridge, the easternmost one.	251·075	251·039
38		BM.2 / 63 O	73·3	Top of mile-stone Ghazipur 32, on W.S.W. edge of road.	247·529	247·494
39		BM.3 / 63 O	76·3	Top of mile-stone Ghazipur 29, on S.W. side of road.	250·033	249·998
40		BM.4 / 63 O	76·8	G.T.S. / B.M. On top of N.E. parapet of mauza Babura, road culvert.	251·043	251·008
41		BM.5 / 63 O	78·3	Top of mile-stone Ghazipur 27, on S.W. edge of road.	247·425	247·391
42		BM.6 / 63 O	79·2	Top of N.W. end of N.E. parapet of mauza Chiraia-kot road bridge, at branching of road leading to Mau and Kopa villages.	246·108	246·075
	a / 42	BM.7 / 63 O	83·3	G.T.S. / B.M. On N. end of 3rd step of E. face of Jurawan Singh's temple, in mauza Chakia.	241·234	241·202
	1 / 42	BM.8 / 63 O	84·6	On ground level mark-stone of Chit Bisram, G.T. Survey Tower Station, lat. 25° 54′ 2″·82, long. 83° 23′ 51″·40. A principal station of Gora Meridional Series. (For full description *see* Synoptical Volume).	250·021	249·987
43		BM.9 / 63 O	79·4	G.T.S. / B.M. On top of S.S.W. parapet of mauza Chiraia-kot road bridge.	246·537	246·504
44		BM.10 / 63 O	80·3	Top of mile-stone Ghazipur 25.	242·653	242·621
45		BM.11 / 63 O	82·7	G.T.S. / B.M. On N.N.E. parapet of mauzas Raipur-Sarsena road bridge.	241·766	241·735
46		BM.12 / 63 O	83·3	Top of mile-stone Ghazipur 22, on S.W. edge of road.	241·061	241·030
47		BM.13 / 63 O	83·8	G.T.S. / B.M. On S.W. parapet of mauza Sarsena road bridge, E.S.E. of village.	244·530	244·498
48		BM.14 / 63 O	84·3	Top of mile-stone Ghazipur 21, on S.W. edge of road.	240·303	240·272
49		BM.15 / 63 O	87·0	Top of mile-stone Ghazipur 19, on N.E. edge of road.	239·312	239·282

Main-Line 69. (Gorakhpur to Dildarnagar).

Designation of Bench-marks			Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
50		BM.16 / 63 O	88·0	Top of mile-stone Ghazipur 18, on N.E. edge of road.	238·683	238·653
51		BM.17 / 63 O	89·0	Top of mile-stone Ghazipur 17, on N.E. edge of road.	236·031	236·001
	1 / 51	BM 18 / 63 O	94·8	On upper mark-stone of Kanaun G.T. Survey Tower Station, lat. 25° 43′ 3″·62, long. 83° 23′ 51″·38. A principal station of Gora Meridional Series. (For full description *see* Synoptical Volume).	269·254	269·220
52		BM.19 / 63 O	93·0	Top of mile-stone Ghazipur 13, on N.E. edge of road.	234·351	234·322
53		BM.20 / 63 O	94·0	Top of mile-stone Ghazipur 12, on N.E. edge of road.	231·542	231·514
54		BM 21 / 63 O	95·2	G.T.S. / B.M. On S.W. parapet of mauza Birno road bridge, to N.W. of village.	229·440	229·412
55		BM 22 / 63 O	96·0	Top of mile-stone Ghazipur 10, on N.E. edge of road.	228·491	228·463
56		BM.23 / 63 O	96·3	G.T.S. / B.M. On S.W. parapet of mauza Birno road bridge, to S.E. of village.	230·737	230·709
57		BM.24 / 63 O	96·9	Top of mile-stone Ghazipur 9, on N.E. edge of road.	227·964	227·936
58		BM.25 / 63 O	97·4	G.T.S. / B.M. On E.N.E. parapet of mauza Bharsar road bridge.	229·634	229·606
59		BM.26 / 63 O	97·9	Top of mile-stone Ghazipur 8, on E.N.E. edge of road.	227·983	227·955
60		BM.27 / 63 O	98·8	Top of mile-stone Ghazipur 7, on E.N.E. edge of road.	227·390	227·363
61		BM.28 / 63 O	99·7	On W. parapet wall of mauza Sekpur road bridge across Mangai nadi.	235·591	235·563
62		BM.29 / 63 O	100·8	Top of mile-stone Ghazipur 5, on E. edge of road in Zangipur bazar.	226·183	226·156
	a / 62	BM.30 / 63 O	100·9	G.T.S. / B.M. On stone edging on N. side of curb of Kalwar Gopi's large pakka well, 1 chain E. of Zangipur bazar.	227·854	227·827
63		BM.31 / 63 O	101·9	Top of middle of E.N.E. parapet of mauza Taranpur-Jamna Dewa-Dokatthia-ka-pul, across Beso nadi.	229·981	229·954
64		BM.32 / 63 O	103·1	G.T.S. / B.M. On E.N.E. parapet of mauza Anhau road culvert, about ¼ mile W.N.W. of village.	223·563	223·537

Main-Line 69. (Gorakhpur to Dildarnagar).

Designation of Bench-marks			Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
65		BM.33 / 63 O	106·0	Top of 3rd step of E. flight of Kartar Bania's well, at junction of road to Ghazipur with road to Benares, in mauza Sikandarpur.	223·460	223·435
	1 / 65	BM.34 / 63 O	107·0	G.T.S. ⊙ B.M. at Opium Office. On W. end of 3rd paved step of N. flight, under portico of house on left bank of Ganges, 11 chains from Collector's kachahri, Ghazipur.	216·961	216·937
	1a / 65	BM 35 / 63 O	107·2	G.T.S. Standard Bench Mark 1904 at Ghazipur. Situated W. of W. face of Sessions Judge's kachahri, from N.W. and S.W. corners of which it is 92 and 175 feet respectively, and 1 chain N. of platform on same side of building. It is enclosed in a railed-off space 11 feet square.	218·143	218·119
	2 / 65	BM.36 / 63 O	107·3	G.T.S. ⊙ B.M. On paved floor of E. verandah of Collector's kachahri, Ghazipur.	222·167	222·142
	2a / 65	BM 37 / 63 O	109·1	G.T.S. / B.M. On 2nd step below W. side of 3rd landing from top of paved flight of steps leading down to river at Ghazipur.	185·213	185·192
	3 / 65	BM.38 / 63 O	107·8	G.T.S. ⊙ B.M. On E. parapet of culvert on railway station road, about 1 chain N. of Government Police Station, Ghazipur.	220·946	220·921
	3a / 65	BM 39 / 63 O	108·3	G.T.S. ⊙ B.M. On coping of well on E. margin of road, at corner of Bandhua village and at junction of roads to Post Office, Railway Station, old Cantonments, and Mission Church, Ghazipur, and about 10 chains S.E. of church.	220·290	220·266
	3b / 65	BM 40 / 63 O	108·4	⊕ On S.W. verandah flooring of Mission Church, Ghazipur.	222·521	222·496
	3c / 65	BM 41 / 63 O	108·8	G.T.S. ⊕ B.M. On 2nd paved step of Post Office at Ghazipur (height above ground, 9 inches).	219·645	219·621
	4 / 65	BM.42 / 63 O	108·1	G.T.S. ⊙ B.M. On coping of platform in front of main exit at Ghazipur city railway station.	226·395	226·370
	a / 65	BM.43 / 63 O	108·9	G.T.S. / B.M. On top of 4th step (from ground) of S.E. flight of stone steps of Lord Cornwallis' monument, Ghazipur.	224·609	224·584
	b / 65	BM.44 / 63 O	108·9	G.T.S. / B.M. On 4th paved step to N.E. side of middle doorway of Ghazipur station church, under portico of S.E. face.	225·273	225·248
66		BM 45 / 63 O	107·1	Top of mile-stone Benares 43, on S.S.E. side of road.	224·639	224·614
67		BM.46 / 63 O	111·1	Top of mile-stone Benares 39, on S.S.E. side of road.	227·445	227·420
68		BM 47 / 63 O	113·1	Top of mile-stone Benares 37, on S.E. edge of road.	228·479	228·454

Main-Line 69. (Gorakhpur to Dildarnagar).

Designation of Bench-marks			Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
69		BM.48 / 63 O	115·1	Top of mile-stone Benares 35, on S.S.E. edge of road.	236·588	236·562
70		BM 49 / 63 O	116·1	Top of mile-stone Benares 34, on S. edge of road.	236·574	236·548
71		BM.50 / 63 O	116·5	G.T.S. / B.M. On S. end of 4th paved step of Chuni Lal's well, about 22 chains W.S.W. from middle of Nandganj bazar.	237·235	237·209
	a / 71	BM.51 / 63 O	117·2	On ground level mark-stone of Barhanpur G.T. Survey Tower Station, lat. 25° 32′ 6″·83, long. 83° 24′ 1″·69. A principal station of Gora Meridional Series. (For full description *see* Synoptical Volume).	255·311	255·283
72		BM.52 / 63 O	120·7	Top of S.S.W. end of 3rd step of W.N W. flight of paved steps of Moni Baba's pakka *samad*, in mauza Suapur.	230·663	230·639
73		BM.53 / 63 O	121·4	Top of N.N.W. parapet of mauza Chochakpur road bridge on road Saidpur to Ghazipur.	233·186	233·162
74		BM.54 / 63 O	125·1	Top of 2nd step of N.N.E. flight of Babu Durga Charn's well on S.S.W. edge of road, in mauza Ramnathpur.	221·028	221·005
	1 / 74	BM 55 / 63 O	134·1	G.T.S. / B.M. On top of 3rd step from ground of W. flight of paved steps of Bhairo Shah's tank, about ¼ mile E. of town of Zamania.	226·946	226·923
	2 / 74	BM 56 / 63 O	145·9	Top of S.E. parapet of mauza Amra road bridge.	234·716	234·692
	3 / 74	BM 57 / 63 O	148·2	Top of N. end cap of W. parapet of mauza Barhani road bridge.	239·138	239·113
	4 / 74	BM 58 / 63 O	148·3	On upper mark-stone of Barhani G.T. Survey Tower Station, lat. 25° 17′ 49″·56, long. 83° 24′ 54″·72. A principal station of Gora Meridional Series. (For full description *see* Synoptical Volume).	273·805	273·777
75		BM.59 / 63 O	142·1	G.T.S. / B.M. at Dildarnagar. Stone B.M. embedded 12 paces from N.E. corner of E.I. railway station, opposite E. side entrance to platform.	223·734	223·712

Branch-Line 69A. (Gorakhpur to Bharmi).

Designation of Bench-marks			Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.11 / 63 N	0·0	G.T.S. / B.M. On 2nd step of paved flight below N. side pillar of W. doorway of body of Gorakhpur Church, under belfry portico. The inscription G.T.S. / O / B.M. has now been engraved.	253·429	253·379
2		BM 59 / 63 N	0·2	⊕ On 1st step (from ground surface) at S.W. corner of tank, with steps on all four sides, near Collector's kachahri, and about 8 chains from station church, Gorakhpur.	250·464	250·415
	1/2	BM 60 / 63 N	0·2	⊕ On 2nd step, about 1 foot above ground level, at S. entrance to Collector's kachahri, Gorakhpur.	251·582	251·532
	2/2	BM 61 / 63 N	0·5	G.T.S. Standard Bench Mark 1904 at Gorakhpur. Situated in compound of Commissioner's Court, W. of W. face of building, from N.W. and S.W. corners of which it is 150 and 158 feet respectively, and 101 feet from centre of portico. It is enclosed in a railed-off space 11 feet square.	254·975	254·925
	3/2	BM.62 / 63 N	1·1	G.T.S. / O / B.M. On N. parapet of culvert, in N.E. angle formed by junction of Fenar road with a road about 48 chains S. of railway station. The culvert is near head quarters, B.N.W.R. Volunteers, Gorakhpur.	253·393	253·343
	4/2	BM.63 / 63 N	1·7	O On summit of boundary pillar, about 2 chains S.E. of gate leading to station, between two parallel roads, Gorakhpur.	259·370	259·319
	4a/2	BM.64 / 63 N	1·8	G.T.S. / O / B.M. On E. parapet of culvert on road leading into goods shed, Gorakhpur.	257·810	257·759
	4b/2	BM.65 / 63 N	2·1	G.T.S. / O / B.M. On N. parapet of culvert at junction of two roads, about 6 chains S. of 1st level crossing, E. of Gorakhpur railway station.	254·411	254·361
	4c/2	BM.66 / 63 N	2·2	⊼ Consists of stone prism embedded in masonry pillar 2 feet above ground, to N. of railway line, near telegraph post No. 309/15. (Railway bench-mark).	256·401	256·350
	5/2	BM.67 / 63 N	1·7	G.T.S. / O / B.M. On N.W. corner of S. verandah flooring of main entrance to Gorakhpur railway station.	259·251	259·200
3		BM.68 / 63 N	2·3	Top of 1st step (below ground surface) of W. S.W. corner of Gorakhnath's pakka tank, about 50 or 60 yards from group of Gorakhnath's temples in Gorakhpur old town.	256·737	256·686
4		BM.69 / 63 N	5·9	Top of S.E. wing wall near its N. end, of mauza Mahesra road bridge across Chilwa lake, the central of 3 bridges near each other.	259·574	259·521
5		BM.70 / 63 N	9·2	Top of N.E. parapet of mauza Cheontalia road culvert, N.W. of two similar ones.	249·770	249·719

Branch-Line 69A. (Gorakhpur to Bharmi).

Designation of Bench-marks			Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	1/5	BM.71 / 63 N	12·6	On ground level mark-stone of Rajabari G.T. Survey Tower Station, lat. 26° 54′ 3″·04, long. 83° 15′ 35″·49. A principal station of Gora Meridional Series. (For full description *see* Synoptical Volume).	266·617	266·562
6		BM.72 / 63 N	13·0	Top of E.N.E. parapet wall of road culvert, in mauza Nainsar.	255·097	255·044
7		BM.1 / 63 M	22·0	G.T.S. B.M. On lowest step W.N.W. circular extremity of S.S.W. flight of Chaomukha well in forest at intersection of roads Gorakhpur to Buttwal and Mansurganj to Mendhawal.	269·808	269·749
	1/7	BM.2 / 63 M	23·8	On ground level mark-stone of Gharbaria G.T. Survey Tower Station, lat. 27° 2′ 52″·80, long. 83° 15′ 5″·46. A principal station of N.E. Longitudinal Series. (For full description *see* Synoptical Volume).	278·329	278·268
8		BM.3 / 63 M	25·4	Top of boundary pillar on W. edge of road, between Dwarka Shah's and Mr. Bridgeman's grants, S. of Bisanpur village.	271·144	271·084
9		BM.4 / 63 M	27·5	Top of trijunction platform of Pharena-Rudlapur-Mahadewa villages.	276·273	276·211
10		BM.5 / 63 M	28·7	G.T.S. B.M. On boundary pillar on E. edge of road dividing Government land on N. from Mr. Bridgeman's grant on S., in mauza Hardidali.	275·297	275·235
11		BM.6 / 63 M	29·4	G.T.S. B.M. On boundary pillar in *sal* forest on E. edge of road, about 25 chains from Dandoh nala on Buttwal road.	277·873	277·810
12		BM.7 / 63 M	31·9	Top of boundary pillar on E. edge of road, alongside Bijesalai nala, dividing Government land on E. from Gangadial Man's grant on W.	267·090	267·029
13		BM.8 / 63 M	33·3	Top of S. parapet of bridge across Paoa nala.	274·210	274·147
	1/13	BM.9 / 63 M	38·0	Top of curb on S.S.E. side of Mr. Bridgeman's well in Sahibganj or Amaganj bazar.	286·020	285·954
	2/13	BM.10 / 63 M	39·7	On upper mark-stone of Purena G.T. Survey Tower Station, lat. 27° 11′ 7″·18, long. 83° 10′ 56″·16. A principal station of N.E. Longitudinal Series. (For full description *see* Synoptical Volume).	297·987	297·918
14		BM.11 / 63 M	38·8	Top of Laokaha-Kharkhori-Laokahi villages triple junction platform.	286·101	286·034
15		BM.12 / 63 M	44·6	On ground level mark-stone of Bharmi G.T. Survey Tower Station, lat. 27° 20′ 14″·90, long. 83° 15′ 16″·75. A principal station of N.E. Longitudinal Series. (For full description *see* Synoptical Volume).	296·082	296·011

Main-Line 70. (Allahabad to Dildarnagar).

Designation of Bench-marks		Distance from Allahabad	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1	BM.58 / 63 G	0·0	G.T.S. B.M. at Allahabad Fort. On cylindrical stone embedded, with upper surface 6 inches above ground level, within outer works, on top of glacis of N.E. gate on city side of fort, leading to main entrance; 34 feet S. of saluting battery, 11 feet N. of scarp of ditch, 13 feet E. of traverse wall, 118 feet S.S.W. of sentry box near sally port, and 125 feet N.W. of centre of draw bridge leading to Battery No. 4.	297·572	297·542
2	BM.121 / 63 G	1·2	Top of 495th mile-stone from Calcutta, on Grand Trunk road.	276·419	276·391
3	BM.122 / 63 G	2·6	Surface of lower step of S.E. corner of Jusi barrack, nearest river, at corner of Jusi *parao*.	291·555	291·526
4	BM.123 / 63 G	2·9	Surface of 2nd step of W. flight of stairs of well in Jusi *parao*.	302·402	302·371
5	BM.124 / 63 G	3·0	G.T.S. Bench Mark, Jusi. Stone B.M. embedded in Jusi *parao* on left bank of Ganges, 45 yards from W. flight of stairs of well.	299·434	299·404
6	BM.125 / 63 G	3·5	Top of 493rd mile-stone from Calcutta.	306·038	306·007
7	BM.126 / 63 G	4·5	Top of 492nd mile-stone from Calcutta.	307·861	307·830
8	BM.127 / 63 G	5·6	Top of 491st mile-stone from Calcutta.	303·458	303·428
9	BM.128 / 63 G	6·6	Top of 490th mile-stone from Calcutta.	306·767	306·736
10	BM.129 / 63 G	8·6	Top of 488th mile-stone from Calcutta.	305·022	304·991
11	BM.1 / 63 K	9·6	Top of 487th mile-stone from Calcutta.	305·956	305·925
12	BM.2 / 63 K	10·6	Top of 486th mile-stone from Calcutta.	303·656	303·626
13	BM.3 / 63 K	11·6	Top of 485th mile-stone from Calcutta.	305·579	305·549
14	BM.4 / 63 K	13·7	Top of N. parapet wall of bridge No. 5, close by 483rd mile-stone from Calcutta.	306·764	306·734
15	BM.5 / 63 K	14·6	Top of 482nd mile-stone from Calcutta.	301·458	301·429

Main-Line 70. (Allahabad to Dildarnagar).

Designation of Bench-marks			Distance from Allahabad	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
16		BM.6 / 63 K	15·7	Top of 481st mile-stone from Calcutta.	303·075	303·045
17		BM.7 / 63 K	16·7	Top of 480th mile-stone from Calcutta.	299·757	299·728
18		BM.8 / 63 K	17·6	Top of 479th mile-stone from Calcutta.	302·621	302·592
	1/18	BM.9 / 63 K	21·1	On mark-stone 27 feet from ground level of Ganeshpur G.T. Survey Tower Station, lat. 25° 20′ 4″·76, long. 82° 5′ 57″·41. A principal station of Gurwani Meridional Series. (For full description *see* Synoptical Volume).	322·641	322·610
19		BM.10 / 63 K	18·7	Top of 478th mile-stone from Calcutta.	301·024	300·995
20		BM 11 / 63 K	19·7	Top of 477th mile-stone from Calcutta.	299·555	299·526
21		BM.12 / 63 K	20·7	Top of 476th mile-stone from Calcutta.	293·907	293·879
22		BM.13 / 63 K	21·7	Top of 475th mile-stone from Calcutta.	296·295	296·267
23		BM.14 / 63 K	22·9	Top of 474th mile-stone from Calcutta.	298·655	298·626
24		BM 15 / 63 K	23·9	Top of 473rd mile-stone from Calcutta.	294·099	294·071
25		BM.16 / 63 K	24·9	Top of 472nd mile-stone from Calcutta.	291·628	291·600
26		BM 17 / 63 K	25·9	Top of 471st mile-stone from Calcutta.	291·819	291·792
27		BM.18 / 63 K	26·5	Surface of inner ring of masonry on S. side of well in Barud *parao*.	290·620	290·593
28		BM.19 / 63 K	26·5	G.T.S. Bench Mark, Barud. Stone B.M. embedded 44 yards from inner edge of well, and 1 yard from N.W. corner of bardashtkhana, in *parao*.	289·292	289·265
29		BM.20 / 63 K	26·9	Top of 470th mile-stone from Calcutta.	293·569	293·541
30		BM.21 / 63 K	27·9	Top of 469th mile-stone from Calcutta.	293·530	293·502
31		BM.22 / 63 K	28·9	Top of 468th mile-stone from Calcutta.	292·640	292·612

Main-Line 70. (Allahabad to Dildarnagar).

Designation of Bench-marks		Distance from Allahabad	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1/31	BM.23 / 63 K	32·9	On upper mark-stone of Baripur G.T. Survey Tower Station, lat. 25° 16′ 32″·49, long. 82° 17′ 28″·00. A principal station of Gurwani Meridional Series. (For full description *see* Synoptical Volume).	319·691	319·661
32	BM.24 / 63 K	29·9	Top of 467th mile-stone from Calcutta.	291·575	291·548
33	BM 25 / 63 K	31·9	Top of 465th mile-stone from Calcutta.	290·737	290·710
34	BM 26 / 63 K	32·9	Top of 464th mile-stone from Calcutta.	290·677	290·650
35	BM.27 / 63 K	33·9	Top of 463rd mile-stone from Calcutta.	285·215	285·189
36	BM.28 / 63 K	34·9	Top of 462nd mile-stone from Calcutta.	287·360	287·334
37	BM.29 / 63 K	36·0	Top of 461st mile-stone from Calcutta.	285·295	285·269
38	BM.30 / 63 K	37·0	Top of 460th mile-stone from Calcutta.	285·391	285·365
39	BM.31 / 63 K	37·9	Top of N. side of cattle trough of well in Gopiganj *parao* on S. of road, 3 feet below outer rim of masonry of surface.	288·364	288·338
40	BM.32 / 63 K	38·0	Top of 459th mile-stone from Calcutta.	287·406	287·380
41	BM.33 / 63 K	39·0	Top of 458th mile-stone from Calcutta.	281·587	281·562
42	BM.34 / 63 K	40·0	Top of 457th mile-stone from Calcutta.	280·640	280·615
43	BM.35 / 63 K	41·0	Top of 456th mile-stone from Calcutta.	283·236	283·211
44	BM.36 / 63 K	42·0	Top of 455th mile-stone from Calcutta.	282·450	282·425
45	BM.37 / 63 K	43·1	Top of 454th mile-stone from Calcutta.	282·349	282·324
46	BM.38 / 63 K	43·5	Top of lower step of N. flight of stairs of well on S. of Grand Trunk road, at 453¾ miles from Calcutta.	280·642	280·617
47	BM.39 / 63 K	44·1	Top of 453rd mile-stone from Calcutta.	282·368	282·343

Main-Line 70. (Allahabad to Dildarnagar).

Designation of Bench-marks		Distance from Allahabad	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
48	BM 40 / 63 K	44·3	Coping of basement, at S.W. corner of shiwala, on N. side of road, in Madhopur village.	282·699	282·674
49	BM.41 / 63 K	45·1	Top of 452nd mile-stone from Calcutta.	281·193	281·168
50	BM.42 / 63 K	46·1	Top of 451st mile-stone from Calcutta.	280·550	280·525
51	BM.43 / 63 K	47·1	Top of 450th mile-stone from Calcutta.	279·759	279·734
1 / 51	BM.44 / 63 K	54·5	G.T.S. □ B.M. On top of 2nd step of well on E. side of road, near 1st mile-stone from Mirzapur, on left bank of Ganges river.	260·220	260·197
2 / 51	BM 45 / 63 K	55·5	G.T.S. ○ B.M. On top of 2nd step of well in centre of Chil village, E. of road and just above descent to Ganges river.	264·666	264·643
3 / 51	BM 46 / 63 K	56·4	× On steps leading to Ganges river from temples at Narghat, Mirzapur.	219·223	219·204
4 / 51	BM 47 / 63 K	56·5	⊕ On steps leading from Shivalas down to Ganges river, at Narghat, Mirzapur.	246·884	246·862
5 / 51	BM.48 / 63 K	56·5	G T.S. B.M. □ On steps leading from Shivalas down to Ganges river, Narghat, Mirzapur.	256·754	256·731
6 / 51	BM 49 / 63 K	56·9	G.T.S. ⊕ B.M. On top of lower step of well in Muzaffarganj suburb, on road leading from Narghat, Mirzapur.	273·117	273·093
7 / 51	BM.50 / 63 K	57·1	G.T.S. ○ B.M. On masonry platform of well, on W. side of road to Narghat, Mirzapur, in Ganeshganj suburb.	276·743	276·719
7a / 51	BM.51 / 63 K	61·5	G.T.S. ⊕ B.M. On coping of passenger platform exactly opposite centre of Mirzapur railway station house.	280·981	280·956
7b / 51	BM 52 / 63 K	61·6	G.T.S. ↑ B.M. On coping of goods platform, at S.W. corner of station and about 200 yards from centre of station house, Mirzapur.	281·552	281·527
7c / 51	BM.53 / 63 K	62·0	G.T.S. ○ B.M. On stone coping of E. parapet of culvert near Suklaha village, on kachahri road, about ½ mile from Mirzapur railway station.	277·254	277·230
7d / 51	BM.54 / 63 K	62·6	G.T S. ○ B.M. On stone coping of E. parapet of culvert on kachahri road, about 1 mile from Mirzapur railway station.	275·597	275·573
7e / 51	BM.55 / 63 K	63·3	G.T.S. ○ B.M. On stone flooring of suitors' waiting hall, in kachahri, Mirzapur, near 3rd and 4th pillars of 3rd row from W. and 3rd and 4th pillars of 4th row from S.	274·624	274·600

Main-Line 70. (Allahabad to Dildarnagar).

Designation of Bench-marks			Distance from Allahabad	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	8/51	BM 56 63 K	59·2	G.T.S. ○ B.M. On N. end of stone coping of E parapet of culvert on Baraonda Quarry road, about 6 chains S. of mile-stone No. 1.	275·353	275·329
	9/51	BM.57 63 K	59·8	G.T.S. ○ B.M. On stone coping at centre of N. parapet of culvert, 159 feet E. of B.M. No. 10/51.	295·320	295·294
	10/51	BM.58 63 K	59·8	G.T.S. Standard Bench Mark 1904 at Baraonda Hills, Mirzapur. Situated 159 feet from S.W. end of culvert, which bears 72° from bench-mark, 114 feet from Baraonda Quarry road and about 10 chains from Rifle Range, which bears 280°; chimney of Shellac Factory on Ganges bears 306° from bench-mark. It is enclosed in a railed-off space 11 feet square.	295·432	295·406
52		BM.59 63 K	48·1	Top of 449th mile-stone from Calcutta.	278·402	278·378
53		BM.60 63 K	49·1	Top of 448th mile-stone from Calcutta.	279·497	279·472
54		BM.61 63 K	50·1	Top of 447th mile-stone from Calcutta.	276·715	276·691
55		BM.62 63 K	52·1	Top of 445th mile-stone from Calcutta.	276·423	276·399
	1/55	BM.63 63 K	52·1	G.T.S. Bench Mark, Patka Gerouli. Stone B.M. embedded 6 feet E. of centre of E. end of Police chauki, and 66 feet from 445th mile-stone from Calcutta, in Patka Gerouli *parao* (2nd from Benares).	274·791	274·767
	2/55	BM.64 63 K	52·2	Top of parapet of Patka Gerouli bridge over drain close by well.	277·383	277·359
56		BM.65 63 K	53·1	Top of 444th mile-stone from Calcutta.	272·947	272·923
57		BM 66 63 K	54·1	Top of 443rd mile-stone from Calcutta.	271·736	271·712
58		BM.67 63 K	55·1	Top of 442nd mile-stone from Calcutta.	270·799	270·775
59		BM 68 63 K	56·1	Top of 441st mile-stone from Calcutta.	271·886	271·862
60		BM.69 63 K	57·1	Top of 440th mile-stone from Calcutta.	271·080	271·056
61		BM.70 63 K	58·0	Top of 439th mile-stone from Calcutta.	270·212	270·188
62		BM.71 63 K	59·0	Top of 438th mile-stone from Calcutta.	269·309	269·285

Main-Line 70. (Allahabad to Dildarnagar).

Designation of Bench-marks		Distance from Allahabad	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
63	BM.72 / 63 K	60·0	Top of 437th mile-stone from Calcutta.	270·564	270·540
64	BM.73 / 63 K	61·0	Top of 436th mile-stone from Calcutta.	269·200	269·176
65	BM.74 / 63 K	62·0	Top of 435th mile-stone from Calcutta.	268·324	268·300
66	BM.75 / 63 K	63·0	Top of 434th mile-stone from Calcutta.	264·072	264·049
67	BM.76 / 63 K	63·9	Top of 433rd mile-stone from Calcutta.	263·391	263·368
68	BM 77 / 63 K	64·9	Top of 432nd mile-stone from Calcutta.	263·032	263·009
69	BM.78 / 63 K	65·9	Top of 431st mile-stone from Calcutta.	263·420	263·397
70	BM 79 / 63 K	66·9	Top of 430th mile-stone from Calcutta.	260·828	260·805
71	BM.80 / 63 K	67·9	Top of 429th mile-stone from Calcutta.	261·335	261·312
72	BM 81 / 63 K	68·9	Top of 428th mile-stone from Calcutta.	262·017	261·993
73	BM.82 / 63 K	69·9	Top of 427th mile-stone from Calcutta.	259·792	259·769
74	BM.83 / 63 K	70·9	Top of 426th mile-stone from Calcutta.	257·736	257·713
75	BM.84 / 63 K	71·5	Top of 2nd step of W. flight of stairs of **Lakianpur** well, near 425th mile-stone from Calcutta.	256·596	256·573
76	BM 85 / 63 K	71·9	Top of 425th mile-stone from Calcutta.	257·529	257·506
77	BM 86 / 63 K	72·8	Top of 424th mile-stone from Calcutta.	255·747	255·723
78		73·9	Destroyed.	250·552	250·529
79	BM.87 / 63 K	75·2	On bottom step, N. corner of monument to General Alexander (late Commanding Officer, Benares Division), in St. Mary's Churchyard, Benares.	254·342	254·318
1/79	BM.88 / 63 K	75·5	Top of stone prism fixed in ground in corner of Post Office, Benares. Cantonment bench-mark, 60 feet above datum.	252·008	251·984
1a/79	BM 89 / 63 K	75·9	G.T.S. O B.M. On outer platform of Gobardhan's well at Raja bazar, near S. gate of Ramnagar Raja's compound, Benares.	253·138	253·114

Main-Line 70. (Allahabad to Dildarnagar).

Designation of Bench-marks		Distance from Allahabad	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1b/79	BM.90/63 K	76·6	G.T.S. ○ B.M. On platform of Bhairo Dayal's well, at Kaliabagh, where the road to Queen's College, Benares, originates.	241·949	241·926
1c/79	BM.91/63 K	77·0	G.T.S. ○ B.M. On platform of stone post at junction of Telliaganj road and Cantonment station road, Benares.	251·517	251·493
1d/79	BM.92/63 K	78·4	G.T.S. ⊕ B.M. On N.E. pilaster of stairway at Dasaswamedh ghat, Benares.	242·728	242·705
1e/79	BM.93/63 K	78·5	14-foot mark of Ganges water gauge at foot of steps, Man-mandir observatory, Benares.	209·557	209·537
2/79	BM.94/63 K	75·8	□ On top of centre of parapet of stone bridge over Birna river, Benares. (Cantonment bench-mark).	252·359	252·335
3/79	BM.95/63 K	76·2	G.T.S. ○ B.M. On platform of well E. of Commissioner's kachahri, Benares.	256·322	256·298
4/79	BM.96/63 K	76·2	G.T.S. Standard Bench Mark 1904 at Benares. Situated S.E. of Commissioner's kachahri, 81 feet from S.E. corner of building, 135 and 215 feet respectively from its S.W. and N.E. corners, and 112 feet from B.M. No. 3/79. It is enclosed in a railed-off space 11 feet square.	256·170	256·146
80	BM 60/63 O	76·3	On nail head driven between two slabs of stone at foot of gnomon of sundial, Benares, on road near entrance to cantonments.	248·802	248·778
81	BM 61/63 O	76·6	Top of 1st mile-stone from Benares.	261·670	261·645
82	BM 62/63 O	83·5	Top of parapet of road culvert nearest to Milkopur tank and temple, between latter and Benares.	253·871	253·846
83	BM 63/63 O	89·4	Sirsowa Manda. Plinth of *mandir* on road on N. bank of river Ganges, opposite Balwa ghat.	237·410	237·386
84	BM.64/63 O	90·6	Nail head on top of well at entrance to Balwa village, close by thana, and about ¼ mile from ghat.	246·859	246·834
85	BM.65/63 O	93·3	Top of parapet wall of bridge near Matela village.	245·426	245·402

Main-Line 70. (Allahabad to Dildarnagar).

Designation of Bench-marks			Distance from Allahabad	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	1/85	BM.66 / 63 O	94·5	On top of tower of Hirdepur G.T. Survey Tower Station, lat. 25° 24′ 23″·05, long. 83° 14′ 15″·46. A principal station of Gora Meridional Series. (For full description *see* Synoptical Volume).	287·596*	287·572*
86		BM.67 / 63 O	94·8	Top of parapet of bridge near Mahgaun village.	245·008	244·984
87		BM.68 / 63 O	100·1	G.T.S. Bench Mark, Darurah. Stone B.M. embedded at foot of Hindu Manda, 2 miles E. of Sakaldiya, 2 feet from corner of foundation platform facing road approaching from Buxar.	241·278	241·255
88		BM.59 / 63 O	126·6	G.T.S. / B.M. at Dildarnagar. Stone B.M. embedded 12 paces from N.E. corner of E.I. railway station, opposite E. side entrance to platform.	223·734	223·712

* The top of the tower is 43·483 feet above peg and was determined trigonometrically.

Main-Line 71. (Gorakhpur to Purnea).

Designation of Bench-marks		Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1	BM.11 / 63 N	0·0	G.T.S. / B.M. On 2nd step of paved flight below N. side pillar of W. doorway of body of Gorakhpur Church, under belfry portico. The inscription G.T.S. O B.M. has now been engraved.	253·429	253·379
2	BM.73 / 63 N	1·2	On curb at foot of N.W. pillar of well on E. edge of road.	258·251	258·200
3	BM.74 / 63 N	1·9	On 4th step from ground, on S.E. side of well in a mango grove on W. edge of road, in mauza Bheriagarh.	258·733	258·682
4	BM.75 / 63 N	3·3	On W. end of E. wing wall of road bridge across Bohia marsh, in mauza Saibajganj.	257·961	257·910
5	BM.76 / 63 N	7·2	On 2nd step from ground of S. entrance to Mian Roshan Ali Shah's stage bungalow, in mauza Rampur.	259·906	259·854
6	BM.77 / 63 N	11·2	On 1st step of N.E. flight of Dina Bhagat's well, about 30 yards S.E. of road.	260·227	260·174
7	BM.78 / 63 N	11·7	On E. end of 3rd step from ground of S. face of Pipraich Post Office.	269·536	269·481
8	BM.79 / 63 N	13·3	On N.W. parapet wall of road bridge in mauza Sidhawal.	271·148	271·093
9	BM.80 / 63 N	16·0	On S.S.E. side top of curb of Bania Pilat Sah's well in mauza Jagdishpur.	278·750	278·693
10	BM.81 / 63 N	18·6	On N.N.W. parapet of road bridge across Majhne nadi in mauzas Bodwar-Ghogra.	282·706	282·647
11	BM.82 / 63 N	21·9	On top of trijunction pillar on S.E. side of road to Bettiah and Segauli, in *khadar* land of mauzas Sudhiani, Sankhupur-Balbhadarchapra.	277·995	277·937
12	BM.83 / 63 N	28·2	On N. parapet of road bridge in mauza Bagha.	284·206	284·146
13	BM.84 / 63 N	29·4	On N. parapet of road bridge in mauza Goberahi.	282·640	282·581
14	BM.85 / 63 N	36·9	On S.S.W. end cap of road bridge in mauza Pattera.	282·452	282·393
15	BM.86 / 63 N	43·3	On W. side curb of Madan Gopal Rai's well, to S. of road.	281·520	281·461
16	BM.87 / 63 N	44·0	On S.S.E. side curb of Bania Bharat Sah's well, near edge of road, on S.E. side.	277·159	277·101
17	BM.1 / 72 A	61·5	On W. end of 6th step of N. flight of Bahadur Singh's well, close to Bettiah Raja's tehsil, in mauza Bagha.	292·667	292·602

Main-Line 71. (Gorakhpur to Purnea).

Designation of Bench-marks			Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	1/17	BM.2/72 A	62·2	G.T.S./B.M. On S.S.W. end of 4th step from ground of E.S.E. entrance to Janki Ram's shiwala, in mauza Bhankatta.	292·713	292·648
	a/17	BM.3/72 A	64·2	On head of large iron nail embedded on sill of S. window of Idgah on E. bank of Harrah nadi, near its junction with Gandak or Naraini river. (Gandak Irrigation Survey bench-mark).	286·755	286·691
18		BM.4/72 A	67·9	On S.S.E. side curb of Bhawani Bakhsh's well, near roadside, in mauza Chandarpur.	283·114	283·052
	1/18	BM.5/72 A	68·6	On ground level mark-stone of Bakwa G.T. Survey Tower Station, lat 27° 2′ 46″·00, long. 84° 11′ 17″·83. A principal station of North-East Longitudinal Series. (For full description *see* Synoptical Volume).	284·254	284·192
19		BM.1/72 B	81·7	On N.N.W. side of curb of Fakir Sah's well in mauza Paregwa, 1 chain to N.E. of road.	262·010	261·955
20		BM.2/72 B	85·0	On W.S.W. side curb of Manik Sah's well, in mauza Naugawan.	262·356	262·302
	1/20	BM.3/72 B	89·3	On S.S.W. end of 4th step of Basdeo Paure's well, E.S.E. flight of steps, in mauza Patjirwa.	256·176	256·123
	2/20	BM.4/72 B	89·5	On ground level mark-stone of Patjirwa G.T. Survey Tower Station, lat. 26° 48′ 35″·15, long. 84° 23′ 14″·64. A principal station of Hurilaong Meridional Series. (For full description *see* Synoptical Volume).	260·040	259·987
21		BM.5/72 B	90·4	On W.S.W. side curb of Srikishan Mahto's well on N. edge of road in mauza Turhapatti.	253·496	253·444
22		BM.6/72 B	94·1	On N. end of E.S.E. parapet of bridge, on road branching from main road to town of Bettiah.	239·842	239·794
	a/22	BM.7/72 B	95·8	G.T.S./B.M. On S. paved seat, at E. gateway of outer entrance to Bettiah Raja's house.	245·821	245·771
	b/22	BM.8/72 B	95·7	On iron peg embedded at N.W. corner of Seodin Halwai's shiwala, in Lal Bazar, Bettiah. (Gandak Irrigation Survey bench-mark).	243·739	243·690
23		BM.9/72 B	96·2	On S. end of 1st step, below surface of ground of stone stairs leading from Maharaj Rajendar Kishor Singh Bahadur's shiwala to Sagar Pokhar (large tank), E. of Bettiah town.	247·737	247·687
24		BM.10/72 B	99·6	On S.S.E. parapet of road bridge in mauza Dharampur.	235·576	235·528
	a/24	BM.11/72 B	102·6	On iron nail on N. side curb of Makwani Raja's well, S.W. of road, in mauza Mohodipur. (Gandak Irrigation Survey bench-mark).	235·152	235·105

Main-Line 71. (Gorakhpur to Purnea).

Designation of Bench-marks			Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
25		BM.12 / 72 B	102·6	On S.E. side curb of Makwani Raja's well, S.W. of road, in mauza Mohodipur.	235·113	235·066
26		BM.13 / 72 B	105·9	On N.W. end of platform on W.S.W. wing wall of road bridge in mauza Bethania.	231·753	231·706
27		BM.14 / 72 B	109·9	On S.E. end of S.W. parapet of road bridge in mauza Bahuarwa.	227·452	227·407
	1 / 27	BM.15 / 72 B	111·2	G.T.S. / B.M. On stone step below basement, opposite entrance to Segauli Maharaj Rajendar Kishor Singh Bahadur's Shiwala, to E. of his house.	223·593	223·549
	a / 27	BM.16 / 72 B	111·3	G.T.S. / B.M. On 1st step of N. flight of steps of Maharaj Rajendar Kishor Singh Bahadur's well, outside wall enclosure of shiwala, in Segauli village.	222·273	222·229
28		BM.17 / 72 B	121·7	On 5th pillar from E.S.E. end of N.W. wing wall of road bridge across Kharwa nadi, in mauza Sugaun Tappa.	219·680	219·638
29			125·4	Destroyed.	215·548	215·507
30			126·5	Destroyed.	215·153	215·112
	1 / 30	BM.18 / 72 B	128·7	On ground level mark-stone of Rupdi G. T. Survey Tower Station, lat. 26° 40′ 3″·20, long. 84° 57′ 19″·38. A principal station of North-East Longitudinal Series. (For full description *see* Synoptical Volume).	213·216	213·176
31		BM.19 / 72 B	127·2	On S.W. plinth of S. parapet of culvert on road branching from main road, about ½ mile N.W. of Bariarpur village.	213·652	213·612
32		BM.1 / 72 F	146·8	On centre of W.S.W. parapet of road culvert in mauza Bara.	199·833	199·798
33		BM.2 / 72 F	149·3	On S. side curb of bania Bichu Sah's well, N.N.E. of road in mauza Manichapra.	198·536	198·502
34		BM.3 / 72 F	155·7	On W.S.W. extremity of N.N.W. parapet wall of bridge across a branch of Danda nadi, in mauza Barji.	194·673	194·641
35		BM.4 / 72 F	158·0	Top of mile-stone 20 Muzaffarpur, on S.W. side of road.	187·774	187·744
36		BM.5 / 72 F	165·9	Top of mile-stone 12 Muzaffarpur, on S.S.W. side of road.	183·758	183·729
37		BM.6 / 72 F	167·9	On W.S.W. parapet, (flush with ground) of road culvert, about 250 yards N.W. of mile-stone Muzaffarpur 10, in mauza Kishannagar.	179·307	179·279
38		BM.7 / 72 F	168·8	On S.W. side of curb of Kanti Dharman Sah's well, N.E. of road, and about 100 yards E.S.E. of Mohan Sah's well.	179·203	179·175

Main-Line 71. (Gorakhpur to Purnea).

Designation of Bench-marks			Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	1/38	BM.8 72 F	173·2	On ground level mark-stone of Harpur G.T. Survey Tower Station, lat. 26° 8′ 0″·53, long. 85° 17′ 54″·01. A principal station of Chendwar Meridional Series. (For full description *see* Synoptical Volume).	175·831	175·803
39		BM 9 72 F	175·7	On N E. side curb of Patwa Sita Ram's well, on W.N.W. side of road in mauza Barhanpura.	174·812	174·785
	a/39	BM 10 72 F	177·1	G.T.S. B.M. On E. end of 1st stone step, below surface of ground, of tank between Collector's and Judge's kachahri, Muzaffarpur.	172·700	172·674
	b/39	BM 11 72 F	177·1	G.T.S. B.M. On W. end of 2nd stone step of S. flight of Chaudhuri Channan's well, about 45 yards N. of Collector's kachahri, Muzaffarpur.	173·789	173·763
	c/39	BM 12 72 F	177·2	G.T.S. B.M. at Collector's kachahri, Muzaffarpur, at N.W. angle of E. paved verandah.	175·582	175·555
40		BM.13 72 F	177·4	G.T.S. B.M. On stone seat at W. side of gateway of Babu Nathu Lal Chaudhuri's house, Muzaffarpur.	179·118	179·091
	a/40	BM.14 72 F	186·6	On ground level mark-stone of Sawajpur G. T. Survey Tower Station, lat. 26° 13′ 34″·13, long. 85° 27′ 12″·30. A principal station of Chendwar Meridional Series. (For full description *see* Synoptical Volume).	174·807	174·781
41		BM.15 72 F	177·8	G.T.S. B.M. On 1st step of N. flight of stone stairs of Sheo Sahai's tank in Muzaffarpur.	175·731	175·704
	1/41	BM.16 72 F	183·1	On ground level mark-stone of Paladpur G. T. Survey Tower Station, lat. 26° 4′ 21″·01, long 85° 27′ 13″·16. A principal station of Chendwar Meridional Series. (For full description *see* Synoptical Volume).	173·531	173·505
42		BM.17 72 F	181·8	On S.S.E. parapet of road culvert in mauza Nanu Chak.	171·731	171·705
43		BM.18 72 F	182·6	On W. end cap of N.E. wing wall of road bridge over Man nadi, in mauza Rajwara.	178·445	178·418
44		BM.19 72 F	183·4	Top of mile-stone 7 Muzaffarpur, on N. edge of road to Darbhanga.	175·692	175·665
45		BM.20 72 F	184·5	Top of mile-stone 8 Muzaffarpur, on N. edge of road to Darbhanga.	172·145	172·119
46		BM.21 72 F	186·9	Top of mile-stone 10 Muzaffarpur, on N. edge of road to Darbhanga.	172·138	172·112
47		BM.22 72 F	188·9	Top of mile-stone 12 Muzaffarpur, on N. edge of road to Darbhanga.	168·995	168·970
48		BM.23 72 F	189·9	Top of mile-stone 13 Muzaffarpur, on N. edge of road to Darbhanga.	166·957	166·932

Main-Line 71. (Gorakhpur to Purnea).

Designation of Bench-marks		Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
a/48	BM.24/72 F	190·5	On W. end of S. parapet of road bridge in mauza Berwa.	167·909	167·884
49	BM 25/72 F	192·9	Top of mile-stone 16 Muzaffarpur, on N. edge of road to Darbhanga.	164·480	164·455
50	BM.26/72 F	193·9	Top of mile-stone 17 Muzaffarpur, on N. edge of road to Darbhanga.	164·754	164·729
51	BM 27/72 F	197·9	Top of mile-stone 21 Muzaffarpur, on N. edge of road to Darbhanga.	164·191	164·166
52	BM 28/72 F	199·0	Top of mile-stone 22 Muzaffarpur, on N. edge of road to Darbhanga.	163·523	163·498
53	BM.29/72 F	200·0	Top of mile-stone 23 Muzaffarpur, on N. slope of road to Darbhanga.	161·951	161·926
54	BM 30/72 F	201·0	Top of mile-stone 24 Muzaffarpur, on N. slope of road to Darbhanga.	161·839	161·814
55	BM.31/72 F	202·1	Top of mile-stone 25 Muzaffarpur, on N. slope of road to Darbhanga.	163·224	163·199
56	BM.32/72 F	203·1	Top of mile-stone 26 Muzaffarpur, on N. edge of road to Darbhanga.	161·521	161·496
57	BM 33/72 F	203·1	On N.N E side of curb of Pancham Lal's well, near S. edge of road, in mauza Bharatti.	162·024	161·999
58	BM.34/72 F	205·1	Top of mile-stone 28 Muzaffarpur, on N. edge of road to Darbhanga.	161·495	161·470
59	BM.35/72 F	206·1	Top of mile-stone 29 Muzaffarpur, on N. edge of road to Darbhanga.	162·760	162·735
a/59	BM.36/72 F	206·5	On W. end of N. parapet wall of road bridge across Mahni nadi, in mauza Kansi, the western of two bridges, about 100 feet apart.	162·866	162·841
60	BM.37/72 F	207·1	Top of mile-stone 30 Muzaffarpur, on N. edge of road to Darbhanga.	163·575	163·550
61	BM 38/72 F	208·1	Top of mile-stone 31 Muzaffarpur, on N. edge of road to Darbhanga.	161·371	161·346
62	BM.39/72 F	209·1	Top of mile-stone 32 Muzaffarpur, on N. edge of road to Darbhanga.	164·872	164·847
63	BM 40/72 F	209·6	On W.N.W. side of curb of Harnanan Lal's well on N. side of road, in mauza Maulviganj.	161·397	161·372
a/63	BM.41/72 F	210·4	G.T.S./B.M. On N. end of 2nd paved step on eastern entrance to Wahid Ali Khan's masjid in mohalla Rohillaganj, Darbhanga.	165·753	165·727

Main-Line 71. (Gorakhpur to Purnea).

Designation of Bench-marks			Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
64		BM.42 / 72 F	211·1	Top of mile-stone 34 Muzaffarpur, on N. edge of road to Purnea.	159·198	159·174
65		BM 43 / 72 F	213·1	Top of mile-stone 36 Muzaffarpur, on N. edge of road to Purnea.	161·814	161·789
66		BM 44 / 72 F	213·2	On E. end of S.E. wing wall of bridge in mauza Sara, about 100 yards E. of bench-mark No. 65.	164·867	164·842
	1 / 66	BM.45 / 72 F	224·7	On ground level mark-stone of Basantpur G.T. Survey Tower Station, lat. 26° 4′ 15″·10, long. 85° 59′ 26″·87. A principal station of North Parasnath Meridional Series. (For full description *see* Synoptical Volume).	146·869	146·846
	a / 66	BM.46 / 72 F	216·0	G T S. / B.M. On paved edging of verandah floor (E. face) of Harcharan Sukul's shiwala, near southern of three doors, in mauza Kharthua.	160·675	160·650
67		BM.47 / 72 F	216·2	Top of mile-stone 39 Muzaffarpur, on N. edge of road to Purnea.	161·835	161·810
68		BM.48 / 72 F	217·2	Top of mile-stone 40 Muzaffarpur, on W. edge of road to Purnea.	162·217	162·192
	1 / 68	BM 49 / 72 F	220·1	On ground level mark-stone of Chotaipati G.T. Survey Tower Station, lat. 26° 13′ 55″·89, long. 85° 59′ 0″·86. A principal station of North Parasnath Meridional Series. (For full description *see* Synoptical Volume).	154·327	154·303
69		BM 50 / 72 F	218·3	Top of mile-stone 41 Muzaffarpur, on N. edge of road to Purnea.	161·838	161·813
70		BM.51 / 72 F	219·3	Top of mile-stone 42 Muzaffarpur, on N. edge of road to Purnea.	164·140	164·114
71		BM 1 / 72 J	220·3	Top of mile-stone 43 Muzaffarpur, on road to Purnea, near branching of road to Madhbani.	163·857	163·831
72		BM 2 / 72 J	221·3	Top of mile-stone 44 Muzaffarpur, on N. edge of road to Purnea.	161·499	161·474
	a / 72	BM 3 / 72 J	222·4	G T S. / B M. On N. side of paved edging of central verandah doorway of E face of Darbhanga Raja's shiwala, in mauza Mohan-Bariaun.	167·028	167·002
73		BM.4 / 72 J	222·4	Top of mile-stone 45 Muzaffarpur, on N. side of road to Purnea.	168·597	168·570
	a / 73	BM 5 / 72 J	223·1	G T S. / B.M. On N. end of 4th step, from ground, of W. flight of Jamal Ali's well, about 35 yards S. of road to Purnea, in mauza Shukri Nawada.	163·986	163·960
74		BM.6 / 72 J	223·4	Top of mile-stone 46 Muzaffarpur, on N. edge of road to Purnea.	164·211	164·185

Main-Line 71. (Gorakhpur to Purnea).

Designation of Bench-marks			Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
75		BM.7 / 72 J	224·4	Top of mile-stone 47 Muzaffarpur, on N. edge of road to Purnea.	166·375	166·349
76		BM.8 / 72 J	225·4	Top of mile-stone 48 Muzaffarpur, on N. edge of road to Purnea.	162·767	162·741
77		BM.9 / 72 J	226·4	Top of mile-stone 49 Muzaffarpur, on N. edge of road to Purnea.	162·813	162·787
78		BM.10 / 72 J	227·4	Top of mile-stone 50 Muzaffarpur, on N. edge of road to Purnea.	163·081	163·055
	1 / 78	BM 11 / 72 J	229·9	On ground level mark-stone of Harpur G.T. Survey Tower Station, lat. 26° 15′ 24″·81, long. 86° 8′ 15″·05. A principal station of North Parasnath Meridional Series. (For full description *see* Synoptical Volume).	161·672	161·646
79		BM.12 / 72 J	228·5	Top of mile-stone 51 Muzaffarpur, on N. edge of road to Purnea.	163·879	163·853
80		BM.13 / 72 J	229·5	Top of mile-stone 52 Muzaffarpur, on N. edge of road to Purnea.	162·359	162·333
81		BM 14 / 72 J	229·9	On E. parapet wall of culvert leading from road (Muzaffarpur to Purnea) to Sarso village.	159·686	159·661
82		BM.15 / 72 J	230·5	Top of mile-stone 53 Muzaffarpur, on N. edge of road to Purnea.	161·684	161·658
83		BM 16 / 72 J	231·5	Top of mile-stone 54 Muzaffarpur, on N. edge of road to Purnea.	158·434	158·409
84		BM 17 / 72 J	232·5	Top of mile-stone 55 Muzaffarpur, on N. edge of road to Purnea.	160·899	160·873
	a / 84	BM 18 / 72 J	233·3	G.T.S. / B.M. On 2nd step of flight adjoining E. side of large pakka flight of steps on N. edge of Babu Banwali's tank, nearly 60 yards S. of road, in mauza Sarap-Sima.	167·684	167·657
85		BM 19 / 72 J	233·5	Top of mile-stone 56 Muzaffarpur, on N. edge of road to Purnea.	163·853	163·827
86		BM.20 / 72 J	234·5	Top of mile-stone 57 Muzaffarpur, on N. edge of road to Purnea.	164·026	164·000
87		BM.21 / 72 J	235·6	Top of mile-stone 58 Muzaffarpur, on E.N.E. edge of road to Purnea.	165·684	165·658
88		BM 22 / 72 J	236·6	Top of mile-stone 59 Muzaffarpur, on E. edge of road to Purnea.	161·824	161·798
89		BM 23 / 72 J	238·6	Top of mile-stone 61 Muzaffarpur, on N. edge of road to Purnea.	157·890	157·865
90		BM.24 / 72 J	240·6	Top of mile-stone 63 Muzaffarpur, on N. edge of road to Purnea.	160·176	160·151

Main-Line 71. (Gorakhpur to Purnea).

Designation of Bench-marks			Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
91		BM 25 / 72 J	241·7	Top of mile-stone 64 Muzaffarpur, on N. edge of road to Purnea.	156·825	156·801
92		BM 26 / 72 J	242·7	Top of mile-stone 65 Muzaffarpur, on N. edge of road to Purnea.	157·517	157·492
93		BM.27 / 72 J	243·8	Top of mile-stone 66 Muzaffarpur, on N. edge of road to Purnea.	153·463	153·439
94		BM.28 / 72 J	245·9	Top of mile-stone 68 Muzaffarpur, on E. edge of road to Purnea.	152·375	152·352
95		BM.29 / 72 J	246·9	Top of mile-stone 69 Muzaffarpur, on E. edge of road to Purnea.	150·388	150·365
96		BM.30 / 72 J	247·9	Top of mile-stone 70 Muzaffarpur, on E. edge of road to Purnea.	148·842	148·820
97		BM 31 / 72 J	248·9	Top of mile-stone 71 Muzaffarpur, on E. edge of road to Purnea.	148·477	148·455
98		BM.32 / 72 J	250·0	Top of mile-stone 72 Muzaffarpur, on N. edge of road to Purnea.	143·451	143·430
	a / 98	BM.33 / 72 J	250·9	G.T.S. B.M. On top of S. end of eastern of 3 piers of road bridge across Thalwa Dhar, in mauza Tengraha.	143·279	143·258
99		BM 34 / 72 J	251·0	Top of mile-stone 73 Muzaffarpur, on N.E. edge of road to Purnea.	145·523	145·501
100		BM 35 / 72 J	252·2	Top of mile-stone 74 Muzaffarpur, on N. edge of road to Purnea.	143·289	143·268
	a / 100	BM 36 / 72 J	256·1	G.T.S. B.M. On stone edging over sill of E. doorway of Nanhe Babu's shiwala, near N. side of road, in mauza Bakaur.	145·457	145·436
	b / 100	BM.37 / 72 J	258·0	G.T.S. B.M. On stone sill of E. doorway of Bala Babu's mandir, near S. side of road, in mauza Sukhpur.	147·218	147·196
	c / 100	BM.38 / 72 J	259·0	G.T.S. B.M. On W. side plinth of Babwen Babu's shiwala, on N. side of road, in mauza Sukhpur.	153·485	153·463
101		BM.39 / 72 J	259·5	On S.W. side of curb of Debidin Austi's well, on N. edge of road, in Balha bazar.	149·655	149·633
102		BM 40 / 72 J	261·6	G.T.S. ⊕ B.M. Embedded in a mound, 2 chains N.N.E. of Barmdeo's Than, about $\frac{3}{5}$ mile S.S.E. of Parsurman, in mauza Parsoni.	150·322	150·301
103		BM.1 / 72K	273·6	On platform on S. side of well at Chintawan Than, about $\frac{1}{4}$ chain S. of road, in mauza Narha.	150·035	150·014
104		BM.2 / 72K	276·5	On platform on N.N.E. side of Pandit Sisnath Jha's well on S.W. side of road and S.W. by W. of Chaudhuri Harcharan's shiwala in Singesar Than.	151·432	151·411

Main-Line 71. (Gorakhpur to Purnea).

Designation of Bench-marks			Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	1/104	BM.3/72 K	280·8	G.T.S./B.M. Madhapur Bench Mark No. 1. On nail head on Vakil Sheikh Mumtaz Husain's well, to E.N.E. side of platform.	144·090	144·070
	2/104	BM.4/72 K	280·8	Madhapur Bench Mark No. 2. On nail head, embedded 9 inches from N.E. corner of Vakil Sheikh Mumtaz Husain's masjid.	143·492	143·472
	a/104	BM.5/72 K	276·5	G.T.S./B.M. Singesar Than Bench Mark. On E. end of 3rd stone step of stairs leading to southern entrance to ante-room of Chaudhuri Harcharan's shiwala, on E. side.	153·391	153·369
105		BM.6/72 K	276·9	On N.N.W. side of curb of Bansi Thakur's well, S. of road, in mauza Gauripur.	150·417	150·396
	1/105	BM.7/72 K	283·0	G.T.S./B.M. On N. side of curb of Tilak Kumhar's pakka well in Raibhir village.	151·414	151·393
	2/105	BM.41/72 J	284·4	G.T.S./B.M. Hindolwa (Madheli) village Bench Mark No. 1. On S.W. side of curb of Mohri Marrar Gwala's well.	155·511	155·489
	3/105	BM.42/72 J	284·6	On curb on S. side of Manah Marrar Gwala's well (No. 1), in Hindolwa (Madheli) village, N. of cart track from Raibhir to Ranipatti.	158·667	158·644
	4/105	BM.43/72 J	284·6	G.T.S./B.M. Hindolwa (Madheli) village Bench Mark No. 2. On S.S.W. side of curb of Manah Marrar Gwala's well (No. 2), on N. edge of cart track from Raibhir to Ranipatti.	157·958	157·936
	5/105	BM.44/72 J	285·9	On N.N.W. side of platform, 1 foot below top of curb of Gopal Mandal's well, 40 feet S. of cart track in Basantpur village.	157·105	157·083
	5a/105	BM.8/72 K	289·3	G.T.S./B.M. Ranipatti village Bench Mark. On platform surrounding curb, and alongside of southernmost of 4 *tulsi* pillars built at corners of Kanaiya Lal Mandar's well in compound of Thakur Dwara.	152·594	152·572
	6/105	BM.1/72 O	293·2	On block of masonry near well to S.W. of Kotgaon Factory.	152·129	152·108
	6a/105	BM.2/72 O	293·3	On N. side of 1st Vat. below reservoir at Kotgaon Factory.	155·288	155·266
	6b/105	BM.1/72 N	301·8	On ground level mark-stone of Ramnagar G.T. Survey Tower Station, Bench Mark No. 1, lat. 26° 2′ 9″·05, long. 87° 1′ 37″·09. A principal station of North-East Longitudinal Series. (For full description *see* Synoptical Volume).	158·793	158·771
	6c/105	BM 2/72 N	301·8	Ramnagar Block-stone Bench Mark No. 2. Embedded N.N.E. of central pillar of Ramnagar Tower Station and 41 feet from its centre. The letters G.T.S./B.M. are engraved to indicate position of bench-mark.	158·821	158·799

Main-Line 71. (Gorakhpur to Purnea).

Designation of Bench-marks		Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
7/105	BM.3 72 O	298·3	G.T.S./B.M. Murliganj village Bench Mark. On stone slab embedded on N.E. side of platform of Subhan Shah's well.	145·676	145·656
8/105	BM.4 72 O	299·6	Dighi (Harisarpur) Block-stone Bench Mark No. 1. Embedded 41 feet N.N.E. of central pillar of Dighi Tower Station. The letters G.T.S./B.M. are engraved to indicate position of bench-mark.	139·435	139·415
9/105	BM.9 72 K	299·7	On ground level mark-stone of Dighi G.T. Survey Tower Station Bench Mark No. 2, lat. 25° 52′ 14″·61, long. 86° 59′ 54″·62. A principal station of North Maluncha Meridional Series. (For full description *see* Synoptical Volume).	139·810	139·790
106	BM.45 72 J	287·7	Latona Bazar Bench Mark No. 1. On iron nail driven into post adjacent to N.W. side of well.	171·006	170·980
1/106	BM 46 72 J	289·7	On ground level mark-stone of Latona G.T. Survey Tower Station, Bench Mark No. 2, lat. 26° 7′ 23″·33, long. 86° 53′ 19″·44. A principal station of North-East Longitudinal Series. (For full description *see* Synoptical Volume).	171·938	171·912
2/106	BM.47 72 J	289·7	Latona Block-stone Bench Mark No. 3. Embedded 40 feet due N. of central pillar of Latona Tower Station. The letters G.T.S./B.M. are engraved to indicate position of bench-mark.	173·146	173·120
107	BM 48 72 J	296·8	G.T.S./B.M. Bamothra village Bench Mark. On N.W. side of platform, 3 feet from curb of Joshinath Ujar's well, in pargana Haraut, on road from Singesar Than to Diwanganj village in mauza Mainathpur.	190·791	190·760
1/107	BM.49 72 J	297·1	G.T.S./B.M. Saurahjan village Bench Mark. On platform of courtyard, 3 feet N. of centre archway leading into Jan Khan's masjid in mauza Chilauni.	191·392	191·361
108	BM 50 72 J	299·2	Diwanganj village Bench Mark. On head of iron nail driven into centre of curb on N.E. side of Goman Singh's well, 130 feet N. of road from Sapol to Pratabganj in mauza Chilauni.	193·493	193·462
1/108	BM 51 72 J	300·0	On ground level mark-stone of Diwanganj G.T. Survey Tower Station Bench Mark No. 1, lat. 26° 16′ 49″·97, long. 86° 54′ 21″·55. A principal station of N.E. Longitudinal Series. (For full description *see* Synoptical Volume).	190·633	190·602
2/108	BM.52 72 J	300·0	Diwanganj Block-stone Bench Mark No. 2. Embedded 40 feet due S. of central pillar of tower. The letters G.T.S./B.M. are engraved to indicate position of bench-mark.	190·054	190·023
a/108	BM.53 72 J	300·9	Mauza Sukha Nagar Bench Mark. On head of iron nail driven into platform, on E. side of curb of Keso Das Gosain's well.	198·700	198·668

Main-Line 71. (Gorakhpur to Purnea).

Designation of Bench-marks			Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
	b/108	BM.54/72 J	*miles* 302·0	Mauza Pratabganj Bench Mark. On head of iron nail driven into S.W. corner of platform in middle of *Karbala* built by Kiri Chand Kalwar, 1 chain E. of Birband, 7 chains N. of road from Sapol to Pratabganj and 1 mile W. of Pratabganj.	*feet* 198·190	*feet* 198·158
109		BM.55/72 J	303·0	On 3rd step of southern stairs of Hanuman's Than in Pratabganj bazar.	202·336	202·303
110		BM.56/72 J	304·3	G.T.S./B.M. Mauza Ilmpatti Bench Mark. On step leading to platform on E. side of Lala Majlis Rai's mandir, having a small shiwala at S.E. corner.	198·478	198·445
111			311·5	Destroyed.	211·632	211·597
112			311·8	Destroyed.	210·422	210·387
	a/112	BM 3/72 N	320·6	G.T.S./B.M. at Khapdah Indigo Factory. On S.W. corner of 2nd or lowest of southernmost pair of vats.	195·486	195·453
	1/112	BM.4/72 N	326·0	G.T.S./B.M. Ghiba Block-stone Bench Mark No. 1. Embedded nearly 3 chains due S. of tower station.	184·634	184·603
	2/112	BM.5/72 N	326·1	On ground level mark-stone of Ghiba G.T. Survey Tower Station Bench Mark No. 2, lat. 26° 14′ 1″·19, long. 87° 12′ 4″·47. A principal station of North-East Longitudinal Series. (For full description *see* Synoptical Volume).	183·671	183·640
113		BM.6/72 N	329·2	G.T.S./B.M. Mauza Jerwah Bench Mark. On centre of curb on W. side of Babu Ram Mandil's well, 2 chains S.E. of 33rd mile-post on road from Purnea to Nathpur.	178·138	178·110
114		BM.7/72 N	337·6	G.T.S./B.M. Mauza Gaumanti Bench Mark No. 1. On centre of only step leading to platform on S. side of Sobnath Missar's shiwala (the smaller of two).	154·228	154·205
115		BM.8/72 N	337·7	G.T.S./B.M. Mauza Gaumanti Block-stone Bench Mark No. 2. Embedded 3 chains due W. of road and 15 chains from B.M. No. 114, 18 chains from John Maguire's tomb and 75° from pillar. The letters G.T.S./B.M. are engraved to indicate position of bench-mark.	152·943	152·920
	a/115	BM.9/72 N	340·7	G.T.S./B.M. Baseti village, Bench Mark. On centre of curb on S. side of Kanhur Thakur's well at S. end of village, and 33 feet E. of road.	151·993	151·971
	b/115	BM.5/72 O	342·8	G.T.S./B.M. Mauza Bausi, Bench Mark. On centre of curb on E. side of Babu Govind Singh's (of Pharkia) well, to N.E. of road.	148·488	148·467
116		BM.6/72 O	343·1	Bausi Bazar, Bench Mark. On head of iron nail driven into centre of curb on N. side of Imdad Ali's well, 3 chains N. of 19th mile-post from Purnea.	148·186	148·165

Main-Line 71. (Gorakhpur to Purnea).

Designation of Bench-marks		Distance from Gorakhpur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
a/116	BM.7/72 O	346·8	G.T.S./B.M. Mauza Pharkia, Bench Mark. On E. side platform of well, 9 inches from curb of Imdad Ali's well, 16 chains N. of road, and 3 chains W. of mosque.	141·257	141·237
117	BM.8/72 O	351·9	G.T.S./B.M. Mauza Jageli, Bench Mark. On platform on S.W. side of Lila Nand Singh's well at Khala Ghat, 33 feet N. of road.	133·585	133·567
a/117	BM.9/72 O	351·9	G.T.S./B.M. Mauza Jageli, Bench Mark. Engraved 3 feet from outer wall of verandah and 5 feet from centre of principal archway leading into verandah of Lila Nand Singh's shiwala platform, at Khala Ghat (also called Dai-ji-ki-math).	135·338	135·320
118	BM.10/72 O	353·4	G.T.S./B.M. Mauza Balwah, Bench Mark. On platform on W. side of Teli Bhola Sah's (of Baneli) well, 33 feet N. of road.	133·862	133·844
119	BM.11/72 O	355·0	G.T.S./B.M. Mauza Debiganj, Bench Mark. 1 foot from N. end of lower of two steps leading up to platform, on W. side of Bidya Nand's well, at 7th mile-post from Purnea.	128·545	128·528
a/119	BM.12/72 O	358·1	G.T.S./B.M. Mauza Bagwara, Bench Mark. On platform on N.W. side, 2 feet from curb of Basmatia Kalwaran's well, on E. side of road, and 7 chains S. of 4th mile-post from Purnea.	120·619	120·603
120		359·6	Destroyed.	119·798	119·783
121		360·9	Destroyed.	123·690	123·674
122	BM.13/72 O	361·7	G.T.S./B.M. Purnea Block-stone Bench Mark No. 5. Embedded about 12 inches below ground level at back or W. side of Joint Magistrate's kachahri, the most southerly block of buildings of Collector's offices, 40 feet from wall at a point 40 feet from S. end of building, and 8 feet E. of pillar on which letters B.M. are engraved.	118·328	118·313
1/122	BM.14/72 O	362·1	G.T.S./B.M. Purnea Bench Mark No. 6. On N.E. corner of plinth of Mr. C. Shillingford's house, on old race course, northernmost outside cluster of 3 columns supporting porticos.	119·903	119·888

Main-Line 72. (Dildarnagar to Pirpanti).

Designation of Bench-marks		Distance from Dildarnagar	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1	BM.59 / 63 O	0·0	G.T.S. / B.M. at Dildarnagar. Stone B.M. embedded 12 paces from N.E. corner of E.I. railway station, opposite E. side entrance to platform.	223·734	223·712
2	BM.69 / 63 O	19·3	Top of lower step of N.E. flight of stairs of Kamiria village well, on S. of road.	207·291	207·269
3	BM.70 / 63 O	21·6	Top of parapet of culvert, N. side of road opposite Stud Masjid, Buxar.	199·587	199·565
4	BM.71 / 63 O	23·4	Top of parapet of bridge, at junction of roads, near E. corner of Buxar Fort.	205·768	205·745
5	BM.72 / 63 O	24·3	Top of lower step of N.W. flight of stairs of well, on S. side of main road, at E. end of bazar, Buxar.	203·588	203·565
6	BM.1 / 72 C	26·1	Top of parapet of Ahrora bridge, about halfway between 42nd and 43rd mile-stones from Arrah, and about 2 miles E. of Buxar.	202·949	202·926
7	BM.2 / 72 C	32·7	Top of parapet of Bhojpur bridge, near 36th mile-stone from Buxar.	198·754	198·732
8	BM.3 / 72 C	35·1	G.T.S. Bench-Mark, Nawa Bagh. Stone B.M. embedded at junction of main road from Buxar with a road from Dumraon railway station, close by 34th mile-stone from Arrah.	220·640	220·615
9	BM 4 / 72 C	35·2	Top of upper step of Nawa Bagh well, opposite B.M. No. 8 at junction of road from Buxar with another to Chhota Bhojpur.	221·026	221·001
10	BM.5 / 72 C	37·0	Right hand corner (as you ascend) of 2nd step of N. flight of stairs of well, just off the main road, and exactly opposite 32nd mile-stone from Arrah.	222·205	222·180
11	BM 6 / 72 C	40·3	Top of parapet of bridge at junction with wing wall of N.E corner, on main road to village of Nuaon, near 29th mile-stone from Arrah.	200·525	200·503
1/11	BM.7 / 72 C	40·7	On mark-stone on top of tower of Nuaon G.T. Survey Tower Station, lat. 25° 34′ 37″·94, long. 84° 14′ 15″·86. A principal station of Hurilaong Meridional Series. (For full description *see* Synoptical Volume).	249·740	249·717
12	BM.8 / 72 C	45·1	Top of mile-stone No. 24 from Arrah.	195·349	195·327
13	BM.9 / 72 C	53·7	Top of lower step of well, just off road on W. side of Belauti village.	194·772	194·750
14	BM 10 / 72 C	57·0	Centre of road at level crossing, Behea railway station, near 445th mile-stone from Calcutta.	202·712	202·689
1/14	BM.11 / 72 C	57·4	Level of rails at centre of Behea railway station.	204·187	204·164

Main-Line 72. (Dildarnagar to Pirpanti).

Designation of Bench-marks			Distance from Dildarnagar	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	2/14	BM.12/72 C	57·4	Platform coping, N. side, W. corner of Behea railway station.	206·877	206·854
15		BM.13/72 C	69·8	Level of rails at centre of Arrah railway station.	189·973	189·952
16		BM.14/72 C	69·9	G.T.S. Bench Mark, Arrah. Stone B.M. embedded 4 paces from foot of W. end of goods platform, N. side of Arrah railway station, and 3 paces inwards from prolongation of face of platform.	189·651	189·630
17		BM.15/72 C	72·0	Top of parapet of culvert, near 430th mile-stone from Calcutta.	192·749	192·728
18		BM.16/72 C	78·4	Level of rails opposite signal post, W. end of Son bridge.	221·502	221·478
19		BM.17/72 C	79·1	Level of rails, E. end of Son bridge.	221·473	221·449
20		BM.18/72 C	83·6	Level of rails at centre of Bihta railway station.	188·711	188·690
21		BM.1/72 G	92·7	Top of parapet of railway culvert, near 409th mile-stone from Calcutta.	177·753	177·733
22		BM 2/72 G	94·2	Level of rails at centre of Dinapore railway station.	174·115	174·096
	1/22	BM.3/72 G	98·0	G.T.S. Bench Mark, Dinapore Church. Cantonment B.M. No. XIV, on nail head to S. side of church, W. of portico, on floor between plinth and drain.	169·537	169·518
23			96·7	Destroyed.	174·255	174·236
24		BM.4/72 G	99·9	Level of rails at level crossing, W. of Bankipore railway station.	167·589	167·570
25			100·9	Destroyed.	168·717	168·698
	a/25	BM.5/72 G	101·5	Top of lower step of main entrance to Bankipore church, about 1 foot from right hand corner as you enter.	167·519	167·500
26			103·2	Destroyed.	166·943	166·924
27			106·1	Destroyed.	175·739	175·719
	a/27		106·1	Destroyed.	176·002	175·982
28		BM.6/72 G	108·9	Level of rails, E.I. railway, opposite 393rd mile-stone.	166·838	166·820
29		BM.7/72 G	113·6	Level of rails at centre of Futwah railway station.	164·235	164·218

Main-Line 72. (Dildarnagar to Pirpanti).

Designation of Bench-marks		Distance from Dildarnagar	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
30	BM.8 / 72 G	115·7	Top of parapet of bridge, E.I. railway, near 386th mile-stone from Calcutta.	166·134	166·117
1/30	BM 9 / 72 G	117·4	On mark-stone on top of tower of Phulwaria G.T. Survey Tower Station, lat 25° 30′ 26″·20, long. 85° 21′ 24″·78. A principal station of Chendwar Meridional Series. (For full description *see* Synoptical Volume).	186·868	186·851
31	BM.10 / 72 G	128·0	Level of rails at centre of Bukhtiarpore railway station.	158·543	158·527
a/31	BM 11 / 72 G	128·0	Bukhtiarpore G.T.S. Bench Mark. Stone B.M. embedded 13 feet E. of station house, and 4 feet N. of back wall of platform to N. side of station.	162·374	162·357
32	BM.12 / 72 G	139·0	Barh Railway Bench Mark. Black mark on 1st bridge, W. of railway station.	151·136	151·120
a/32	BM 13 / 72 G	139·0	Barh G.T.S. Bench Mark. Stone B.M. embedded 13 feet W. of N. side of platform, 39 feet N.E. of water tank, and 138 feet E. of railway bridge.	150·698	150·682
33	BM 14 / 72 G	156·5	G.T.S. Bench Mark, Mokameh. Stone B.M. embedded on E. side of railway station house and 33 feet S. of well.	144·318	144·304
34	BM.15 / 72 G	156·5	On coping of platform, centre of Mokameh railway station.	148·086	148·071
35	BM.16 / 72 G	156·5	Level of rails, centre of Mokameh railway station.	144·477	144·463
36	BM.10 / 72 K	175·1	Luckeeserai G.T.S. Bench Mark. Stone B.M. embedded a few inches below surface of ground, near S.E corner of Hindu temple, 17 feet from corner on prolongation of S. side, near a Musulman monument, erected to Malik Sahib, at junction of 2 roads at entrance to village of Balguda, 2 miles W. of Luckeeserai.	142·437	142·425
37	BM 11 / 72 K	193·0	Level of road opposite mile-stone No. 46 from Bhagalpur.	131·911	131·899
38	BM 12 / 72 K	205·2	Top of parapet of culvert at W. entrance to Belan bazar.	129·185	129·172
39	BM.13 / 72 K	206·2	Monghyr G.T.S. Bench Mark. Stone B M. embedded opposite centre of porch at main entrance to Church (in fort), 32 paces from porch and 8 paces from churchyard paling.	147·048	147·034
a/39	BM.14 / 72 K	208·0	On upper mark-stone of Pirpahar G.T. Survey Hill Station, lat. 25° 22′ 39″·95, long. 86° 30′ 45″·87. A secondary station of North Parasnath Meridional Series. (For full description *see* Synoptical Volume).	332·575	332·543

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Main-Line 72. (Dildarnagar to Pirpanti).

Designation of Bench-marks			Distance from Dildarnagar	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
40		BM.15 / 72 K	213·3	Top of mile-stone No. 30 from Bhagalpur.	123·493	123·482
41		BM.16 / 72 K	216·2	Top of mile-stone No. 27 from Bhagalpur.	126·232	126·221
42		BM.17 / 72 K	217·7	Level of rails, centre of Bariarpur railway station.	127·935	127·924
43		BM.18 / 72 K	222·9	Top of parapet of railway culvert, near 285th mile-stone from Calcutta.	130·292	130·281
44		BM.19 / 72 K	228·6	Sultangunge G.T.S. Bench Mark. Stone B.M. embedded 1 foot from back of centre of shunt line platform, at N.W. corner of railway station.	126·441	126·430
45		BM.20 / 72 K	228·6	Level of rails, centre of Sultangunge railway station.	125·239	125·228
46			243·5	Destroyed.	145·541	145·528
47		BM 21 / 72 K	243·6	Level of rails, centre of Bhagalpur railway station.	145·196	145·183
	1 / 47	BM.15 / 72 O	246·8	On mark-stone on top of tower of Barari G.T. Survey Tower Station, lat. 25° 15′ 48″·21, long. 87° 0′ 56″·97. A principal station of North Maluncha Meridional Series. (For full description *see* Synoptical Volume).	210·816	210·800
	a / 47	BM 22 / 72 K	244·6	Top of upper step leading from porch into Bhagalpur Church (about same level as church floor).	157·896	157·882
48		BM.23 / 72 K	243·8	Coping of platform on S.W. corner of Bhagalpur railway station.	148·557	148·544
49		BM.16 / 72 O	256·1	Coping of S. platform, centre of Ghogha railway station.	119·966	119·956
50		BM.17 / 72 O	256·1	Level of rails, centre of Ghogha railway station.	116·886	116·876
51		BM 18 / 72 O	256·4	Railway bench-mark, about 251 miles from Calcutta.	115·211	115·201
52		BM.19 / 72 O	261·6	Railway bench-mark, near 246th mile-stone from Calcutta.	118·159	118·149
53		BM.20 / 72 O	262·0	G.T.S. Bench Mark, Colgong. Stone B.M. embedded on N.W. corner of platform of railway station, on prolongation of wall, and 4 feet from it.	120·054	120·043
54		BM 21 / 72 O	262·2	Level of rails, E. end of Colgong railway station.	119·937	119·926

Main-Line 72. (Dildarnagar to Pirpanti).

Designation of Bench-marks		Distance from Dildarnagar	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
55	BM.22 / 72 O	266·5	Railway bench-mark, near 241st mile-stone from Calcutta.	161·219	161·204
56	BM.23 / 72 O	269·5	Top of parapet of railway bridge, near 238th mile-stone from Calcutta.	127·048	127·036
57	BM 24 / 72 O	273·8	Railway bench-mark, about 233½ miles from Calcutta.	145·001	144·988
58	BM.25 / 72 O	274·5	East Indian railway. Level of rails, opposite 233rd mile-stone from Calcutta.	150·896	150·882
59	BM.26 / 72 O	274·6	G.T.S. / B.M. Block-stone Bench Mark No. 4. Embedded at N.W. corner of Pirpanti railway station house.	154·023	154·009

Main-Line 73. (Purnea to Pirpanti).

Designation of Bench-marks			Distance from Purnea	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.13 / 72 O	0·0	G.T.S. B.M. Purnea Block-stone Bench Mark No. 5. Embedded about 12 inches below ground level at back or W. side of Joint Magistrate's kachahri, the most southerly block of buildings of Collector's offices, 40 feet from wall at a point 40 feet from S. end of building, and 8 feet E. of pillar on which letters B.M. are engraved.	118·328	118·313
2		BM.27 / 72 O	0·7	Top of mile-post, Karagolaghat 26 miles.	121·096	121·081
3		BM.28 / 72 O	1·7	Top of mile-post, Karagolaghat 25 miles.	121·075	121·060
	a / 3	BM.29 / 72 O	3·7	Mauza Harda, Bench Mark. On N.W. corner of stone slab inside "Harda Math" or Babu Rattan Chand's shiwala, 6 chains from road on N. bank of Harda Jhil.	115·014	115·000
4		BM.30 / 72 O	3·7	Top of mile-post, Karagolaghat 23 miles.	119·984	119·969
5		BM.31 / 72 O	4·7	Top of mile-post, Karagolaghat 22 miles.	119·313	119·299
6		BM.32 / 72 O	5·7	Top of mile-post, Karagolaghat 21 miles.	117·801	117·787
7		BM.33 / 72 O	5·9	G.T.S. / B.M. On centre of E. parapet wall, 5 feet from S.W. end, of culvert over Phiriani nadi, in mauza Benadpur.	119·482	119·468
8		BM.34 / 72 O	6·7	Top of mile-post, Karagolaghat 20 miles, on S.E. side of road.	119·013	118·999
9		BM.35 / 72 O	7·7	Top of mile-post, Karagolaghat 19 miles, on E. side of road.	117·379	117·366
	a / 9	BM.36 / 72 O	8·0	G.T.S. / B.M. On curb of well, W. side, in Chatria Pir bazar, on E. side of road and 12 chains S. of 19th mile-stone from Karagolaghat, in mauza Mosapur.	118·035	118·021
10		BM.37 / 72 O	8·7	Top of mile-post, Karagolaghat 18 miles, on E. side of road.	118·777	118·764
	a / 10	BM.38 / 72 O	9·1	G.T.S. Bench Mark. On N. wing wall of culvert in mauza Mainathpur, 36 chains S. of 18th mile-stone from Karagolaghat.	110·701	110·688
11		BM.39 / 72 O	9·7	Top of mile-post, Karagolaghat 17 miles, on E. side of road.	114·878	114·865
12		BM.40 / 72 O	10·3	G.T.S. / B.M. On 2nd step on N.N.W. side of Sohan Lal Kayasth's well, in mauza Gondwara, E. of road, and 34 chains N. of 16th mile-post from Karagolaghat.	115·958	115·945
13		BM.41 / 72 O	10·7	Top of milepost, Karagolaghat 16 miles, on E. side of road.	116·154	116·141

Main-Line 73. (Purnea to Pirpanti).

Designation of Bench-marks		Distance from Purnea	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
14	BM.42 / 72 O	11·7	Top of mile-post, Karagolaghat 15 miles.	115·512	115·499
15	BM 43 / 72 O	12·7	G.T.S. B.M. Mauza Basgara Block-stone Bench Mark. Embedded in ridge 7 chains from 14th mile-post from Karagolaghat and bearing from it 342°. The B.M. bears 94° from pakka pillar.	107·926	107·914
16	BM.44 / 72 O	12·8	Top of mile-post, Karagolaghat 14 miles, on E. side of road.	113·372	113·360
17	BM.45 / 72 O	13·8	Top of mile-post, Karagolaghat 13 miles, on E. side of road.	111·640	111·628
18	BM 46 / 72 O	13·9	G.T.S. B.M. Mauza Phulbaria Bench Mark. On W. end of 2nd or lower step on S. side of Dai Chand Sarkar's well, in Gondwara bazar, adjacent to E. side of road.	108·365	108·353
19	BM.47 / 72 O	14·8	Top of mile-post, Karagolaghat 12 miles, on E. side of road.	110·189	110·177
20	BM.48 / 72 O	15·8	Top of mile-post, Karagolaghat 11 miles, on E. side of road.	112·432	112·420
21	BM.49 / 72 O	16·8	Top of mile-post, Karagolaghat 10 miles, on E. side of road.	108·516	108·504
22	BM.50 / 72 O	17·0	G.T.S. B.M. Mauza Pachman Patti Bench Mark. On W. parapet wall of road bridge over Pushtia Dhar, 4 feet 7 inches from its N. end.	108·625	108·613
23	BM 51 / 72 O	17·8	Top of mile-post at highest point, Karagolaghat 9 miles, on E. side of road.	110·536	110·524
24	BM.52 / 72 O	18·6	G.T.S. B.M. Mauza Lachmipur Bench Mark. 7 feet from S. end of E. parapet wall of road bridge over Kajra Dhar E. by S. of village.	109·908	109·897
25	BM 53 / 72 O	18·8	Top of mile-post, Karagolaghat 8 miles, on W. side of road.	108·754	108·743.
26	BM.54 / 72 O	19·8	Top of mile-post, Karagolaghat 7 miles, on E. side of road.	109·597	109·586
27	BM.55 / 72 O	20·8	Top of mile-post, Karagolaghat 6 miles, on E. side of road.	108·255	108·244
28	BM.56 / 72 O	21·8	Top of mile-post, Karagolaghat 5 miles, on W. side of road, at highest point.	107·290	107·279
29	BM.57 / 72 O	22·8	Top of mile-post, Karagolaghat 4 miles, on E. side of road.	109·432	109·421

Main-Line 73. (Purnea to Pirpanti).

Designation of Bench-marks			Distance from Purnea	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
30		BM.58 / 72 O	23·8	Top of iron mile-post, Karagolaghat 3 miles, on E. side of road.	108·153	108·142
31		BM.59 / 72 O	24·8	Top of iron mile-post, Karagolaghat 2 miles, on W. side of road.	107·840	107·829
32		BM.60 / 72 O	26·3	G.T.S. / B.M. Karagolaghat Bench Mark No. 1. On centre of most southerly opening of front verandah of D.P.W. road bungalow, 3 chains W. of road.	102·483	102·473
33		BM.61 / 72 O	26·6	Top of Karagolaghat Block-stone Bench Mark No. 2. Embedded 100 feet from N.W. corner of Post Office compound, at angle formed by main and branch roads to Post Office. The bench-mark bears 178° from pakka pillar.	101·769	101·759
	1 / 33	BM.62 / 72 O	34·5	G.T.S. / B.M. Pirpanti Bench Mark No. 1. On centre of S. side of *tulsi* platform on N. edge of Jiwach tank.	106·725	106·715
	2 / 33	BM.63 / 72 O	34·6	Pirpanti Bench Mark No. 2. On upper surface of masonry pillar of E. end flood-gate of Jiwach tank. The inscription arrow-head and G.T.S B.M. is engraved to indicate position of bench-mark.	99·343	99·333
34		BM.64 / 72 O	34·5	Pirpanti Indigo Factory Bench Mark No. 3. On lowest step of flight of masonry steps leading from road to Mr. Griffith's house. An arrow-head is engraved to mark position of bench-mark. Note.—This is an old bench-mark supposed to have been fixed by Irrigation Department.	110·176	110·166
35		BM.26 / 72 O	36·8	G.T.S. / B.M. Block-stone Bench Mark No. 4. Embedded at N.W. corner of Pirpanti railway station house.	154·023	154·009

Main-Line 74. (Pirpanti to Howrah).

Designation of Bench-marks			Distance from Pirpanti	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.26 / 72 O	0·0	G.T.S. / B.M. Block-stone Bench Mark No. 4. Embedded at N.W. corner of Pirpanti railway station house.	154·023	154·009
2		BM.65 / 72 O	4·2	Top of pakka pillar, about 229 miles from Calcutta. (Railway bench-mark).	121·101	121·090
3		BM 66 / 72 O	6·3	Mirza chauki. Cross mark on parapet wall of culvert, W. of 226½ mile-stone from Calcutta.	108·375	108·365
4		BM.67 / 72 O	7·6	Cross mark on centre pillar, end of curve W. gate of Tilliagarhi fort. (Railway bench-mark).	112·421	112·411
	a / 4	BM.68 / 72 O	7·6	Heel-stone of old gateway, W. gate of Tilliagarhi fort, N. side. (Railway bench-mark).	98·160	98·151
5		BM.69 / 72 O	8·8	Railway bench-mark No. 2249.	117·449	117·439
	a / 5	BM 70 / 72 O	9·5	Square pakka pillar, about 1 chain W. of Tilliagarhi sidings. (Railway bench-mark).	105·898	105·889
6		BM.71 / 72 O	11·8	Pakka pillar at change of gradient, about 2 chains W. of culvert, near 221st mile-stone from Calcutta. (Railway bench-mark).	117·891	117·881
7		BM.72 / 72 O	14·5	Sahebgunge G.T.S. Bench Mark. Stone B.M. embedded 3 from N.E. corner of station house.	113·627	113·617
8		BM 73 / 72 O	14·6	Level of rails, at centre of Sahebgunge railway station.	111·816	111·806
9		BM.74 / 72 O	19·2	Pakka pillar No. 1640, in cutting, 36 chains E. of 214th mile-stone from Calcutta. (Railway bench-mark).	119·789	119·779
	a / 9	BM 75 / 72 O	20·0	Pakka pillar No. 1620. (Railway bench-mark).	115·332	115·322
10		BM 76 / 72 O	23·3	Level of rails at centre of Maharajpur railway station.	99·270	99·262
	a / 10	BM 77 / 72 O	26·5	About 1580 feet N. of 206th mile-stone, and N. of cutting. (Railway bench-mark).	114·399	114·389
	b / 10	BM.78 / 72 O	33·9	130 feet S. of 199th mile-stone from Calcutta. (Railway bench-mark).	118·946	118·936
	c / 10	BM 79 / 72 O	34·6	Pakka pillar, 200 feet S. of 197th mile-stone, and 50 feet W. of E.I. railway line. (Railway bench-mark).	123·374	123·364
11		BM.1 / 72 P	37·9	G.T.S. Bench Mark, Tinpahar. Stone B.M. embedded to N. of station house, and 30 feet E. of E.I. railway line.	109·989	109·981

Main-Line 74. (Pirpanti to Howrah).

Designation of Bench-marks			Distance from Pirpanti	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
12		BM.2 / 72 P	37·9	Level of rails at centre of Tinpahar railway station.	105·240	105·233
13		BM 3 / 72 P	43·1	Sitapahar. Edge of drain at N. end of cutting.	146·632	146·622
14		BM.4 / 72 P	48·1	Level of rails at Barharwa railway station.	104·746	104·740
15		BM.5 / 72 P	49·6	Level of rails at E. I. railway bridge, S. of and close to 183rd mile-stone from Calcutta.	95·933	95·927
	a / 15	BM 6 / 72 P	52·2	Plinth of N.W. pier of bridge, about 1390 feet N. of 180th mile-stone.	105·966	105·960
16		BM 7 / 72 P	55·6	Top of platform, about 130 feet S. of 177th mile-stone from Calcutta.	96·762	96·757
	a / 16	BM.8 / 72 P	59·5	Square pillar, about 460 feet S. of 173rd mile-stone from Calcutta. (Railway bench-mark).	84·185	84·181
17		BM.9 / 72 P	64·1	Level of rails at Pakur railway station.	105·796	105·791
	a / 17	BM.10 / 72 P	67·6	Square pillar, 792 feet S. of 165th mile-stone from Calcutta. (Railway bench-mark).	81·456	81·452
18		BM.11 / 72 P	68·4	Square pillar, 520 feet N. of 164th mile-stone from Calcutta. (Railway bench-mark).	89·719	89·715
19		BM.12 / 72 P	69·2	1320 feet N. of 163rd mile-stone from Calcutta. (Railway bench-mark).	82·803	82·800
20		BM.13 / 72 P	70·8	Top of W. parapet of E. I. railway bridge, near Rajgan chauki, between 161st and 162nd mile-stones from Calcutta.	88·319	88·316
21		BM.14 / 72 P	72·4	Square pillar, about 130 feet S. of 160th mile-stone from Calcutta. (Railway bench-mark).	101·155	101·151
22		BM 15 / 72 P	74·0	Square pillar, about halfway between 158th and 159th mile-stones from Calcutta. (Railway bench-mark).	104·822	104·818
23		BM.16 / 72 P	74·8	Square pillar, S. of bridge, about half-way between 157th and 158th mile-stones from Calcutta. (Railway bench-mark).	116·358	116·354
24		BM.17 / 72 P	77·8	Level of rails at Murarai railway station.	98·682	98·679
25		BM.18 / 72 P	79·2	Square pillar in centre of line, 850 feet N. of 153rd mile-stone from Calcutta. (Railway bench-mark).	105·040	105·037
26		BM.19 / 72 P	80·6	Square pillar in centre of line, 1580 feet S. of 152nd mile-stone from Calcutta. (Railway bench-mark).	100·304	100·301

Main-Line 74. (Pirpanti to Howrah).

Designation of Bench-marks			Distance from Pirpanti	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
27		BM.20 / 72 P	82·7	Square pillar in centre of line, about 150 miles from Calcutta. (Railway bench-mark).	120·893	120·890
28		BM.21 / 72 P	87·2	Square pillar in centre of line, about 700 feet N. of 145th mile-stone from Calcutta. (Railway bench-mark).	132·645	132·642
29		BM.22 / 72 P	87·7	G.T.S. Bench Mark, Nalhati. Stone B.M. embedded 20 feet N. of station house, 5 feet E. of wall surrounding platform, and 30 feet E. of railway line.	133·271	133·268
30		BM.23 / 72 P	87·7	Level of rails at centre of Nalhati railway station.	130·704	130·701
31		BM.24 / 72 P	92·3	Square pillar, near 140th mile-stone from Calcutta. (Railway bench-mark).	128·606	128·604
32		BM.25 / 72 P	93·5	Square pillar in centre of line, near 139th mile-stone from Calcutta. (Railway bench-mark).	134·836	134·834
33		BM.26 / 72 P	96·5	Square pakka pillar, opposite booking office, Rampore Haut railway station. (Railway bench-mark).	118·147	118·145
34		BM.27 / 72 P	100·6	Rampore Haut railway Bench Mark. Pakka pillar, about 132 miles from Calcutta.	118·423	118·422
	a / 34	BM.28 / 72 P	103·6	Plinth of centre pier (S. side) of E.I. railway bridge, near 129th mile-stone.	122·924	122·923
35		BM.29 / 72 P	104·2	Level of rails at centre of Mollarpur railway station.	139·357	139·356
36		BM.30 / 72 P	109·0	Level of rails opposite Dharma chauki.	149·966	149·966
37		BM.1 / 73 M	113·5	Top of E. parapet wall, on S. end of Sainthia bridge, W. of station.	169·987	169·988
38		BM.2 / 73 M	113·7	Level of rails at Sainthia bridge, W. of station.	169·626	169·627
	a / 38	BM.3 / 73 M	113·7	G.T.S. Bench Mark, Sainthia. Stone B.M. embedded 150 feet from northern extremity of station house, 10 feet W. of wall surrounding it, and 25 feet W. of E. I. railway line.	173·519	173·520
39		BM.4 / 73 M	121·9	Level of rails at Ahmadpur railway station.	135·495	135·496
	a / 39	BM 5 / 73 M	121·9	Level of platform at centre of Ahmadpur railway station.	138·538	138·540
40		BM.6 / 73 M	127·9	Level of rails opposite (—), at Doposi chauki, near 104th mile-stone from Calcutta.	141·498	141·500

Main-Line 74. (Pirpanti to Howrah).

Designation of Bench-marks		Distance from Pirpanti	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
41	BM.7 / 73 M	133·7	G.T.S. Bench Mark, Bolpur. Stone B.M. embedded N. of station house, 250 feet from edge of platform, and 120 feet W. of line.	163·004	163·008
42	BM.8 / 73 M	133·8	Level of rails, at centre of Bolpur railway station.	160·886	160·890
43	BM 9 / 73 M	133·8	Level of platform at Bolpur railway station.	163·876	163·880
44	BM.10 / 73 M	138·5	Level of rails, at centre of Bhedia railway station.	133·518	133·522
45		145·4	Destroyed.	109·421	109·425
46	BM.11 / 73 M	145·4	Level of rails, at centre of Gushkara railway station.	111·744	111·748
47		157·4	Destroyed.	123·048	123·054
48	BM.12 / 73 M	157·5	Level of rails, at Khana junction.	122·749	122·755
49		160·1	Destroyed.	119·294	119·300
50		161·1	Destroyed.	115·308	115·314
51		163·1	Destroyed.	107·339	107·344
52		164·1	Destroyed.	100·877	100·882
53		165·1	Destroyed.	99·113	99·118
54		166·1	Destroyed.	95·870	95·875
55		166·1	Destroyed.	99·261	99·266
56		168·1	Destroyed.	98·039	98·044
57		169·1	Destroyed.	96·497	96·502
58		176·1	Destroyed.	75·944	75·948
59		181·0	Destroyed.	70·884	70·888
60		183·0	Destroyed.	65·521	65·525
61		187·0	Destroyed.	61·496	61·500
62		190·9	Destroyed.	48·715	48·718
63		192·2	Destroyed.	49·164	49·167
64	BM.1 / 79 A	193·9	Top of mile-stone No. 45 from Calcutta.	44·427	44·430

Main-Line 74. (Pirpanti to Howrah).

Designation of Bench-marks			Distance from Pirpanti	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
65		BM.2 / 79 A	194·9	Top of mile-stone No. 44 from Calcutta.	47·295	47·298
	1 / 65	BM.3 / 79 A	197·9	On ground level mark-stone of Nial G.T. Survey Tower Station, lat. 23° 7′ 27″·64, long. 88° 15′ 22″·91. A principal station of Calcutta Meridional Series. (For full description *see* Synoptical Volume).	37·695	37·697
66		BM.4 / 79 A	196·9	Top of mile-stone No. 42 from Calcutta.	41·878	41·881
67		BM.5 / 79 A	198·9	Top of mile-stone No. 40 from Calcutta.	38·450	38·452
68		BM.6 / 79 A	199·9	Top of mile-stone No. 39 from Calcutta.	36·096	36·098
69		BM.7 / 79 A	202·9	Top of mile-stone No. 36 from Calcutta.	33·352	33·354
70		BM.8 / 79 A	203·9	Top of mile-stone No. 35 from Calcutta.	30·032	30·034
71		BM.1 / 79 B	205·9	Top of mile-stone No. 33 from Calcutta.	31·544	31·546
72		BM.2 / 79 B	207·9	Top of mile-stone No. 31 from Calcutta.	36·294	36·297
73		BM 3 / 79 B	209·9	Top of mile-stone No. 29 from Calcutta.	29·529	29·531
74		BM.4 / 79 B	211·9	Top of mile-stone No. 27 from Calcutta.	31·319	31·321
75		BM.5 / 79 B	212·9	Top of mile-stone No. 26 from Calcutta.	25·679	25·681
	a / 75	BM.6 / 79 B	215·2	○ On floor at W. entrance to Chinsura Barrack Church.	29·482	29·484
	b / 75	BM 7 / 79 B	215·3	On mark-stone on upper surface of pillar of Chinsura G.T. Survey Station, lat. 22° 52′ 55″·87, long. 88° 24′ 11″·33. A principal station of Calcutta Longitudinal Series. (For full description *see* Synoptical Volume).	84·952	84·958
76		BM.8 / 79 B	220·1	⊙ On top of mile-stone No. 21 from Calcutta.	26·531	26·533
77		BM.9 / 79 B	223·9	Top of mile-stone No. 19 from Calcutta.	28·239	28·241
78		BM.10 / 79 B	226·0	Top of mile-stone No. 17 from Calcutta.	19·438	19·440
79		BM.11 / 79 B	226·9	Top of mile-stone No 16 from Calcutta.	19·256	19·258

Main-Line 74. (Pirpanti to Howrah).

Designation of Bench-marks			Distance from Pirpanti	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
80		BM.12 / 79 B	228·3	Level of rails at Serampore railway station.	22·005	22·007
81		BM.13 / 79 B	229·9	Top of mile-stone No. 13 from Calcutta.	22·928	22·930
82		BM.14 / 79 B	230·9	⊙ On top of mile-stone No. 12 from Calcutta.	22·452	22·454
83		BM.15 / 79 B	231·9	Top of mile-stone No. 11 from Calcutta.	20·034	20·036
84		BM.16 / 79 B	232·9	Top of mile-stone No. 10 from Calcutta.	18·845	18·847
85		BM.17 / 79 B	233·9	Top of mile-stone No. 9 from Calcutta.	24·042	24·044
86		BM.18 / 79 B	234·9	Top of mile-stone No. 8 from Calcutta.	22·192	22·194
87		BM.19 / 79 B	236·8	Top of mile-stone No. 6 from Calcutta.	22·274	22·276
88		BM.20 / 79 B	241·6	Howrah Dock sill. Datum of E. I. railway levels.	−10·567*	−10·568*
89		BM.21 / 79 B	241·8	Howrah Station Bench Mark. At terminus, S. of gateway of court enclosing station.	16·757	16·759
90		BM.22 / 79 B	242·5	Top of B.M. in Calcutta mint compound, near N.W. corner of tank, adjoining river.	16·453	16·455
	a / 90	BM.23 / 79 B	243·3	Calcutta Bench Mark No. 40. Top of B.M. embedded at junction of Fairlie Place and Strand.	16·560	16·562
91			245·1	Destroyed.	18·375	18·377
92		BM.24 / 79 B	246·2	Level of sill, Kidderpore Dock. The point of reference is surface of sill at N. end.	−7·758*	−7·759*
93		BM.25 / 79 B	246·5	G.T.S. ⊙ B.M. A at Kidderpore Dockyard. On 5th brick from E. on 3rd step of moulding shed, leading into boat house.	22·415	22·417
	a / 93	BM.26 / 79 B	246·7	On masonry pillar, bearing a marble slab, with inscription "B.M. 23 feet above datum, Dock-sill. December 1871" close to Tidal Observatory and below sail-loft, Kidderpore Dockyard. (Irrigation Department bench-mark).	15·659	15·661
	b / 93	BM.27 / 79 B	246·7	Level of bed-plate of self-registering Tide Gauge in Tidal Observatory, Kidderpore Dockyard.	23·967	23·969
94		BM.28 / 79 B	246·9	G.T.S. ⊙ B.M. On S. end of E. wing wall of Hasting's suspension bridge, Kidderpore, and on 2nd pillar from lamp post at end of E. wing wall.	27·517	27·520

* This bench-mark is below Mean Sea Level.

Main-Line 74. (Pirpanti to Howrah).

Designation of Bench-marks		Distance from Pirpanti	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
95	BM.29 / 79 B	247·5	On masonry pillar, opposite Prinsep's Ghat, Calcutta. It was constructed by Captain Tucker, Garrison Engineer, and bears the inscription "No. 4, 25·35 bench-mark, Fort William 1862".	18·365	18·367
96	BM.30 / 79 B	248·3	G.T.S. O B.M. On pavement, in front of inscription stone of Sir William Peel's statue, near S.W. gate of Eden Gardens, Calcutta.	18·994	18·996
97	BM 31 / 79 B	248·6	G.T.S. O B.M. On pavement, on E. side and near 4th pillar from S. of Babu Rajchandar Dass's Ghat, Strand, Calcutta.	18·108	18·110
98	BM.32 / 79 B	249·3	G.T.S. O B.M. On S.E. corner of basement of Nawab Abdul Ghani's Fountain, near junction of Fairlie Place with Strand road, Calcutta.	17·978	17·980
99	BM.33 / 79 B	249·9	G.T.S. O B.M. On S. corner of step at ground level, of S. arch of entrance to Chhote Lal Durga Prashad's Ghat on Strand road, on N. side of and adjoining Hooghly bridge.	18·602	18·604
100	BM.34 / 79 B	250·2	G.T.S. O B.M. On top step of Gulab Ghat, at Grey's wharf, opposite 1st iron bollard to N. of landing, 2 chains from N.W. corner of River Steam Navigation Company's Godown, Strand road, Calcutta.	14·447	14·448
101	BM.35 / 79 B	250·3	Top of 1st iron bollard, N. of landing, in front of River Steam Navigation Company's Godown, Strand, Bank road, Calcutta.	15·334	15·335
a / 101	BM.36 / 79 B	250·9	Level of sill, Howrah Dock. The principal one in Calcutta Docking company's yard. The point of reference is surface of sill immediately below southern hinge of gate.	−10·617*	−10·618*
102	BM.37 / 79 B	251·1	G.T.S. O B.M. On E. end of 2nd step from bottom, at main entrance porch, Howrah railway station.	18·136	18·138

* This bench-mark is below Mean Sea Level.

Branch-Line 74A. (Kidderpore to Diamond Harbour).

Designation of Bench-marks			Distance from Kidderpore	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.25 / 79 B	0·0	G.T.S. A at Kidderpore Dockyard. On 5th brick from E. on 3rd step of moulding shed, leading into boat house.	22·415	22·417
2		BM.38 / 79 B	0·0	G.T.S. B at Kidderpore. On western side of circular masonry platform on which used to stand a sentry-box, close to and N. of road running through centre of dock-yard.	20·629	20·631
3		BM 39 / 79 B	0·2	B.O.M. Marked in tar on N.E. corner of plinth of S. pillar of gateway to Government Dockyard, Kidderpore.	21·120	21·122
4		BM 40 / 79 B	1·4	Top of mile-stone No. 3 from Calcutta.	17·520	17·522
5		BM 41 / 79 B	1·7	G.T.S. On W. end of S. parapet of bridge, at junction of road from Kalighat to Ulubaria, ¼ mile S. of B.M. No. 4.	19·571	19·573
6		BM.42 / 79 B	2·4	Top of mile-stone No. 4 from Calcutta.	14·462	14·463
7		BM.43 / 79 B	2·8	G.T.S. On S.E. wing wall of bridge No. 2, 30 chains S. of B.M. No. 6.	13·761	13·762
8		BM.44 / 79 B	3·4	G.T.S. On N.E. corner of verandah floor of Mahabir's Temple, opposite police station at Behala, and 3 chains N. of mile-stone No. 5 from Calcutta.	17·789	17·791
9		BM 45 / 79 B	4·3	G.T.S. On flooring at N.W. corner of Babu Banamali Ghoshal's pakka ghat, 13 chains N. of B.M. No. 10.	18·998	19·000
10		BM.46 / 79 B	4·4	Top of mile-stone No. 6 from Calcutta.	18·586	18·588
11		BM.47 / 79 B	5·0	⊤ On S. end of offset of N. angular parapet wall of pakka ghat of Municipal tank on W. side of road at Borisha, midway between mile-stones Nos. 6 and 7 from Calcutta. (P.W.D. bench-mark).	17·159	17·161
	a / 11	BM.48 / 79 B	5·6	G.T.S. On S. end of centre step at E. entrance to South Subarban Town Charitable Dispensary at Borisha, 10 chains S. of B.M. No. 10.	15·411	15·413
12		BM 49 / 79 B	5·4	G.T.S. On centre of offset of E. parapet of bridge No. 3 at Borisha, 3 chains N. of mile-stones No. 7 from Calcutta.	14·676	14·678
13		BM.50 / 79 B	6·4	Top of mile-stone No. 8 from Calcutta.	18·060	18·062
14		BM.51 / 79 B	6·8	B.O.M. On plinth of S. end of W. parapet of bridge at Thakurpukur, 28 chains S. of B.M. No. 13.	12·184	12·185

Branch-Line 74A. (Kidderpore to Diamond Harbour).

Designation of Bench-marks			Distance from Kidderpore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	a/14	BM 52 / 79 B	7·0	G.T.S. □ B.M. at Thakurpukur. Embedded about 6 inches below ground, opposite eastern wall of Mission Church, 7 feet from centre of wall, 13 feet from either end of it, and 40 yards westwards from road.	9·722	9·723
	b/14	BM.53 / 79 B	7·0	↑ On 2nd or middle step at southern wing entrance to Mission Church at Thakurpukur. (P.W.D. bench-mark).	12·026	12·027
15		BM.54 / 79 B	7·7	G.T.S. ○ B.M. On centre of E. parapet of bridge No. 6, 25 chains S. of mile-stone No. 9 from Calcutta.	11·882	11·883
16		BM 55 / 79 B	8·4	Top of mile-stone No. 10 from Calcutta.	12·574	12·575
17		BM 56 / 79 B	8·9	G.T.S. ○ B.M. On S. end of W. parapet of bridge, opposite Rajamulla Chak, midway between bench-marks Nos. 16 and 18.	13·256	13·257
18		BM 57 / 79 B	9·4	Top of mile-stone No. 11 from Calcutta.	13·975	13·976
19		BM 58 / 79 B	10·4	Top of mile-stone No. 12 from Calcutta.	13·129	13·130
20		BM.59 / 79 B	11·0	G.T.S. ○ B.M. On top of S.W. parapet pillar of bridge No. 8 at Khoribaria village, 32 chains N. of mile-stone No. 13 from Calcutta.	16·545	16·547
21		BM 60 / 79 B	12·4	Top of mile-stone No. 14 from Calcutta.	14·712	14·714
22		BM 61 / 79 B	12·4	G.T.S. □ B.M. at Bistupur Police Station. Embedded about 6 inches below ground level, on W. margin of road, in compound of police station, 17 feet from N.E. corner pillar of compound wall, 21 feet from S.W. corner of post office, and 66 feet from B.M. No. 23.	12·872	12·873
23		BM.62 / 79 B	12·5	G.T.S. ○ B.M. On N. end of 3rd or middle step at entrance to Bistupur police station, 6 chains S. of B.M. No. 21.	15·617	15·619
24		BM.63 / 79 B	13·1	Inscription stone on landing of Udairampur village tank, having letters K. C. M. engraved on it. (P.W.D. bench-mark).	14·351	14·353
25		BM 64 / 79 B	13·4	Top of mile-stone No. 15 from Calcutta.	16·002	16·004
26		BM.65 / 79 B	13·8	G.T.S. ○ B.M. On cornice at E. end of N. parapet of channel bridge at Kriparampur village, and 35 chains S. of B.M. No. 25.	14·717	14·719
27		BM.66 / 79 B	14·3	G.T.S. ○ B.M. On centre of E. parapet of bridge No. 9, ½ mile S. of Kriparampur village, and 2 chains N. of mile-stone No. 16 from Calcutta.	15·209	15·211

Branch-Line 74A. (Kidderpore to Diamond Harbour).

Designation of Bench-marks		Distance from Kidderpore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
28	BM.67 / 79 B	16·4	Top of mile-stone No. 18 from Calcutta.	15·299	15·301
29	BM.68 / 79 B	16·8	G.T.S. ○ B.M. On N. end of bottom step of W. entrance to P.W.D. inspection bungalow at Rajar Hat, 32 chains S. of B.M. No. 28.	12·325	12·326
a / 29	BM.69 / 79 B	16·8	⩚ On 3rd step at W. entrance to P.W.D. inspection bungalow at Rajar Hat. (P.W.D. bench-mark).	13·347	13·348
30	BM.70 / 79 B	17·4	Top of mile-stone No. 19 from Calcutta.	13·069	13·070
31	BM.71 / 79 B	18·3	G.T.S. ○ B.M. On E. end of S. parapet of bridge over channel at Chanditola village, 6 chains N. of B.M. No. 32.	15·367	15·369
32	BM.72 / 79 B	18·4	Top of mile-stone No. 20 from Calcutta.	14·316	14·318
33	BM.73 / 79 B	19·1	G.T.S. ○ B.M. On centre of E. parapet of bridge No. 11, near Saipur village, 26 chains N. of B.M. No. 34.	14·026	14·028
34	BM.74 / 79 B	19·4	Top of mile-stone No. 21 from Calcutta.	13·576	13·578
35	BM.75 / 79 B	20·0	G.T.S. □ B.M. at Fatehpur Hat. Embedded about 6 inches below ground level, on W. side of road, 15 feet E. of S.E. corner of village school, 50 feet E. of tank, and 100 feet W. of channel along W. margin of road.	8·870	8·871
36	BM.76 / 79 B	20·4	Top of mile-stone No. 22 from Calcutta.	14·866	14·868
37	BM.77 / 79 B	21·3	G.T.S. ○ B.M. On centre of N. parapet of bridge, on branch road to Usti Hat, 5 chains N. of B.M. No. 38.	13·495	13·497
38	BM.78 / 79 B	21·4	Top of mile-stone No. 23 from Calcutta.	13·289	13·291
39	BM.79 / 79 B	22·0	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 12, 32 chains N. of B.M. No. 40.	14·343	14·345
40	BM.80 / 79 B	22·4	Top of mile-stone No. 24 from Calcutta.	13·907	13·909
41	BM.81 / 79 B	22·6	G.T.S. ○ B.M. On E. end of S. parapet of bridge over channel at Sheikhtola village, 18 chains S. of B.M. No. 40.	15·503	15·505
42	BM.82 / 79 B	23·4	Top of mile-stone No. 25 from Calcutta.	14·238	14·240
43	BM.83 / 79 B	23·9	B.OM. On centre of S. parapet of bridge over channel at Sorisha Hat.	15·714	15·716

Branch-Line 74A. (Kidderpore to Diamond Harbour).

Designation of Bench-marks			Distance from Kidderpore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
44		BM.84 / 79 B	24·0	G.T.S. ○ B.M. On S. newel of W. parapet of bridge No. 13 at S.E. end of Sorisha Hat, ½ mile N. of B.M. No. 45.	16·864	16·866
45		BM 85 / 79 B	24·4	Top of mile-stone No. 26 from Calcutta.	13·630	13·632
	a / 45	BM.86 / 79 B	24·8	On ground level mark-stone of Sarisa G.T. Survey Tower Station, lat. 22° 14′ 47″·73, long 88° 11′ 22″·16. A principal station of East Coast Series. (For full description *see* Synoptical Volume).	21·124	21·126
46		BM.87 / 79 B	25·5	G.T.S. ○ B.M. On S. end of E. parapet of bridge No. 14, 3 chains S. of mile-stone No. 27 from Calcutta, and opposite Mohanpur village.	14·611	14·613
47		BM 88 / 79 B	26·2	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 15, ¾ mile S. of Mohanpur village, and 12 chains N. of B.M. No. 48.	15·735	15·737
48		BM.89 / 79 B	26·4	Top of mile-stone No. 28 from Calcutta.	14·657	14·659
49		BM.90 / 79 B	27·3	G.T.S. ○ B.M. On centre of E. parapet of bridge No. 16 opposite Hajipur village, ¼ mile S. of mile-stone No. 29 on main road to Calcutta.	14·288	14·290
50		BM 91 / 79 B	27·8	† On W. end of bottom step at main or S. entrance of P.W.D. inspection bungalow at Diamond Harbour. (P.W.D. bench-mark).	10·745	10·746
51		BM.92 / 79 B	28·0	G.T.S. □ B.M. at Diamond Harbour. Embedded in front verandah floor of P.W.D. inspection bungalow.	18·647	18·649
52		BM.93 / 79 B	28·2	G.T.S. ○ B.M. On W. end of bottom step at main entrance to post office, Diamond Harbour.	10·428	10·429
53		BM.94 / 79 B	28·5	G.T.S. ○ B.M. On top step facing river, at entrance to telegraph office, Diamond Harbour.	14·266	14·268
54		BM.95 / 79 B	28·7	Boundary Pillar opposite S.E. corner of cemetery at Diamond Harbour.	15·992	15·994
55		BM.96 / 79 B	28·8	⩚ On plinth of N. pier of gateway of cemetery at Diamond Harbour. (P.W.D. bench-mark).	10·822	10·823
56		BM.97 / 79 B	28·8	G.T.S. ○ B.M. A at Diamond Harbour. Situated 210 feet W. of Tidal Observatory, just below embankment and near junction of path leading to cemetery. This is the bench-mark of reference for the Tidal Observatory.	12·124	12·125
	a / 56	BM.98 / 79 B	28·8	Level of Bed-Plate of Self-Registering Tide Gauge in Tidal Observatory, Diamond Harbour.	20·419	20·421

Branch-Line 74B. (Kidderpore to Dublat).

Designation of Bench-marks			Distance from Kidderpore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.38 / 79 B	0.0	G.T.S. B. at Kidderpore. On western side of circular masonry platform on which used to stand a sentry box, close to and N. of road running through centre of dockyard. (B.M.)	20·629	20·631
2		BM.99 / 79 B	1·2	Level of pedestal of Lion's Statue on W. wing wall of gate bridge of house No. 21 (Messrs. Apcar and Co's), Garden Reach road.	15·446	15·447
3		BM.100 / 79 B	3·3	G.T.S. On S. end of offset of W. parapet of bridge at Ghulam Rahman Haji's house, in Dhobapara village, on road to Akra. (B.M.)	16·163	16·165
4		BM.101 / 79 B	3·9	G.T.S. On E. end of N. parapet of bridge, at S. end of Bartola-bazar, on road to Akra. (B.M.)	14·904	14·905
5		BM.102 / 79 B	5·1	G.T.S. On middle step, at side entrance to N. of Assistant Engineer's office, P.W.D. brick-fields, Akra. (B.M.)	14·376	14·377
	a / 5	BM.103 / 79 B	5·2	G.T.S. at Akra. Embedded in front of and near gate leading into Assistant Engineer's office, P.W.D. brick-fields. (B.M.)	14·597	14·598
6		BM.104 / 79 B	5·3	Top of flange of marine socket No. 4, on river bank, 14 chains W. of Assistant Engineer's office, P.W.D. brick-fields, Akra.	14·091	14·092
7		BM.105 / 79 B	5·3	G.T.S. On S. end of W. parapet of sluice, 13 chains S.W. of Assistant Engineer's office, P.W.D. brick-fields, Akra. (B.M.)	17·478	17·480
	1 / 7	BM.106 / 79 B	5·6	G.T.S. On E. end of masonry pillar, on N. side of iron pier, P.W.D. brick-fields, Akra. (B.M.)	13·900	13·901
	2 / 7	BM.107 / 79 B	5·7	G.T.S. On top step of masonry pillar supporting iron ladder of tank house adjoining P.W.D. Surkhi Mills, Akra. (B.M.)	14·329	14·330
	3 / 7	BM.108 / 79 B	6·2	Top of flange of marine socket No. 2, at junction of two *bands*, near S.W. corner of Messrs. Burn & Co's brick-field, ½ mile N. of Akra pier.	16·154	16·156
8		BM.109 / 79 B	6·0	G.T.S. On N. end of 2nd step from bottom, at E. entrance to Raj Narain Manna's house at Kishannagar village, near Akra creek. (B.M.)	15·733	15·735
9		BM.110 / 79 B	7·1	G.T.S. On N.W. corner of platform round a *pipal* tree, on S. margin of embankment opposite Uludanga village. (B.M.)	15·221	15·223
10		BM.111 / 79 B	7·2	Top of flange of marine socket No. 6, on embankment, 16 chains E. of B.M. No. 11.	17·519	17·521
11		BM.112 / 79 B	7·4	G.T.S. On floor, just below N. parapet of sluice over Mirpur khal. (B.M.)	17·077	17·079
	a / 11	BM.113 / 79 B	8·4	Top of flange of marine socket No. 8, on embankment, a few feet to E. of sluice over Nungibangla khal.	17·047	17·049

Branch-Line 74B. (Kidderpore to Dublat).

Designation of Bench-marks		Distance from Kidderpore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
12	BM.114 / 79 B	8·4	G.T.S. ○ B.M. On floor just below N. parapet of sluice over Nungi-bangla khal.	16·517	16·519
13	BM.115 / 79 B	10·0	G.T.S. ○ B.M. On N. end of middle step, at E. entrance to Manager's house, Empress Cotton Mills at Chitriganj.	16·859	16·861
1/13	BM.116 / 79 B	10·9	Top of flange of marine socket No. 10, on old *band*, 4 chains W. of embankment, 8 chains S. of mile-post No. 3 along embankment, and ¾ mile N. of Empress Cotton Mills.	17·255	17·257
14	BM.117 / 79 B	10·1	$\overline{\wedge}$ On top step of S.E. wing wall of sluice, at S. end of Empress Cotton Mills. (P.W.D. bench-mark).	15·055	15·057
15	BM.118 / 79 B	10·8	Top of flange of marine socket No. 12, on river bank, 3 chains W. of embankment, ¾ mile S. of Empress Cotton Mills and about ¼ mile N. of Budge Budge bazar.	14·577	14·578
16	BM.119 / 79 B	12·5	$\overline{\wedge}$ On E. end of S. parapet of bridge No. 22 over Charial khal, on road from Calcutta to Achipur, at Charial bazar. (P.W.D. bench-mark).	18·554	18·556
17	BM.120 / 79 B	13·1	G.T.S. ○ B.M. Embedded in top step of N.E. wing wall of S. parapet of sluice at Jaichandipur village.	14·673	14·675
18	BM.121 / 79 B	13·4	Top of flange of marine socket No. 14, on edge of field, 1 chain from river bank, 4 chains from embankment, and ¼ mile below B.M. No. 17.	14·135	14·136
19	BM.122 / 79 B	14·5	Top of flange of marine socket No. 16, on embankment adjoining a triangular stone marked R.S. ○ 1871 embedded on E. side of Pujali khal.	18·634	18·636
20	BM.123 / 79 B	15·3	G.T.S. ○ B.M. On top step of E. wing wall of S. parapet of sluice at Pujali village.	15·534	15·536
a/20	BM.124 / 79 B	16·1	$\overline{\wedge}$ On floor, near S.W. corner of inspection bungalow at Achipur. (P.W.D. bench-mark).	13·260	13·261
21	BM.125 / 79 B	16·4	Top of flange of marine socket No. 18, on river side on S. bank of creek, ½ mile W. of B.M. No. a/20.	11·463	11·464
22	BM.126 / 79 B	17·3	$\overline{\wedge}$ On N. end of 2nd step from bottom of pakka stairs, on N. side of telegraph office, Achipur. (P.W.D. bench-mark).	12·771	12·772
23	BM.127 / 79 B	17·8	G.T.S. ○ B.M. at Mayapur Tidal Semaphore. Embedded flush with surface of pillar, below embankment on side further away from semaphore.	11·472	11·473
24	BM.128 / 79 B	18·0	$\overline{\wedge}$ On top step of N.W. wing wall of sluice, 9 chains E. of B.M. No. 23. (P.W.D. bench-mark).	15·448	15·450

Branch-Line 74B. (Kidderpore to Dublat).

Designation of Bench-marks			Distance from Kidderpore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
25		BM.129 / 79 B	18·7	$\overline{\wedge}$ On top step of S.E. wing wall of sluice, 13 chains W. of B.M. No. $\frac{a}{25}$ (P.W.D. bench-mark).	15·189	15·191
	$\frac{a}{25}$	BM.130 / 79 B	18·9	G.T.S. ○ B.M. at Mayapur Magazine. Embedded in centre of floor of sentry box or tower at S.W. corner of compound wall of magazine.	12·424	12·425
26		BM.131 / 79 B	20·1	Top of flange of marine socket No. 20, on river bank at mouth of Alampur khal (Vanzan creek on Marine chart), 5 chains W. of embankment, and 1 mile S. of B.M. No. $\frac{a}{25}$.	12·717	12·718
27		BM.132 / 79 B	20·6	$\overline{\wedge}$ On E. parapet of sluice, opposite Marine beacon, ¾ mile N. of Rayapur bazar, and 9 chains N. of mile-post No. 16 along embankment. (P.W.D. bench-mark).	18·985	18·987
28		BM 133 / 79 B	21·2	R.S. ○ 1871 On stone embedded in embankment, 25 chains N. of Rayapur bazar, and 35 chains S. of mile-post No. 16 along embankment.	15·005	15·005
29		BM.134 / 79 B	21·5	$\overline{\wedge}$ On S. end of E. parapet of sluice opposite Rayapur bazar, and ¼ mile N. of mile-post No. 17 along embankment. (P.W.D. bench-mark).	17·242	17·244
30		BM.135 / 79 B	22·4	Top of flange of marine socket No. 22, on S. bank of Rayapur creek, under banyan tree, 3 chains below embankment.	13·408	13·409
31		BM.136 / 79 B	23·3	$\overline{\wedge}$ On top step of N.E. wing wall of sluic opposite Gopalganj bazar at Baharkunji village. (P.W.D. bench-mark).	14·961	14·963
32		BM.137 / 79 B	24·1	G.T.S. ○ B.M. at Rayapur Marine Survey Tide Gauge. Embedded flush with surface of pillar, below and to N. of embankment, immediately opposite tide gauge.	11·338	11·339
33		BM 138 / 79 B	24·3	Top of flange of marine socket No. 24, on embankment about ¼ mile S. of B.M. No. 32.	17·077	17·079
	$\frac{a}{33}$	BM.139 / 79 B	24·9	B.△M. /\ On wall of Brul Semaphore Tower, on outer face and a little to N. of doorway. (P.W.D. bench-mark).	15·588	15·590
34		BM.140 / 79 B	24·9	R.S. ○ 1871 On stone embedded in embankment, a few feet to S. of sluice, and 10 chains S.W. of B.M. No. $\frac{a}{33}$.	17·392	17·394
35		BM.141 / 79 B	25·2	Iron Pipe. Embedded on W. side of and below embankment, 24 chains S. of sluice, and 10 chains S.W. of B.M. No. $\frac{a}{33}$.	11·576	11·577
36		BM.142 / 79 B	26·4	Top of flange of marine socket No. 26, on edge of a field near some palm trees on river side, 33 chains N. of mile-post No. 22 along embankment, opposite Podupukur bazar.	13·339	13·340

Branch-Line 74B. (Kidderpore to Dublat).

Designation of Bench-marks			Distance from Kidderpore	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
37		BM 143 / 79 B	26·7	$\overline{\wedge}$ On 2nd step from bottom of S.E. wing wall of sluice, 4 chains N. of Podupukur bazar. (P.W.D. bench-mark).	13·750	13·752
38		BM.144 / 79 B	27·5	$\overline{\wedge}$ On top step, leading into verandah on N. side of inspection bungalow at Ahmadpur. (P.W.D. bench-mark).	12·744	12·745
39		BM.145 / 79 B	27·6	Top of flange of marine socket No. 28, on end of *band* leading from Ahmadpur inspection bungalow towards river.	14·083	14·085
40		BM 146 / 79 B	28·2	$\overline{\wedge}$ On 2nd step from bottom of S.E. wing wall of sluice at Rajarampur village, 6 chains S. of Kantakhali creek, and about ¼ mile S. of mile-post No. 23 along embankment. (P.W.D. bench-mark).	12·897	12·898
41		BM.147 / 79 B	28·8	Top of flange of marine socket No. 30, on old *band*, near river side, opposite Mansatola hamlet, ½ mile S. of Kantakhali creek.	14·764	14·766
42		BM.148 / 79 B	29·5	Iron Pipe. Embedded in embankment at junction of path from Shamsundarpur village, 33 chains N. of mile-post No. 25 along embankment.	16·739	16·741
43		BM 149 / 79 B	30·1	G.T.S. O B.M. at Falta Marine Survey Tide Gauge. On stone embedded flush with surface of pillar, below embankment, opposite tide gauge.	11·495	11·496
44		BM.150 / 79 B	30·3	Top of flange of marine socket No. 32, near ruins of some steps, ¼ mile S. of B.M. No. 43.	12·321	12·322
45		BM.151 / 79 B	30·8	$\overline{\wedge}$ On 3rd step from top of N.W. wing wall of sluice, 30 chains S. of Falta village. (P.W.D. bench-mark).	16·906	16·908
46			30·9	Destroyed.	10·223	10·224
47		BM.152 / 79 B	31·1	$\overline{\wedge}$ On S.E. corner of outer sluice of ditch round Falta Fort and on its western side. (P.W.D. bench-mark).	14·108	14·110
	1/47	BM.153 / 79 B	31·2	G.T.S. O B.M. at Falta Fort. On circular stone platform at 2nd embrasure counting from N. of fort.	18·362	18·364
48		BM.154 / 79 B	31·4	Top of flange of marine socket No. 34, on lower bank of Falta creek, 3 chains W. of embankment.	11·236	11·237
49		BM.155 / 79 B	32·9	Top of flange of marine socket No. 36, on river bank, 20 yards E. of a conspicuous tree on Falta Point, and 20 yards from embankment, opposite Agalmeg village.	13·706	13·708
50		BM.156 / 79 B	33·6	$\overline{\wedge}$ On top of centre of W. parapet of sluice, 3 chains S. of lower bank of Nainan khal, opposite Nainan village, and 9 chains S. of mile-post No. 33 along embankment. (P.W.D. bench-mark).	20·436	20·438
51		BM.157 / 79 B	34·4	R.S. O 1871 On stone embedded 7 chains N. of mile-post No. 34 along embankment.	16·115	16·117

Branch-Line 74B. (Kidderpore to Dublat).

Designation of Bench-marks		Distance from Kidderpore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
52	BM.158 / 79 B	35·0	Top of flange of marine socket No. 38 on lower bank of Anchoring creek, 6 chains S. of sluice along embankment.	12·121	12·122
53	BM.159 / 79 B	37·3	G.T.S. ○ B.M. at Hooghly Point, Tidal Semaphore. Embedded in centre just below and on E. side of embankment, 20 yards N. of semaphore.	13·404	13·406
54	BM 160 / 79 B	37·7	⩘ On W. end of bottom step at S. entrance to P.W.D. inspection bungalow at Hooghly Point. (P.W.D. bench-mark).	11·972	11·973
55	BM 161 / 79 B	39·1	Top of flange of marine socket No. 40 on upper bank of creek, 2 chains S. of sluice, ½ mile W. of Samalbaria village and 2 miles below B.M. No. 54.	11·706	11·707
56	BM 162 / 79 B	39·2	⩘ On 3rd step from top of N E. wing wall of sluice, ½ mile W. of Samalbaria village, 33 chains W. of mile-post No. 40 along embankment. (P.W.D. bench-mark).	14·328	14·330
57	BM.163 / 79 B	39·2	G.T.S. ○ B.M. On 2nd step from top of N.E. wing wall of sluice, on N. or left embankment of Hooghly river, ½ mile W. of Samalbaria village, and 33 chains W. of mile-post No. 40 on embankment.	15·288	15·290
58	BM.164 / 79 B	39·6	Top of mile-post No. 40 on left embankment of Hooghly river opposite Samalbaria village.	20·621	20·623
59	BM 165 / 79 B	40·8	G.T.S. ○ B.M. On 2nd step from top of N E. wing wall of sluice, on N. or left embankment of Hooghly river opposite Rai Chak village.	14·945	14·947
60	BM.166 / 79 B	41·6	Top of mile-post No. 42 on N. or left embankment of Hooghly river.	20·341	20·343
61	BM.167 / 79 B	42·2	G.T.S. ○ B.M. On 3rd step from top of N.E. wing wall of sluice, 4 chains E. of Kalicharanpur village, and ¼ mile W. of B.M. No. 62.	15·753	15·755
62	BM.168 / 79 B	42·4	Top of mile-post No. 44 on left embankment of Hooghly river.	20·846	20·849
63	BM.169 / 79 B	43·5	Top of mile-post No. 45 on left embankment of Hooghly river.	20·519	20·521
64	BM.170 / 79 B	44·4	Top of mile-post No. 46 on left embankment of Hooghly river.	20·225	20·227
65	BM.171 / 79 B	44·7	G.T.S. ○ B.M. On centre of N. parapet of sluice, 400 yards N. of Customs House at Diamond Harbour, and 21 chains E. of B.M. No. 64.	11·365	11·366
66	BM.92 / 79 B	45·4	G.T.S. □ B.M. at Diamond Harbour. Embedded in front verandah floor of P.W.D. inspection bungalow.	18·647	18·649

Branch-Line 74B. (Kidderpore to Dublat).

Designation of Bench-marks		Distance from Kidderpore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
67	BM.97 / 79 B	46·1	G.T.S. O B.M. A at Diamond Harbour. Situated 210 feet W. of Tidal Observatory, just below embankment and near junction of path leading to cemetery. This is the bench-mark of reference for the Tidal Observatory.	12·124	12·125
68	BM.172 / 79 B	46·4	G.T.S. O B.M. On S.W. corner of verandah floor of railway bungalow on E. side of creek at Diamond Harbour.	16·316	16·318
69	BM.173 / 79 B	46·7	G.T.S. O B.M. On top of boundary pillar on inner side of embankment, 40 yards W. of Deputy Magistrate's bungalow on E. bank of creek at Diamond Harbour.	18·553	18·555
1/69	BM.174 / 79 B	46·8	On a marble slab let into W. wall of Deputy Collector's kachahri on E. side of creek. The slab has the inscription "Diamond Harbour. The cyclone inundation of 5th October, 1864 rose to the level of this line."	21·600	21·603
70	BM.175 / 79 B	47·5	Top of mile-post No. 62 along left embankment of Hooghly river.	22·385	22·388
71	BM.176 / 79 B	48·5	Top of mile-post No. 63 along left embankment of Hooghly river.	21·655	21·658
72	BM.177 / 79 B	48·6	G.T.S. O B.M. On N. parapet of sluice, 12 chains E. of B.M. No. 71, and 400 yards E. of Hara Fort.	18·898	18·900
73	BM.178 / 79 B	49·5	Top of mile-post No. 64 on left embankment of Hooghly river.	22·035	22·038
74	BM.179 / 79 B	50·5	Top of mile-post No. 65 on left embankment of Hooghly river.	22·827	22·830
75	BM.180 / 79 B	50·8	G.T.S. O B.M. On N.E corner of plinth of Kantabaria obelisk on left bank of Hooghly river.	13·329	13·331
1/75	BM.181 / 79 B	51·0	G.T.S. O B.M. Embedded in N.W. corner of plinth of Kantabaria obelisk.	13·386	13·388
2/75	BM.182 / 79 B	52·0	On flange of marine socket No. 42, on mound on upper bank of creek, 1 mile N. of Kantabaria obelisk.	14·200	14·202
76	BM.183 / 79 B	51·2	G.T.S. O B.M. On top step of S.E. wing wall of sluice, 29 chains S. of B.M. No. 75.	18·610	18·612
1/76	BM.184 / 79 B	52·3	On flange of marine socket No. 44, on embankment, 2 miles S. of Kantabaria obelisk and opposite Raitola village.	19·344	19·346
2/76	BM.185 / 79 B	52·9	On flange of marine socket No. 46, on N. bank of creek, on mound 10 chains W. of left embankment of Hooghly river, opposite Insanbaria village.	15·085	15·087
77	BM.186 / 79 B	51·5	Top of mile-post No. 66 on left embankment of Hooghly river.	22·944	22·947

Branch-Line 74B. (Kidderpore to Dublat).

Designation of Bench-marks		Distance from Kidderpore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
78	BM.187 / 79 B	52·5	Top of mile-post No. 67 on left embankment of Hooghly river.	21·487	21·490
79	BM.188 / 79 B	53·5	Top of mile-post No. 68 on left embankment of Hooghly river.	22·595	22·598
80	BM.189 / 79 B	53·9	G.T.S. ○ B.M. On 1st step from top of S.W. wing wall of sluice, 36 chains S. of B.M. No. 79.	22·177	22·180
81	BM.190 / 79 B	54·9	G.T.S. ○ B.M. On 2nd step from top of N.E. wing wall of sluice, 27 chains S. of mile-post No. 71, on left embankment of Hooghly river.	19·885	19·888
1/81	BM.191 / 79 B	55·2	B.O.M. On centre of base of arch on S. face of Kalpi obelisk.	14·542	14·544
2/81	BM.192 / 79 B	55·4	On flange of marine socket No. 48, on old *band*, 60 yards from embankment, midway between Kalpi obelisk and deep water marine mark.	14·171	14·173
3/81	BM.193 / 79 B	58·5	On flange of marine socket No. 50, on *band*, 30 yards from N. bank of Tengra creek.	19·083	19·085
82	BM.194 / 79 B	55·6	Top of mile-post No. 72 on left embankment of Hooghly river.	22·251	22·254
83	BM.195 / 79 B	56·6	Top of mile-post No. 73 on left embankment of Hooghly river.	21·987	21·990
84	BM.196 / 79 B	57·6	Top of mile-post No. 74 on left embankment of Hooghly river.	21·312	21·315
1/84	BM.197 / 79 B	59·5	∧ B.M. On 1st offset of Rangafalla obelisk, about 8 feet above base.	20·175	20·178
2/84	BM.198 / 79 B	59·6	On flange of marine socket No. 52, on mound 200 yards S.W. of B.M. No. 1/84.	19·779	19·782
85	BM.199 / 79 B	60·6	Top of mile-post No. 77 on left embankment of Hooghly river.	20·894	20·897
a/85	BM.200 / 79 B	61·4	Chitamuri Marine Survey Tide Gauge. On left embankment of Hooghly river, about midway between mile-posts Nos. 77 and 78.	16·195	16·197
86	BM.201 / 79 B	61·7	Top of mile-post No. 78 on left embankment of Hooghly river, opposite village lot No. 1.	19·610	19·613
87	BM.202 / 79 B	61·8	G.T.S. ○ B.M. On 3rd step from top of S.E. wing wall of sluice, near village lot No. 1.	14·630	14·632

Branch-Line 74B. (Kidderpore to Dublat).

Designation of Bench-marks		Distance from Kidderpore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1/87	BM.1 / 79 C	62·5	On flange of marine socket No. 54, on embankment, ½ mile S. of B.M. No. 87, and 1 mile S. of B.M. No. 2/87.	14·522	14·524
2/87	BM.2 / 79 C	63·2	G.T.S. □ B.M. at Middle Point Marine Mark. Embedded at junction of two *bands*, ½ mile S. of marine mark, on lands of village lot No. 1.	12·554	12·556
3/87	BM.3 / 79 C	64·4	G.T.S. ○ B.M. Embedded at S.W. corner of basement of Silver-Tree obelisk.	13·091	13·093
4/87	BM.4 / 79 C	65·0	On flange of marine socket No. 56, on Silver-Tree Point, ½ mile S. of obelisk.	12·249	12·251
88	BM.5 / 79 C	63·2	On a nail driven into telegraph post, and an arrow (^) cut below it, about 3 feet above ground and opposite village lot No. 1.	11·797	11·799
89	BM 6 / 79 C	65·8	Similar to B.M. No. 88 on 4th telegraph post northwards from telegraph cable-house, on N. bank of Baratola river.	12·945	12·947
90	BM.7 / 79 C	66·2	Similar to B.M. No. 88, on telegraph post adjacent to cable-house.	13·651	13·653
91	BM.8 / 79 C	66·2	Telegraph post 8 chains S. of cable-house.	12·613	12·615
a/91	BM.9 / 79 C	66·3	G.T.S. □ B.M. at Telegraph Cable-House. Embedded on N. bank of Baratola river, about 200 yards from its edge, and 17 yards W. of cable-house.	10·166	10·167
92	BM.10 / 79 C	69·6	G.T.S. ○ B.M. at Mud Point. Embedded 9 inches above ground, just outside the band which surrounds Telegraph Office, and 50 feet N.E. of signalling staff.	13·252	13·254
93	BM.11 / 79 C	73·1	On nail driven into telegraph post, about 3 feet above ground level with an arrow (^) cut below it, 4 miles S. of Mud Point and 1 mile N. of Phulbaria village.	12·374	12·376
94	BM.12 / 79 C	74·3	Similar to B.M. No. 93, opposite Phulbaria village.	11·655	11·657
95	BM.13 / 79 C	75·7	Similar to B.M. No. 93, 8 miles N. of Phuldobi creek.	12·672	12·674
96	BM 14 / 79 C	77·1	Similar to B.M. No. 93, 6 miles N. of Phuldobi creek and ½ mile N. of Mandi tank.	11·600	11·602
a/96	BM 15 / 79 C	80·2	B.○M. On masonry plinth of telegraph support on N. bank of Phuldobi creek.	10·085	10·086
b/96	BM.16 / 79 C	80·4	G.T.S. □ B.M. at Phuldobi Creek. Embedded on S. bank of creek, 20 feet from edge, 100 yards W. of telegraph support, 20 yards E. of two huts containing the Hindu idol, Bishalakshmi.	10·051	10·052

Branch-Line 74B. (Kidderpore to Dublat).

Designation of Bench-marks		Distance from Kidderpore	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
97	BM.17 / 79 O	82·0	On a nail driven into telegraph post, about 3 feet above ground level with an arrow (^) cut below it, 8 miles N. of B.M. No. 101.	11·615	11·617
98	BM.18 / 79 O	84·6	B.O.M. On masonry base of telegraph post on S. bank of Boriamara creek.	9·785	9·786
99	BM.19 / 79 O	85·5	B.O.M. On masonry base of telegraph post on S. bank of Bara Shenka creek.	11·835	11·837
100	BM.20 / 79 O	89·1	On a nail driven into telegraph post, about 3 feet above ground level with an arrow (^) cut below it, about 1 mile N. of B.M. No. 101.	13·304	13·306
101	BM.21 / 79 O	90·4	G.T.S. □ B.M. at Sagar Island Light-House. Embedded on *band* surrounding it, 15 yards S. of main entrance, and 60 yards W. of light-house.	20·625	20·628
102	BM 22 / 79 O	90·5	G.T.S. ○ B.M. On N.W. corner of plinth of Sagar Island light-house.	21·870	21·873
103	BM.23 / 79 O	99·5	G.T.S. ○ B.M. A at Dublat. About 10 chains S. of Tidal Observatory, at foot of main embankment, and near junction of *band* leading towards observatory. This was the reference bench-mark for the Tidal Observatory.	9·268	9·269

Main-Line 75. (Kendrapara to Howrah).

Designation of Bench-marks			Distance from Kendrapara	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.43 / 73 L	0·0	G.T.S. □ B.M. at Kendrapara. Situated in sub-divisional kachahri compound, 29 yards W. of western entrance to kachahri, and 7 and 9 feet respectively from N.W. and N.E. corners of a pakka well in compound. The bench-mark consists of usual embedded stone 9 inches of which is above ground level.	20·796	20·801
2		BM.42 / 73 L	0·0	G.T.S. ○ B.M. On centre of top step leading into W. entrance to Sub-divisional Officer's kachahri, Kendrapara.	19·480	19·484
3		BM.71 / 73 L	1·6	G.T.S. ○ BM. On S. end of W. abutment of bridge across Gobri river, on road from Cuttack to Chandbali.	18·640	18·644
4		BM.72 / 73 L	3·2	G.T.S. ○ B.M. On E. parapet of culvert, 4 chains S. of mile-post No. 26 from Jajpur, on road from Kendrapara, and about ¼ mile E. of Barimal village.	14·511	14·514
5		BM.73 / 73 L	4·3	G.T.S. ○ B.M. On W. parapet of culvert, 4 chains N. of mile-post No. 25 from Jajpur, on road from Kendrapara.	13·072	13·075
6		BM.74 / 73 L	6·3	G.T.S. ○ B.M. On E. parapet of culvert, 5 chains N. of mile-post No. 23 from Jajpur, on road from Kendrapara.	14·916	14·919
7		BM.75 / 73 L	7·3	G.T.S. ○ B.M. On N. end of E. wing wall of causeway, 8 chains N. of mile-post No. 22 from Jajpur, and 200 yards N. of Nikri village, on road from Kendrapara.	14·019	14·022
8		BM.76 / 73 L	8·4	G.T.S. ○ B.M. On E. parapet of culvert, 20 chains N. of mile-post No. 21 from Jajpur, on road from Kendrapara.	17·340	17·344
9		BM.77 / 73 L	8·8	G.T.S. ○ B.M. On E. end of S. abutment of bridge across Patamandi canal, close to Indpur, on road from Kendrapara to Jajpur.	34·975	34·983
	a / 9	BM.78 / 73 L	9·2	↗ B.M. On middle step of front or W. entrance to travellers' bungalow at Indpur. (Irrigation Department bench-mark).	24·884	24·889
10		BM.79 / 73 L	18·0	G.T.S. ○ B.M. On masonry pillar 4 feet above ground level, at Binjharpur, a few feet N. of embankment running along N. bank of Kharsua river. (Irrigation Department bench-mark).	29·712	29·718
11		BM.80 / 73 L	18·5	G.T.S. □ B.M. at Binjharpur. Embedded flush with floor in S.W. corner of P.W.D. inspection bungalow.	31·019	31·026
12		BM.81 / 73 L	19·7	G.T.S. ○ B.M. On S.W. corner of platform of Hari Babu's well on E. margin of road from Binjharpur to Jajpur, and 1 mile N. of Binjharpur.	19·613	19·617
13		BM.82 / 73 L	27·3	G.T.S. ○ B.M. On S.E. corner of basement of Mahadeo's temple on W. margin of road, 2 miles S. of Jajpur, and ¼ mile S. of mile-post No. 2.	33·545	33·552

Main-Line 75. (Kendrapara to Howrah).

Designation of Bench-marks		Distance from Kendrapara	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
14	BM.83 / 73 L	28·5	G.T.S. ○ B.M. On N. end of E. parapet of bridge, 7 chains S. of mile-post No. 1 from Jajpur.	38·457	38·465
15	BM.84 / 73 L	29·8	G.T.S. □ B.M. at Jajpur. Situated opposite front or W. entrance to P.W.D. inspection bungalow: it consists of usual embedded stone, 1 foot of which is above ground level, 10 feet from both N.W. and S.W. corners of front projection of bungalow, and 3 feet W. of centre of same.	46·327	46·336
16	BM.85 / 73 L	30·4	G.T.S. ○ B.M. On W. parapet of culvert, ½ mile N. of Jajpur, and 30 chains S. of mile-post No. 1 from Jajpur.	44·418	44·427
17	BM.86 / 73 L	34·6	G.T.S. ○ B.M. On N.W. corner of plinth of Mahadeo's temple at Manjari village, on bank of tank on E. margin of road from Jajpur to Bhandarpokri.	56·202	56·213
18	BM.87 / 73 L	36·1	○ On top of mile-stone No. 4, on High-level Canal, Range No. 3.	57·616	57·628
19	BM.88 / 73 L	37·1	○ B.M On top of mile-stone No. 5, on High-level Canal, Range No. 3.	58·342	58·354
20	BM.89 / 73 L	38·1	○ On top of mile-stone No. 6, on High-level Canal, Range No. 3.	59·103	59·115
21	BM.90 / 73 L	38·7	○ On boundary pillar, 50 yards E. of canal, 100 yards S. of bridge over High-level Canal, Range No. 3, at Bhandarpokri village, on road from Cuttack to Balasore.	58·472	58·484
22	BM.91 / 73 L	39·4	G.T.S. ○ B.M. On N.W. corner of platform of well, on E. margin of road from Cuttack to Balasore, 200 yards E. of village of Palta, and 28 chains N. of mile-stone No. 52 from Cuttack.	49·782	49·792
23	BM.92 / 73 L	41·1	Top of mile-stone No. 54 from Cuttack and No. 52 from Balasore.	49·653	49·663
24	BM.93 / 73 L	41·6	G.T.S. ○ B.M. On platform on W. side of well, on E. margin of road from Cuttack to Balasore, 35 chains S. of mile-stone No. 51 from Balasore, and 50 yards S. of junction of Dhamnagar road.	45·332	45·341
25	BM.94 / 73 L	42·4	G.T.S. ○ B.M. On coping of E. end of N. parapet of bridge No. 12, 29 chains E. of mile-stone No. 51 from Balasore, and 300 yards W. of travellers' bungalow at Barikpur, on road from Cuttack to Balasore.	50·361	50·371
26	BM.95 / 73 L	43·0	○ On top of mile-stone No. 56 from Cuttack and No. 50 from Balasore.	49·627	49·637
27	BM.1 / 73 K	44·0	○ On top of mile-stone No. 57 from Cuttack and No. 49 from Balasore.	49·704	49·714

Main-Line 75. (Kendrapara to Howrah).

Designation of Bench-marks			Distance from Kendrapara	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
28		BM.2 / 73 K	45·0	○ On top of mile-stone No. 58 from Cuttack and No. 48 from Balasore.	48·734	48·744
29		BM.3 / 73 K	46·0	○ On top of mile-stone No. 59 from Cuttack and No. 47 from Balasore.	49·378	49·388
30		BM.4 / 73 K	47·0	○ On top of mile-stone No. 60 from Cuttack and No. 46 from Balasore.	51·690	51·700
31		BM.5 / 73 K	48·1	G.T.S. ○ B.M. On E. parapet of culvert No. 26, opposite Gelpur village, 4 chains N. of mile-stone No. 61 from Cuttack and No. 45 from Balasore.	53·385	53·395
32		BM.6 / 73 K	49·3	G.T.S. ○ B.M. On E. parapet of bridge No. 28, 400 yards S.W. of Sub-divisional Officer's kachahri at Bhadrakh, 24 chains N. of mile-stone No. 62 from Cuttack and No. 44 from Balasore.	55·293	55·304
	1 / 32	BM.7 / 73 K	49·6	G.T.S. □ B.M. at Bhadrakh. Embedded flush with flooring, in S.E. corner of verandah of travellers' bungalow, about 100 yards N. of kachahri.	50·540	50·550
	a / 32	BM.8 / 73 K	49·9	G.T.S. ○ B.M. On lower step leading into W. entrance to post office at Bhadrakh.	48·227	48·236
33		BM.9 / 73 K	50·0	○ On top of mile-stone No. 63 from Cuttack and No. 43 from Balasore.	54·608	54·619
34		BM.10 / 73 K	50·8	B.○M. On S. end of inner projection of W. parapet of bridge No. 30, about 12 chains S. of mile-stone No. 64 from Cuttack and No. 42 from Balasore.	58·719	58·730
35		BM.11 / 73 K	52·0	○ On top of mile-stone No. 65 from Cuttack and No. 41 from Balasore.	52·977	52·987
36		BM.12 / 73 K	52·9	□ ⩚ On centre of W. parapet of bridge No. 33, 5 chains S. of mile-stone No. 66 from Cuttack and No. 40 from Balasore, and having G.T.S.B.M. cut on it. (P.W.D. bench-mark).	52·611	52·621
37		BM.13 / 73 K	54·0	○ On top of mile-stone No. 67 from Cuttack and No. 39 from Balasore.	52·110	52·120
38		BM.14 / 73 K	54·8	□ ⩚ On centre of W. parapet of bridge No. 37, 12 chains S. of mile-stone No. 68 from Cuttack and No. 38 from Balasore, and having G.T.S.B.M. cut on it. (P.W.D. bench-mark).	53·365	53·375
39		BM.15 / 73 K	55·9	○ On top of mile-stone No. 69 from Cuttack and No. 37 from Balasore.	51·567	51·577
40		BM.16 / 73 K	56·9	○ On top of mile-stone No. 70 from Cuttack and No. 36 from Balasore.	53·810	53·820

Main-Line 75. (Kendrapara to Howrah).

Designation of Bench-marks		Distance from Kendrapara	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
41	BM.17 / 73 K	57·9	□ ↑ On centre of W. parapet of bridge No. 41, 2 chains S. of mile-stone No. 71 from Cuttack and No. 35 from Balasore, and having G.T.S.B M. cut on it. (P.W.D. bench-mark).	57·640	57·651
42	BM.18 / 73 K	58·9	○ On top of mile-stone No. 72 from Cuttack and No. 34 from Balasore.	50·142	50·151
43	BM 19 / 73 K	59·7	□ ↑ On E. end of N. parapet of bridge No. 42, 15 chains W. of mile-stone No. 73 from Cuttack and No. 33 from Balasore, and having G.T.S B.M. cut on it. (P.W.D. bench-mark).	47·656	47·665
44	BM.20 / 73 K	59·9	○ On top of mile-stone No. 73 from Cuttack and No. 33 from Balasore.	45·199	45·207
45	BM.21 / 73 K	60·9	G.T.S. □ B.M. at Markona. Embedded flush with floor in centre of front verandah of travellers' bungalow.	39·435	39·442
46	BM.22 / 73 K	61·0	○ On top of mile-stone No. 74 from Cuttack and No. 32 from Balasore.	43·013	43·021
47	BM.23 / 73 K	62·0	○ On top of mile-stone No. 75 from Cuttack and No. 31 from Balasore.	38·084	38·091
48	BM.24 / 73 K	63·0	○ On top of mile-stone No. 76 from Cuttack and No. 30 from Balasore.	35·269	35·275
49	BM 25 / 73 K	63·7	G.T S. ○ B.M. On E. parapet of bridge, 19 chains S. of mile-stone No. 77 from Cuttack and No. 29 from Balasore, opposite Jamjhari village.	37·462	37·469
50	BM.26 / 73 K	64·3	G.T.S. ○ B M. On N. end of W. parapet of bridge No. 46, 29 chains N. of mile-stone No. 77 from Cuttack and No. 29 from Balasore, and ¼ mile N.E. of Jamjhari village.	33·005	33·011
51	BM 27 / 73 K	64·9	G T S ○ B M On centre of E. parapet of bridge No. 49 over Kasvas river, 5 chains S. of mile-stone No. 78 from Cuttack and No. 28 from Balasore.	40·776	40·784
52	BM.28 / 73 K	66·0	○ On top of mile-stone No. 79 from Cuttack and No. 27 from Balasore.	31·130	31·136
53	BM 29 / 73 K	66·9	○ On top of mile-stone No. 80 from Cuttack and No. 26 from Balasore.	35·776	35·783
54	BM 30 / 73 K	67·9	○ On top of mile-stone No. 81 from Cuttack and No. 25 from Balasore.	44·002	44·010
55	BM 31 / 73 K	68·9	○ On top of mile-stone No. 82 from Cuttack and No. 24 from Balasore.	46·689	46·697

Main-Line 75. (Kendrapara to Howrah).

Designation of Bench-marks		Distance from Kendrapara	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
56	BM 32 / 73 K	70·5	□ On W. parapet of bridge No. 57, 36 chains S. of mile-stone No. 84 from Cuttack and No. 22 from Balasore, and having G.T.S B.M. cut on it. (P.W.D. bench-mark).	50·503	50·512
57	BM 33 / 73 K	70·9	○ On top of mile-stone No. 84 from Cuttack and No. 22 from Balasore.	51·678	51·687
58	BM.34 / 73 K	71·4	G.T.S. ○ B.M. On centre of S. parapet of bridge on branch road to Gopinathpur, 50 feet W. of where it joins main road, and midway between bench-marks Nos. 57 and 59.	49·536	49·545
59	BM 35 / 73 K	71·9	○ On top of mile-stone No. 85 from Cuttack and No. 21 from Balasore.	49·926	49·935
60	BM.36 / 73 K	72·9	○ On top of mile-stone No. 86 from Cuttack and No. 20 from Balasore.	52·327	52·336
61	BM 37 / 73 K	73·1	G.T.S. ○ B.M. On centre of N. parapet of bridge No. 61, 17 chains E. of B.M. No. 60.	54·217	54·227
62	BM 38 / 73 K	73·9	○ On top of mile-stone No. 87 from Cuttack and No. 19 from Balasore.	53·916	53·926
63	BM 39 / 73 K	74·9	G.T.S. ○ B.M. On centre of N. parapet of bridge No. 65, 1 chain W. of mile-stone No. 88 from Cuttack and No. 18 from Balasore.	62·061	62·072
1/63	BM 40 / 73 K	75·0	G.T.S. □ B.M. at Magampur. Embedded flush with floor in landing of Duleb Dei tank, 50 yards off Cuttack-Balasore road, and 200 yards E. of mile-stone No. 88 from Cuttack.	55·016	55·026
64	BM.41 / 73 K	75·2	○ On coping of W. end of N. parapet of bridge No. 66, 23 chains E. of mile-stone No. 88 from Cuttack and No. 18 from Balasore.	61·789	61·800
65	BM 42 / 73 K	75·4	G.T.S. ○ B.M. On centre of N. parapet of bridge No. 67, 35 chains W. of mile-stone No. 89 from Cuttack and No. 17 from Balasore.	61·389	61·400
66	BM.43 / 73 K	76·6	G.T.S. ○ B.M. On centre of N. parapet of bridge No. 71, 21 chains W. of mile-stone No. 90 from Cuttack and No. 16 from Balasore.	61·121	61·132
67	BM.44 / 73 K	78·0	G.T.S. ○ B.M. On centre of N. parapet of bridge No. 74, 9 chains E. of mile-stone No. 91 from Cuttack and No. 15 from Balasore.	52·991	53·000
68	BM 45 / 73 K	78·8	○ On top of mile-stone No. 92 from Cuttack and No. 14 from Balasore.	50·654	50·663
69	BM 46 / 73 K	79·8	○ On top of mile-stone No. 93 from Cuttack and No. 13 from Balasore.	48·642	48·650

Main-Line 75. (Kendrapara to Howrah).

Designation of Bench-marks		Distance from Kendrapara	Description of Bench-marks		Corrected Elevation	
Geodetic	Topographic				Dynamic	Orthometric
		miles			*feet*	*feet*
70	BM 47 / 73 K	80·9	G.T.S. ○ B.M.	On centre of W. parapet of bridge No. 81, 3 chains N. of mile-stone No. 94 from Cuttack and No. 12 from Balasore.	49·098	49·106
71	BM.48 / 73 K	81·8	○	On top of mile-stone No. 95 from Cuttack and No. 11 from Balasore.	52·838	52·847
72	BM 49 / 73 K	82·5	G.T.S. ○ B.M.	On centre of W. parapet of bridge No 86, 24 chains S. of mile-stone No. 96 from Cuttack and No. 10 from Balasore.	54·638	54·647
73	BM.50 / 73 K	83·7	G.T.S. ○ B.M.	On centre of S. parapet of bridge No. 90, 11 chains W. of mile-stone No. 97 from Cuttack and No. 9 from Balasore.	49·422	49·430
74	BM 51 / 73 K	84·8	○	On top of mile-stone No. 98 from Cuttack and No. 8 from Balasore.	49·477	49·485
75	BM 52 / 73 K	85·8	○	On top of mile-stone No. 99 from Cuttack and No. 7 from Balasore.	43·336	43·343
76	BM.53 / 73 K	86·5	G.T.S. ○ B.M.	On coping of W. end of N. parapet of bridge No. 97, 55 chains E. of B.M. No. 75.	45·494	45·502
77	BM 54 / 73 K	87·8	○	On top of mile-stone No. 101 from Cuttack and No. 5 from Balasore.	53·553	53·562
78	BM.55 / 73 K	88·8	○	On top of mile-stone No. 102 from Cuttack and No. 4 from Balasore.	67·043	67·054
79	BM 56 / 73 K	89·8	○	On top of mile-stone No. 103 from Cuttack and No. 3 from Balasore.	64·982	64·993
80	BM.57 / 73 K	90·8	○	On top of mile-stone No. 104 from Cuttack and No. 2 from Balasore.	72·746	72·758
81	BM 58 / 73 K	91·1	G.T.S. ○ B.M.	On boundary pillar, 30 yards E. of main road from Cuttack to Balasore, and immediately opposite 1¼ mile-post from Balasore.	69·039	69·050
82	BM.59 / 73 K	91·8	G.T.S. ○ B.M.	On centre of S. verandah floor of travellers' bungalow, Balasore.	61·583	61·593
83	BM.60 / 73 K	91·9	○	On flooring, outside N. entrance verandah of P.W.D. circuit house, Balasore.	59·297	59·307
1/83	BM.61 / 73 K	93·8	G.T.S. ○ B.M.	On lower step of entrance to Mahadeo's Temple, near a banyan tree, on N. margin of road, and 3 chains W. of mile-post No. 1 from Balasore on road to Chandipur.	48·826	48·834
2/83	BM.62 / 73 K	96·5	○ B.M.	On N. parapet of bridge, 57 chains E. of mile-post No. 3, on main road to Chandipur.	13·202	13·204

Main-Line 75. (Kendrapara to Howrah).

Designation of Bench-marks		Distance from Kendrapara	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
3/83	BM.63 73 K	96·9	G.T.S. □ B.M. at Chandipur Canal. Embedded in pillar, 3 feet above ground level, in S.E. angle formed by intersection of Coast canal, with main road, 5 miles from Balasore, and 3 from Chandipur, 20 feet off road and adjoining eastern bank of Coast canal.	9·275	9·276
4/83	BM.1 73 O	100·2	G.T.S. ○ B.M. On northern of two masonry blocks, 100 yards S. of Chandipur bungalow.	13·251	13·253
4a/83	BM 2 73 O	103·4	On mark on upper surface of pillar of Balaramgarhi G T. Survey Tide Point Station, lat, 21° 28′ 34″·50, long 87° 2′ 52″·45. A secondary station of East Coast Series. (For full description *see* Synoptical Volume).	14·667	14·669
5/83	BM.3 73 O	100·3	G.T.S. □ B.M. at Chandipur. Embedded flush with floor in back verandah of bungalow close to B.M. No. 6/83, exactly opposite central door, leading into back of house.	34·277	34·283
6/83	BM.4 73 O	100·4	On top of pillar of Chandipur G.T. Survey Tower Station, lat. 21° 26′ 36″·99, long. 87° 2′ 3″·66. A principal station of East Coast Series. (For full description *see* Synoptical Volume)	52·604	52·613
84	BM 64 73 K	91·9	G.T.S. □ B.M. at Balasore. Embedded flush with floor in landing just outside N. verandah of circuit house, about 200 yards E. of travellers' bungalow, and 2 or 3 feet N. of Irrigation Department B.M. marked 40.	59·311	59·321
85	BM 65 73 K	92·9	○ On top of mile-stone No. 106 from Cuttack, No. 0 from Balasore and No. 145 from Calcutta.	43·444	43·451
86	BM 66 73 K	93·4	G.T.S. ○ B.M. On W. parapet over 4th arch from S. side of bridge No. 101, 36 chains N. of B.M. No. 85.	32·419	32·424
87	BM.67 73 K	93·9	○ On top of mile-stone No. 144 from Calcutta and No. 1 from Balasore.	22·224	22·228
88	BM 68 73 K	94·9	○ On top of mile-stone No. 143 from Calcutta and No. 2 from Balasore.	28·688	28·693
89	BM.69 73 K	96·2	B.O.M. On centre of N. parapet of bridge No. 102, 23 chains E. of mile-stone No. 3 from Balasore and No. 142 from Calcutta.	26·653	26·657
90	BM.70 73 K	96·9	○ On top of mile-stone No. 4 from Balasore and No. 141 from Calcutta.	17·889	17·892
91	BM.71 73 K	97·9	○ On top of mile-stone No. 5 from Balasore and No. 140 from Calcutta.	23·346	23·350

Main-Line 75. (Kendrapara to Howrah).

Designation of Bench-marks		Distance from Kendrapara	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
92	BM.72 / 73 K	99·0	G.T.S. ○ B.M. On coping of E. end of N. parapet of bridge No. 107, 6 chains E. of mile-stone No. 6 from Balasore and No. 139 from Calcutta.	22·142	22·146
93	BM.73 / 73 K	100·0	○ On top of mile-stone No. 7 from Balasore and No. 138 from Calcutta.	17·743	17·746
94	BM.74 / 73 K	100·1	B.O.M. On centre of W. parapet of bridge No. 111, 12 chains N. of B.M. No. 93.	19·442	19·445
95	BM.75 / 73 K	101·0	○ On top of mile-stone No. 8 from Balasore and No. 137 from Calcutta.	19·101	19·104
96	BM.5 / 73 O	102·4	G.T.S. □ B.M. at Nayapara. Embedded flush with floor in verandah of P.W.D. inspection bungalow, right opposite front door, and 200 yards off main road to Midnapore.	22·310	22·313
97	BM.6 / 73 O	103·1	○ On top of mile-stone No. 10 from Balasore.	17·464	17·467
98	BM.7 / 73 O	104·1	○ On top of mile-stone No. 11 from Balasore.	17·079	17·082
99	BM.8 / 73 O	105·1	○ On top of mile-stone No. 12 from Balasore.	19·798	19·801
100	BM.9 / 73 O	106·1	○ On top of mile-stone No. 13 from Balasore.	19·017	19·020
101	BM.10 / 73 O	107·1	○ On top of mile-stone No. 14 from Balasore.	19·847	19·850
102	BM.11 / 73 O	107·7	B.O.M. On projection at N. end of E. parapet of bridge No. 124, on road to Midnapore, between bench-marks Nos. 101 and 103.	23·937	23·941
103	BM.12 / 73 O	108·1	○ On top of mile-stone No. 15 from Balasore.	22·813	22·817
104	BM.13 / 73 O	109·1	○ On top of mile-stone No. 16 from Balasore.	27·654	27·658
105	BM.14 / 73 O	109·6	G.T.S. □ B.M. at Basta. Embedded flush with floor in centre of front or S. verandah of P.W.D. inspection bungalow, 200 yards E. of road to Midnapore.	21·361	21·364
106	BM.15 / 73 O	110·3	○ On top of mile-stone No. 17 from Balasore.	27·416	27·420
107	BM.16 / 73 O	111·3	○ On top of mile-stone No. 18 from Balasore.	25·199	25·203

Main-Line 75. (Kendrapara to Howrah).

Designation of Bench-marks			Distance from Kendrapara	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
108		BM.17 / 73 O	111·9	G.T.S. ○ B.M. On coping at S. end of E. parapet of bridge No. 131, 26 chains S. of mile-stone No. 19 from Balasore.	29·729	29·734
109		BM 18 / 73 O	113·3	○ On top of mile-stone No. 20 from Balasore.	25·314	25·318
110		BM.19 / 73 O	115·3	○ On top of mile-stone No. 22 from Balasore.	26·049	26·053
111		BM.20 / 73 O	115·5	G.T.S. ○ B.M. On W. end of N. abutment of suspension bridge, 200 yards N. of Gudikhal village, and ¼ mile N. of B.M. No. 110.	27·553	27·557
112		BM 21 / 73 O	116·2	○ On top of mile-stone No. 23 from Balasore.	27·585	27·589
113		BM.22 / 73 O	117·2	○ On top of mile-stone No. 24 from Balasore.	30·493	30·497
114		BM.23 / 73 O	118·2	○ On top of mile-stone No. 25 from Balasore.	36·182	36·187
115		BM 24 / 73 O	119·2	G.T.S. ○ B.M. On platform of well alongside road to Midnapore, 150 yards W. of mile-stone No. 26 from Balasore, and in centre of Rajghat bazar.	42·144	42·150
116		BM 25 / 73 O	120·2	G.T.S. ○ B.M. On N.E. corner of W. parapet of bridge No. 141, about 2 chains S. of mile-plate No. 49 from Midnapore.	43·431	43·437
	a / 116	BM.26 / 73 O	121·8	On top of pillar of Patna G.T. Survey Tower Station, lat. 21° 47′ 20″·83, long. 87° 11′ 45″·53. A principal station of East Coast Series. (For full description *see* Synoptical Volume).	80·480	80·491
117		BM.27 / 73 O	122·2	G.T.S. ○ B.M. On centre of N. parapet of bridge No. 142, at mile-plate No. 47 from Midnapore.	45·436	45·443
118		BM.28 / 73 O	123·1	G.T.S. ○ B.M. On E. parapet of bridge, on branch road from main road leading into Jellasore, 16 chains W. of mile-plate No. 46 from Midnapore.	42·382	42·388
119		BM.29 / 73 O	124·2	G.T.S. □ B.M. at Jellasore. Embedded flush with floor in middle of verandah of travellers' bungalow, 100 yards S. of post office, and in angle formed by junction of roads leading to Balasore and Contai.	42·616	42·622
120		BM.30 / 73 O	125·9	G.T.S. ○ B.M. On end of S.E. wing wall of bridge, 20 chains W. of mile-post No. 2 from Jellasore, on road to Contai, and 10 chains S.W. of Amblihatta village.	41·805	41·811
121		BM.31 / 73 O	127·9	G.T.S. ○ B.M. On end of S.E. wing wall of bridge, 50 yards E. of mile-post No. 19 from Balighai, on road to Contai.	30·934	30·938

Main-Line 75. (Kendrapara to Howrah).

Designation of Bench-marks			Distance from Kendrapara	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
122		BM.32 / 73 O	130·3	G.T.S. ⊙ B.M. On end of S.W. wing wall of bridge, 34 chains E. of mile-post No. 17 from Balighai, about ¼ mile N. of Bariginpur village on road to Contai.	29·540	29·544
123		BM.33 / 73 O	131·5	G.T.S. ⊙ B.M. On end of N.W. wing wall of bridge, ½ mile W. of mile-post No. 15 from Balighai, on road to Contai.	33·175	33·180
124		BM.34 / 73 O	132·3	G.T.S. ⊙ B.M. On end of N.E. wing wall of bridge, ½ mile E. of mile-post No. 15 from Balighai, on road to Contai.	33·201	33·206
	1 / 124	BM.35 / 73 O	133·6	On the ⊙ on tower of Sautia G.T. Survey Tower Station, lat. 21° 50′ 34″·48, long. 87° 20′ 57″·22. A principal station of East Coast Series. (For full description *see* Synoptical Volume).	73·539	73·550
125		BM.36 / 73 O	133·0	G.T.S. ⊙ B.M. On end of S.E. wing wall of bridge, 400 yards E. of Kharkharia village, 7 chains E. of mile-post No. 14 from Balighai.	32·297	32·302
126		BM.37 / 73 O	134·7	G.T.S. ⊙ B.M. On end of S.E. wing wall of bridge, opposite Urna village, 17 chains W. of mile-post No. 12 from Balighai.	32·687	32·692
127		BM.38 / 73 O	135·8	G.T.S. ⊙ B.M. On end of S.E. wing wall of bridge, 10 chains W. of mile-post No. 11 from Balighai.	32·893	32·898
128		BM.39 / 73 O	135·9	B.O.M. On base of boundary pillar on N. margin of road to Contai, opposite mile-post No. 11 from Balighai.	31·114	31·118
129		BM.40 / 73 O	137·9	G.T.S. ⊙ B.M. On end of N.E. wing wall of bridge opposite Kashiabad village, 2 chains W. of mile-post No. 9 from Balighai.	28·173	28·177
130		BM.41 / 73 O	139·2	G.T.S. ⊙ B.M. On end of N.E. wing wall of bridge, 29 chains E. of mile-post No. 8 from Balighai.	29·204	29·208
131		BM.42 / 73 O	140·3	G.T.S. ⊙ B.M. On end of S.W. wing wall of bridge, 32 chains E. of mile-post No. 7 from Balighai.	26·589	26·593
132		BM.43 / 73 O	141·7	G.T.S. ⊙ B.M. On end of S.E. wing wall of bridge, 13 chains W. of mile-post No. 5 from Balighai.	19·532	19·535
133		BM.44 / 73 O	143·7	G.T.S. ⊙ B.M. On end of N.E. wing wall of bridge, 17 chains W. of mile-post No. 3 from Balighai.	11·420	11·422
	a / 133	BM.45 / 73 O	143·9	On mark on upper surface of tower of Kudi G.T. Survey Tower Station, lat. 21° 51′ 42″·94, long 87° 31′ 23″·88. A principal station of East Coast Series. (For full description *see* Synoptical Volume).	46·583	46·590
134		BM.46 / 73 O	144·5	G.T.S. ⊙ B.M. On end of S.E. wing wall of bridge, 29 chains W. of mile-post No. 2 from Balighai, on road to Contai.	11·761	11·763

Main-Line 75. (Kendrapara to Howrah).

Designation of Bench-marks			Distance from Kendrapara	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
135		BM 47 / 73 O	146·8	G.T.S. ○ B.M. On end of S.E. wing wall of bridge, 4 chains W. of mile-post No. 0 from Balighai.	10·155	10·156
136		BM.48 / 73 O	148·9	G.T.S. □ B.M. at Balighai. Embedded flush with floor in centre of front verandah of P.W.D. inspection bungalow, 100 yards N. of road from Midnapore to Contai, and about 1 mile S.E. of Balighai village.	11·504	11·506
137		BM.49 / 73 O	150·4	G.T.S. ○ B.M. On centre of W. parapet of bridge No. 10, 300 yards S. of Tajpur village, and 1 chain N. of mile-post No. 52 from Midnapore, on road to Contai.	10·419	10·420
138		BM.50 / 73 O	154·2	G.T.S. ○ B.M. On S. parapet of bridge, ½ mile E. of junction of Coast canal with road between Balighai and Contai, and 16 chains W. of mile-post No. 56 from Midnapore.	10·352	10·353
139		BM.51 / 73 O	155·8	G.T.S. ○ B.M. On E. end of N. parapet of sluice bridge, 17 chains E. of mile-post No. 5 from Contai.	13·780	13·782
140		BM.52 / 73 O	156·7	G.T.S. ○ B.M. On E. end of S. parapet of sluice bridge, 10 chains E. of mile-post No. 4 from Contai.	14·983	14·985
141		BM 53 / 73 O	160·2	G.T.S. ○ B.M. On E. end of N. parapet of bridge No. 2 in Kata-nala bazar at Karkuli village, about ½ mile E. of mile-post No. 1 from Contai.	12·780	12·782
142		BM.54 / 73 O	160·7	G.T.S. □ B.M. at Contai. Embedded flush with floor in centre of S. verandah of P.W.D. inspection bungalow, 150 yards N.W. of Deputy Magistrate's court.	37·826	37·832
	1/142	BM.55 / 73 O	160·9	G.T.S. ○ B.M. On upper surface of Irrigation Department bench-mark pillar close to Executive Engineer's bungalow at Contai. A marble slab let into one side of pillar bears inscription :— "Divisional Datum 100 feet below the plinth of this pillar. John Fennessy, Executive Engineer. A.D. 1858."	43·239	43·245
143		BM.56 / 73 O	161·6	G.T.S. ○ B.M. On centre of N. parapet of bridge No. 2, 2 chains W. of mile-post No. 1 from Contai, on road to Kedgeree.	11·754	11·756
144		BM.57 / 73 O	164·0	G.T.S. ○ B.M. On N. parapet of bridge No. 4, 32 chains E. of mile-post No. 3 from Contai, on road to Kedgeree.	10·877	10·879
145		BM 58 / 73 O	168·5	G.T.S. ○ B.M. On N. end of W. parapet of bridge No. 6, 10 chains S. of mile-post No. 8 from Contai, on road to Kedgeree.	12·254	12·256
146		BM 59 / 73 O	171·1	G.T.S. ○ B.M. On S.E. corner of verandah floor of P.W.D. inspection bungalow at Boga village, about ½ mile E. of Rasulpur river.	13·937	13·939

Main-Line 75. (Kendrapara to Howrah).

Designation of Bench-marks			Distance from Kendrapara	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
147		BM.60 / 73 O	171·3	○ B.M. On E. end of inner cornice of N. parapet of bridge No. 8, 18 chains W. of mile-post No. 12 from Contai, on road to Kedgeree.	12·478	12·480
148		BM 61 / 73 O	174·3	G.T.S. ○ B.M. On S. parapet of bridge, 13 chains W. of mile-post No. 14 from Contai, on road to Kedgeree.	13·809	13·811
149		BM.62 / 73 O	176·1	G.T.S. ○ B.M. On N. corner of basement or platform of Mahadeo's temple, on S. margin of road to Kedgeree and 32 chains W. of mile-post No. 16 from Contai.	15·867	15·869
150		BM.63 / 73 O	177·5	G.T.S. □ B.M. at Kedgeree. Embedded in masonry block 15 inches above ground, 15 yards W. of P.W.D. inspection bungalow, and 50 yards E. of a square tank between bungalow and cemetery.	13·721	13·723
151		BM.64 / 73 O	180·0	G.T.S. ○ B.M. On N. end of E. parapet of sluice, opposite Sanachura village, on W. or right embankment of Hooghly river.	18·866	18·869
152		BM 24 / 79 O	183·0	G.T.S. ○ B.M. On S. end of W. parapet of sluice, opposite Satkhali village, 22 chains N. of mile-post No. 16 on W. embankment of Hooghly river.	17·094	17·096
153		BM.203 / 79 B	187·2	G.T.S. ○ B.M Marked in tar on centre of W. parapet of bridge, 5 chains N. of Gopimohanpur, on old Dak road, Kedgeree to Ramganj.	13·184	13·186
154		BM.204 / 79 B	190·6	G.T.S. □ B.M. at Basuli Chak. Embedded flush with flooring in centre of front verandah of P.W.D. inspection bungalow, 300 yards off road, and 1 mile S. of Haldi river.	15·712	15·714
155		BM.205 / 79 B	193·8	G.T.S. ○ B.M. On N. end of W. parapet of bridge opposite P.W.D. inspection bungalow at Balughata.	16·615	16·617
	a / 155	BM.206 / 79 B	193·9	G.T.S. ○ B.M. On 2nd step from bottom at main or S. entrance to P.W.D. inspection bungalow at Balughata, on road from Contai to Kukrahati, on N. bank of Haldi river.	16·896	16·898
156		BM.207 / 79 B	194·9	G.T.S. ○ B.M. On N. end of W. parapet of bridge, 4 chains E. of Braja Lal Chak, 32 chains N. of mile-post No. 9, on road from Balughata to Kukrahati.	16·299	16·301
157		BM.208 / 79 B	198·0	G.T.S. ○ B.M. On S. end of E. parapet of bridge, 3 chains S. of Chak Lalpur, midway between mile-posts Nos. 4 and 5 from Kukrahati.	16·076	16·078
158		BM.209 / 79 B	201·7	G.T.S. ○ B.M. On S. end of E. parapet of bridge No. $\frac{9}{1861}$, a few chains to S. of Dhekha village, and 23 chains N. of mile-post No. 2 from Kukrahati.	15·910	15·912

Main-Line 75. (Kendrapara to Howrah).

Designation of Bench-marks			Distance from Kendrapara	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
159		BM 210 / 79 B	203·2	G.T.S. □ B.M. at Kukrahati. Embedded flush with floor in centre of front verandah of P.W.D. inspection bungalow, about 1 mile W. of ghat, and 400 yards from river bank.	20·895	20.898
160		BM 211 / 79 B	203·4	G.T.S. ○ B.M. On W. end of S. parapet of sluice, 12 chains W. of B.M. No 159, and 21 chains E. of mile-stone No. 46 along embankment.	20·508	20·511
161		BM 212 / 79 B	203·9	Top of flange of marine socket No. 41, on lower point of small bight at Luff Point, opposite Latpatia village.	12·425	12·426
162		BM 213 / 79 B	204·9	G.T.S. ○ B.M. On W. end of N. parapet of sluice, 6 chains W. of mile-stone No. 47 near Badur village.	19·942	19·944
163		BM 214 / 79 B	205·9	G.T.S. ○ B.M. On W. end of N. parapet of sluice near Bhangagara village, 7 chains W. of mile-stone No. 48 along embankment.	20·686	20·689
164		BM 215 / 79 B	206·5	Top of flange of marine socket No. 39, on a mound on upper bank of Tentulbaria creek and near its mouth.	15·622	15·624
165		BM 216 / 79 B	208·4	↑ G.T.S. B.M. On capstone at S. end of western wall of canal lock at Gewankhali. (P.W.D. bench-mark).	16·351	16·353
166		BM 217 / 79 B	208·9	G.T.S. □ B.M. at Gewankhali On stone embedded in floor of front verandah of P.W.D. inspection bungalow.	16·435	16·437
167		BM 218 / 79 B	209·4	G.T.S. ○ B.M. On stone embedded in coping at E. end of N. parapet of sluice, on N. bank and at mouth of Rupnarayan, at Amberia village, due N. of Gewankhali inspection bungalow, on opposite bank of river.	15·412	15·414
	a / 167	BM 219 / 79 B	210·5	G.T.S. ○ B.M. On stone embedded about centre of 1st offset or footing on S. side of Hope obelisk.	11·164	11·165
168		BM 220 / 79 B	211·4	G.T.S. ○ B.M. On E. end of S. parapet of sluice at mile-post No. 2 along embankment, and 1 mile above Hope obelisk.	17·310	17·312
169		BM 221 / 79 B	211·9	R.S. ○ 1871 On triangular stone, embedded on embankment, on lower bank of Guriapol creek, ¼ mile below Shibganj marine mark.	20·161	20·163
170		BM 222 / 79 B	212·1	Top of flange of marine socket No. 37, on embankment, adjoining Shibganj marine mark.	16·639	16·641
171		BM 223 / 79 B	213·4	Top of flange of iron pipe, 14 chains S. of P.W.D. inspection bungalow at Shibganj village.	18·765	18·767
172		BM 224 / 79 B	213·5	G.T.S. ○ B.M. On stone embedded in flooring of P.W.D. inspection bungalow at Shibganj, opposite centre of wall and to left (as you enter) of doorway.	18·069	18·071
173		BM 225 / 79 B	213·6	G.T.S. ○ B.M. On S. end of W. parapet of sluice, 5 chains N. of Shibganj inspection bungalow.	16·973	16·975

Main-Line 75. (Kendrapara to Howrah).

Designation of Bench-marks			Distance from Kendrapara	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
174		BM 226 / 79 B	213·6	R.S. O 1871 On triangular stone embedded on embankment near B.M. No. 173.	19·380	19·382
175		BM 227 / 79 B	214·3	Top of flange of marine socket No. 35, on river side adjoining Damodar marine mark on S. bank.	12·190	12·191
176		BM 228 / 79 B	216·1	R.S. O 1871 On triangular stone embedded in embankment, near masonry pillar opposite Alipur village.	17·845	17·847
177		BM 229 / 79 B	216·9	G.T.S. O B.M. On cement floor of P.W.D. inspection bungalow at Dhaja, between 1st and 2nd doorways from W., in southern verandah.	16·658	16·660
	1 / 177	BM 230 / 79 B	220·9	On top of tower of Mirzapur G.T. Survey Tower Station, lat 22° 20′ 11″·95, long 88° 3′ 59″·94. A principal station of East Coast Series (For full description *see* Synoptical Volume).	49·574	49·580
	a / 177	BM 231 / 79 B	217·2	G.T.S. O B.M. On stone embedded in cement floor, and to right of doorway of Dhaja semaphore tower.	17·082	17·084
178		BM 232 / 79 B	218·3	Top of flange of iron pipe, on river side, 18 chains N. of Mithakundu creek.	9·870	9·871
179		BM 233 / 79 B	219·0	Top of flange of marine socket No. 33, on N. bank of creek opposite Kashipur village.	12·030	12·031
180		BM 234 / 79 B	219·9	Top of flange of marine socket No. 31, on upper bank of creek at Pukuria Point.	16·809	16·811
181		BM 235 / 79 B	221·5	Top of flange of marine socket No. 29, on mound on river side, 2 miles below Hog river obelisk.	12·905	12·906
182		BM 236 / 79 B	223·1	G.T.S. O B.M. On stone embedded about centre of 1st off-set or footing on E. face of Hog river obelisk.	14·504	14·506
183		BM 237 / 79 B	224·9	Top of flange of marine socket No. 27, on lower bank of 2nd large creek above, and 2 miles from Hog river obelisk.	13·048	13·049
184		BM 238 / 79 B	226·3	Top of flange of marine socket No. 25, on *band* at Hiraganj Point.	15·876	15·878
185		BM 239 / 79 B	227·3	Top of flange of marine socket No. 23, on *band*, 120 yards above mouth of Kinjiakhali or Rangameati creek, and near inner one of two marine marks.	15·843	15·845
186		BM 240 / 79 B	228·2	Top of flange of iron pipe, on river side, 120 yards above Kalinagar or Champar creek, and near a marine mark.	10·689	10·690
187		BM 241 / 79 B	228·9	Top of flange of marine socket No. 21, on *band*, about midway between Ulubaria and Kalinagar creek.	15·802	15·804

Main-Line 75. (Kendrapara to Howrah).

Designation of Bench-marks			Distance from Kendrapara	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
188		BM.242 / 79 B	229·3	Top of flange of iron pipe, on *band*, 30 chains below Ulubaria bazar.	16·831	16·833
189		BM 243 / 79 B	229·8	Top of flange of marine socket No. 19 near end of Ulubaria bazar, on right of road, and 35 yards above upper ferry ghat.	16·467	16·469
190		BM.244 / 79 B	229·9	G.T.S. O B.M. On stone embedded in front verandah of police station, to right of 1st doorway from S. The building is a pakka one and is in Ulubaria bazar.	16·125	16·127
	1 / 190	BM.245 / 79 B	230·1	G.T.S. O B.M. On E. end of lowest step at N. or main entrance to P.W.D. inspection bungalow at Ulubaria.	12·613	12·614
	2 / 190	BM.246 / 79 B	230·2	∧ G.T.S. B.M. On cap-stone, near gate, at western end of N. wall of canal lock at Ulubaria. (P.W.D. bench-mark).	17·034	17·036
191		BM 247 / 79 B	232·8	Top of flange of marine socket No. 17 on *band*, 17 chains E. of Chakkasi creek.	15·156	15·158
192		BM 248 / 79 B	234·0	Top of flange of marine socket No. 15, on upper bank of creek at Bauria hat, 29 chains below post office.	15·925	15·927
	a / 192	BM 249 / 79 B	234·4	G.T.S. O B.M. On stone embedded in verandah, to left of principal doorway of bungalow, 120 yards above Bauria post office.	19·626	19·628
193		BM 250 / 79 B	234·6	G.T.S. O B.M. at Fort Gloucester. On stone embedded flush with surface of masonry pillar and about 6 inches above ground. The pillar is situated 40 feet above doorway of eastern or main block or wing of Bauria Cotton Mills, and a few feet from compound wall facing river.	14·384	14·385
194		BM.251 / 79 B	235·1	G.T.S. O B.M. at Fort Gloucester Jute Mills. On stone embedded in plinth, near N.E. corner of central or main block of buildings.	14·582	14·584
195		BM.252 / 79 B	235·4	Top of flange of marine socket No. 13, on lower bank of creek, 23 chains above Fort Gloucester Jute Mills.	17·084	17·086
196		BM.253 / 79 B	237·2	Top of flange of marine socket No. 11, in brick field on upper bank and at mouth of Dao khal creek.	12·838	12·839
197		BM.254 / 79 B	238·1	Top of flange of iron pipe, on river bank opposite Sultan Pir's dargah (shrine) at Sarenga village.	13·190	13·191
	a / 197	BM.255 / 79 B	238·2	G.T.S. O B.M. On stone embedded in platform at S.E. corner of Sultan Pir's dargah (shrine) at Sarenga village.	16·929	16·931
	b / 197	BM.256 / 79 B	239·1	Top of flange of marine socket No. 9, on *band* at Sarenga hat.	16·947	16·949

Main-Line 75. (Kendrapara to Howrah).

Designation of Bench-marks			Distance from Kendrapara	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
198		BM.257 / 79 B	240·1	Top of flange of marine socket No. 7 on *band*, opposite Uma Charan Mukharji's (brick proprietor) house at Muniakhali Point.	15·846	15·848
199		BM 258 / 79 B	240·9	Top of flange of marine socket No. 5, on upper bank and near mouth of Singamari khal, 1 mile S. of Sankrail police station.	18·789	18·791
200		BM.259 / 79 B	241·9	Top of flange of marine socket No. 3, on *band* near river bank right opposite Sankrail police station.	19·307	19·309
	a / 200	BM 260 / 79 B	241·9	G.T.S. O B.M. at Sankrail. On stone embedded against wall, in floor of front or S. verandah of police station, between 1st and 2nd doors from E. side.	17·266	17·268
	b / 200	BM.261 / 79 B	242·9	Top of flange of marine socket No. 1 on river bank, on mound in brick field, 1 mile above Sankrail police station.	14·562	14·563
201		BM 262 / 79 B	244·0	B.O.M. On S.E. corner of 1st offset of pillar marking northern boundary of Calcutta Port at Panchpara village.	14·216	14·217
202		BM.263 / 79 B	244·4	Top of flange of marine socket No. 75, on river bank, near Thakur Das Mukharji's Surkhi Mills at Panchpara village.	10·048	10·049
	a / 202	BM.264 / 79 B	245·8	G.T.S. O B.M. On stone flooring at W. end of N. or front verandah of Superintendent's house, Government Botanical Gardens, Howrah.	15·499	15·500
203		BM 265 / 79 B	246·3	Marble basement of Memorial Vase, in centre of Government Botanical Gardens, Howrah.	19·056	19·058
204		BM 266 / 79 B	247·7	G.T.S. O B.M. On 2nd step from bottom at S. or main entrance to Shalimar House. The steps are of stone and bench-mark is at W. end.	16·190	16·192
205		BM 267 / 79 B	250·0	G.T.S. O B.M. On masonry platform of pump, on W. side of circular tank, to S. of Messrs. Burn and Co's Workshop, Howrah.	16·730	16·732
	a / 205	BM.268 / 79 B	250·9	Stone let into compound wall, behind 3rd class carriage occupied by post office staff, at Howrah railway station. (Railway bench-mark).	16·567	16·569
206		BM.37 / 79 B	251·0	G.T.S. O B.M. On E. end of 2nd step from bottom, at main entrance porch, Howrah railway station.	18·136	18·138

Branch-Line 75A. (Kukrahati to Nijkasba).

Designation of Bench-marks		Distance from Kukrahati	Description of Beach-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1	BM.210 / 79 B	0·0	G.T.S. □ B.M. at Kukrahati. Embedded flush with floor in centre of front verandah of P.W.D. inspection bungalow, about 1 mile W. of ghat, and 400 yards from river bank.	20·895	20·898
2	BM.269 / 79 B	0·3	G.T.S. ○ B.M. On E. end of N. parapet of sluice, 27 chains below Kukrahati inspection bungalow.	20·478	20·480
3	BM.270 / 79 B	0·6	○ On top of mile-stone No. 45 along right embankment.	18·866	18·868
4	BM.271 / 79 B	1·6	○ On top of mile-stone No. 44 along right embankment.	20·322	20·324
5	BM.272 / 79 B	1·7	G.T.S. ○ B.M. On E. end of N. parapet of sluice, 6 chains E. of B.M. No. 4.	18·712	18·714
6	BM.273 / 79 B	2·8	○ On top of mile-stone No. 43 along right embankment.	20·477	20·479
7	BM.274 / 79 B	3·6	○ On top of mile-stone No. 42 along right embankment.	17·232	17·234
8	BM.275 / 79 B	4·6	G.T.S. ○ B.M. Embedded in coping at N. end of W. parapet of sluice at Bhadad village, 1 chain N. of mile-stone No. 41 along embankment.	14·078	14·080
9	BM.276 / 79 B	5·7	○ On top of mile-stone No. 40 along right embankment.	18·661	18·663
10	BM.277 / 79 B	5·9	G.T.S. ○ B.M. Embedded in coping at S. end of E. parapet of sluice at Horkhali village, ¼ mile S. of B.M. No. 9.	15·202	15·204
11	BM.278 / 79 B	6·4	G.T.S. ○ B.M. On W. end of S. parapet of sluice, ½ mile E. of Horkhali hat and 15 chains N. of B.M. No. 12.	16·347	16·349
1/11	BM.279 / 79 B	7·7	Top of flange of marine socket No. 43, on *band* of a field, on lower bank of Horkhali creek, about 1 mile N. of B.M. No. 11.	9·958	9·959
12	BM.280 / 79 B	6·6	○ On top of mile-stone No. 39 along right embankment.	19·666	19·668
13	BM.281 / 79 B	7·6	○ On top of mile-stone No. 38 along right embankment.	18·407	18·409
14	BM.282 / 79 B	8·6	○ On top of mile-stone No. 37 along right embankment.	19·813	19·815
1/14	BM.283 / 79 B	9·0	G.T.S. B.M. On E. face of Jhikurkhali obelisk, about 4 feet above surrounding earth.	14·656	14·658

Main-Line 75A. (Kukrahati to Nijkasba).

Designation of Bench-marks			Distance from Kukrahati	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	2/14	BM 284/79 B	9·1	Top of flange of marine socket No. 47 at junction of 4 field *bands*, ¼ mile N. of Jhikurkhali village.	12·575	12·577
	3/14	BM.285/79 B	10·2	Top of flange of marine socket No. 45 on mound above a creek, 2 miles N. of Jhikurkhali village, on Jhikurkhali point.	12·269	12·270
15		BM.286/79 B	8·9	G.T.S. ○ B.M. On S. end of E. parapet of sluice, ¼ mile S. of B.M. No. 14, opposite Jhikurkhali village.	14·128	14·130
	1/15	BM.287/79 B	9·3	Top of flange of marine socket No. 49 on a point ¾ mile above ruins of bridge, on lower bank of Jhikurkhali creek.	10·881	10·882
16		BM.288/79 B	9·6	○ B.M. On masonry pillar on embankment opposite ruins of bridge, at mile-stone No. 36 along embankment abreast of Bunjihara Chak.	22·388	22·390
17		BM.289/79 B	10·2	Top of flange of marine socket No. 51 on a mound, 3 chains E. of embankment and 1 mile N. of B.M. No. 19.	16·504	16·506
18		BM 290/79 B	10·7	○ On top of mile-stone No. 35 along right embankment.	19·024	19·026
19		BM.291/79 B	11·2	G.T.S. ○ B.M. at Bellari Tidal Semaphore. On masonry pillar, just below and inside embankment, 20 yards N. of tidal semaphore. The pillar is about 6 inches above ground level, and has a stone embedded flush with its surface.	13·667	13·669
	1/19	BM 292/79 B	12·9	On top of tower of Ramnagar G.T. Survey Tower Station, lat. 22° 5′ 27″·78, long. 88° 9′ 14″·29. A principal station of East Coast Series. (For full description *see* Synoptical Volume).	42·873	42·878
20		BM 293/79 B	11·7	○ On top of mile-stone No. 34 along right embankment.	19·117	19·119
21		BM 294/79 B	12·7	○ On top of mile-stone No. 33 along right embankment.	19·543	19·545
22		BM.295/79 B	12·7	G.T.S. ○ B.M. On E. end of N. parapet of sluice, 18 chains E. of P.W.D. inspection bungalow at Durga Chak, and 7 chains W. of B.M. No. 21.	13·899	13·901
23		BM.296/79 B	13·0	G.T.S. □ B.M. at Durga Chak. Embedded in verandah of P.W.D. inspection bungalow to left of doorway at S. or main entrance.	21·098	21·101
24		BM.297/79 B	13·8	G.T.S. ○ B.M. On S. end of E. parapet of sluice, at mile-stone No. 32 along embankment, near Belaurihat.	12·553	12·555

Branch-Line 75A. (Kukrahati to Nijkasba).

Designation of Bench-marks			Distance from Kukrahati	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
25		BM 298 / 79 B	14·7	G.T.S. ○ B.M. On S. end of E. parapet of sluice, opposite Phulbaria Tower.	13·544	13·546
	1/25	BM 299 / 79 B	14·8	G.T.S. B.M. On E. face of Phulbaria Tower, 4 feet above surrounding earth.	15·151	15·153
	2/25	BM 300 / 79 B	15·2	Top of flange of marine socket No. 53 on upper bank of a creek, 30 chains E. of B.M. No. 1/25.	10·514	10·515
26		BM.301 / 79 B	16·3	Top of flange of marine socket No. 55 on S. bank of a creek, 2 miles below Phulbaria Tower.	10·401	10·402
27		BM 302 / 79 B	17·5	On top of mile-stone No. 29 along right embankment.	18·134	18·136
28		BM 303 / 79 B	18·1	G.T.S. ○ B.M. On S. end of W. parapet of sluice, at Parmanand Chak, 31 chains N. of B.M. No. 29.	13·837	13·839
29		BM.304 / 79 B	18·5	On top of mile-stone No. 28 along right embankment.	18·476	18·478
30		BM.305 / 79 B	19·5	On top of mile-stone No. 27 along right embankment.	20·054	20·057
	1/30	BM.306 / 79 B	20·5	Top of flange of marine socket No. 57 on Haldi Point, 1 mile S. of embankment and 2 miles S. of Haldi Marine Mark.	10·378	10·379
31		BM 307 / 79 B	20·5	○ On top of mile-stone No. 26 along right embankment.	19·856	19·858
32		BM 308 / 79 B	20·6	G.T.S. □ B.M. Embedded in coping of S. end of W. parapet of sluice over Tarwan khal, a few chains N. of village of Sahiba Chak, 12 chains N. of mile-stone No. 26, at mouth and on N. bank of Haldi river.	19·462	19·464
33		BM 309 / 79 B	21·5	○ On top of mile-stone No. 25 along right embankment.	21·287	21·290
34		BM 310 / 79 B	21·6	G.T.S. ○ B.M. On S. end of E. parapet of sluice, 6 chains N. of B.M. No. 33.	19·544	19·546
35		BM 311 / 79 B	22·1	G.T.S. ○ B.M. On N. end of W. parapet of sluice, 27 chains S. of B.M. No. 36.	20·917	20·920
36		BM 312 / 79 B	22·5	○ On top of mile-stone No. 24 along right embankment.	20·505	20·508
37		BM.313 / 79 B	23·6	○ On top of mile-stone No. 23 along right embankment.	20·573	20·576

Branch-Line 75A. (Kukrahati to Nijkasba).

Designation of Bench-marks		Distance from Kukrahati	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
38	BM 314 / 79 B	24·3	G.T.S. ○ B.M. On N. end of E. parapet of sluice over Chunamara-khal, at Banbistupur village, 26 chains S. of B.M. No. 39.	16·247	16·249
39	BM 315 / 79 B	24·6	○ On top of mile-stone No. 22 along right embankment.	20·706	20·709
40	BM 316 / 79 B	25·2	G.T.S. ○ B.M. On centre of E. parapet of sluice, 8 chains S.W. of P.W.D. inspection bungalow at Balughata, on N. bank of Haldi river, on dak road from Contai to Kukrahati.	19·728	19·730
41	BM 206 / 79 B	25·3	G.T.S. ○ B.M. On 2nd step from bottom at main or S. entrance to P.W.D. inspection bungalow at Balughata, on road from Contai to Kukrahati, on N. bank of Haldi river.	16·896	16·898
42	BM 317 / 79 B	27·2	G.T.S. ○ B.M. On centre of W. parapet of sluice, 10 chains E. of Basuli Chak, on S. bank of Haldi river, and 29 chains N. of mile-post No. 24 along embankment.	19·395	19·398
43	BM 318 / 79 B	27·9	G.T.S. ○ B.M. On S. end of W. parapet, ½ mile S.E. of P.W.D. inspection bungalow at Basuli Chak, 26 chains S. of mile-post No. 24 along embankment.	17·344	17·346
44	BM 319 / 79 B	29·1	G.T.S. ○ B.M. On S. end of W. parapet of sluice, ½ mile E. of Dinbandanpur village and S. of mile-post No. 23 along embankment.	19·274	19·277
45	BM 320 / 79 B	30·4	G.T.S. ○ B.M. On S. end of W. parapet of sluice, ½ mile E. of Binandpur village and ¾ mile S. of mile-post No. 22 along embankment.	19·273	19·276
46	BM 321 / 79 B	31·3	G.T.S. ○ B.M. On N. end of E. parapet of sluice at Baman Chak village.	16·555	16·557
a / 46	BM 25 / 79 C	32·8	Top of flange of marine socket No. 59 at mouth of Haldi river, 6 chains E. of Sundia marine mark.	11·513	11·515
47	BM 26 / 79 C	33·9	Top of flange of marine socket No. 61 between two small creeks, 1 mile below Sundia marine mark.	9·678	9·679
48	BM 27 / 79 C	35·7	Top of flange of marine socket No. 63 on S. bank and at mouth of Kholakhali creek, 1 mile above B.M. No. 49.	10·520	10·521
49	BM 28 / 79 C	36·8	G.T.S. ○ B.M. at Gangra Marine Mark. On stone embedded in masonry pillar built below a field *band*, 20 feet W. of marine mark, and 1 mile S. of Kholakhali creek. The top of pillar is on a level with field *band*.	12·466	12·468
a / 49	BM 29 / 79 C	36·9	Top of flange of marine socket No. 65 on river bank 75 yards S.E. of B.M. No. 49.	9·169	9·170
50	BM 64 / 73 O	39·7	G.T.S. ○ B.M. On N. end of E. parapet of sluice, opposite Sanachura village, on W. or right embankment of Hooghly river.	18·866	18·869

Branch-Line 75A. (Kukrahati to Nijkasba).

Designation of Bench-marks		Distance from Kukrahati	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1/50	BM.65 / 73 O	41·5	Top of flange of marine socket No. 67 opposite ruins of Gangra G.T. Survey Tower Station, 2 miles below B.M. No. 49 and N.E. of Sanachura village.	15·605	15·607
51	BM.66 / 73 O	41·5	Top of flange of marine socket No. 69 on S. bank and at mouth of Talpati creek, 1 mile above Kedgeree P.W.D. inspection bungalow.	10·435	10·436
52	BM.67 / 73 O	42·6	G.T.S. O B.M. On stone embedded in basement of old flag-staff tower, Kedgeree, opposite centre of E. face.	15·363	15·365
53	BM.68 / 73 O	42·6	Top of old flag-staff tower at Kedgeree.	31·557	31·561
54	BM.69 / 73 O	43·5	G.T.S. O B.M. at Kedgeree Tidal Semaphore. On masonry pillar built near S.E. corner of tank, 2 chains N. of semaphore. The surface of pillar is on a level with ground and has a stone set in it.	10·259	10·260
55	BM.70 / 73 O	45·7	Top of flange of marine socket No. 71 on 2nd sand hill below tidal semaphore, 1 mile E. of Cowcolly light-house.	30·733	30·737
56	BM.71 / 73 O	46·2	Top of flange of iron pipe, at end of *band* from Cowcolly light-house to river side.	20·996	20·999
1/56	BM.72 / 73 O	46·9	G.T.S. O B.M. On stone embedded in plinth of Cowcolly light-house, about 5 feet from steps facing embankment.	11·956	11·958
57	BM.73 / 73 O	47·5	Top of flange of marine socket No. 73 on a sand hill, 1 mile S.E. of Cowcolly light-house.	26·643	26·647
58	BM.74 / 73 O	51·0	G.T.S. O B.M. at Nijkasba. On masonry pillar built near entrance to compound of masjid at mouth and on N. bank of Rasulpur river. The surface of pillar is 9 inches above ground and has a stone set in it.	20·693	20·696

Branch-Line 75B. (Howrah to Nadia).

Designation of Bench-marks		Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
1	BM.37 / 79 B	0·0	G.T.S. ○ B.M. On E. end of 2nd step from bottom, at main entrance porch, Howrah railway station.	18·136	18·138
2	BM.322 / 79 B	0·1	G.T.S. □ B.M. at Howrah Railway Station. Embedded 1 foot to S. and 22 feet from S.W. and S.E. corners of latrine which lies to W. of 3rd class waiting hall and in front of entrance porch. The letters B.M. are cut on wall opposite centre door.	17·425	17·427
3	BM.323 / 79 B	2·6	○ On top of mile-stone No. 4 from Calcutta.	14·885	14·886
4	BM.324 / 79 B	3·3	G.T.S. ○ B.M. On N. end of W. parapet of culvert No. 3, about ¼ mile S. of mile-stone No. 5 from Calcutta, and 20 yards S. of another culvert on cross road to Dakhinpara lane.	19·006	19·008
5	BM 325 / 79 B	4·9	G.T.S. ○ B.M. On W. end of N. parapet of bridge over drain, on E. margin of road, and opposite Kshetra Mohan Mukharji's house at Bally, and 33 chains N. of mile-stone No. 6 from Calcutta.	22·564	22·566
6	BM.326 / 79 B	5·6	G.T.S. ○ B.M. On stone embedded in wing wall, between two pillars at S. end of E. parapet of bridge over Bally creek, and 11 chains N. of mile-stone No. 7 from Calcutta.	24·015	24·017
7	BM.327 / 79 B	6·2	G.T.S. ○ B.M. On N. end of 2nd step from bottom, at W. or main entrance to public library at Uttarpara.	20·864	20·866
8	BM 328 / 79 B	7·0	G.T.S. ○ B.M. On centre and near edge of masonry platform on S. side of doorway of Raja Piyari Mohan Mukharji's house, Uttarpara, on E. margin of road to Bhadrakali, 36 chains S. of mile-stone No. 9 from Calcutta.	23·378	23·380
9	BM 329 / 79 B	8·3	G.T.S. ○ B.M. On masonry platform, 10 feet N. of doorway of Bholanath Babu's dwelling house at new Medical Hall on E. margin of road at Kotrang, 14 chains S. of mile-stone No. 10 from Calcutta.	20·749	20·751
10	BM 330 / 79 B	9·4	G.T.S. ○ B.M. Embedded flush with floor and near pillar at S.W. corner of Konnagar (12 Temple) ghat.	17·122	17·123
11	BM.14 / 79 B	10·5	○ On top of mile-stone No. 12 from Calcutta.	22·452	22·454
12	BM.331 / 79 B	11·5	G.T.S. ○ B.M. On N.E. corner of platform of tower in front of Jagannath's temple at Mahesh, 60 yards W. of road, and 8 chains N. of mile-stone No. 13 from Calcutta.	24·684	24·686
13	BM.332 / 79 B	13·0	G.T.S. ○ B.M. On flag-stone at edge of platform opposite booking office at Serampore railway station.	24·219	24·221
14	BM 333 / 79 B	14·1	G.T.S. ○ B.M. On centre of masonry platform round a *pipal* tree, on W. margin of road at Nobgram bazar, 31 chains S. of mile-stone No. 16 from Calcutta.	17·289	17·290

Branch-Line 75B. (Howrah to Nadia).

Designation of Bench-marks			Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
15		BM 334 / 79 B	16·0	G.T.S. ○ B.M. On stone embedded at S. end of coping of W. parapet of northern one of two bridges, near each other, about ½ mile N. of Seoraphuli bazar, and 35 chains S. of mile-stone No. 18 from Calcutta.	22·179	22·181
16		BM 335 / 79 B	18·6	G.T.S. ○ B.M. On S. parapet wall of bridge over drain, at gate of house No. 19, on W. margin of road, 16 chains N. of mile-stone No. 19 at Chapdani.	26·254	26·256
17		BM 336 / 79 B	19·2	G.T.S. ○ B.M. On E. parapet of culvert, 5 chains S. of mile-stone No. 19 at Gaurhati.	25·948	25·950
18		BM 337 / 79 B	20·2	G.T.S ○ B.M. On masonry platform on S. side of doorway of house No. 72-73 on E. margin of road at Bhadreswar, and 8 chains S. of mile-stone No. 20 from Calcutta.	27·149	27·151
19		BM 8 / 79 B	21·3	○ On top of mile-stone No. 21 from Calcutta.	26·531	26·533
20		BM.338 / 79 B	22·2	○ On top of mile-stone No. 22 from Calcutta.	27·771	27·773
21		BM 339 / 79 B	23·3	○ On top of mile-stone No. 23 from Calcutta.	28·758	28·760
22		BM 340 / 79 B	24·9	G.T.S. ○ B.M. On basement on E. side of doorway of Satya Pir's shrine at Satya Pirtala on N. margin of road from Chandernagore to Chinsura, and 10 chains W. of Tolafatak police outpost.	27·776	27·778
23		BM 341 / 79 B	26·2	G.T.S. ○ B.M. at Chinsura Barrack Church. On stone embedded to right of top step at western entrance.	29·515	29·517
	1 / 23	BM 342 / 79 B	26·3	○ On stone step leading into verandah of Chinsura (Hooghly or Saiyid Mohsin's) college, on E. side of building, and 30 feet from N.E. corner of same.	29·265	29·267
	2 / 23	BM 7 / 79 B	26·3	On mark-stone on upper surface of pillar of Chinsura G.T. Survey Station, lat. 22° 52′ 55″·87, long. 88° 24′ 11″·33. A principal station of Calcutta Longitudinal Series. (For full description *see* Synoptical Volume).	84·952	84·958
	a / 23	BM 343 / 79 B	26·3	Chinsura College, level of floor of verandah (now a school room) adjoining B.M. No. 1/23.	30·207	30·209
24		BM 6 / 79 B	26·2	○ On floor at W. entrance to Chinsura Barrack Church, 3 feet from B.M. No 23.	29·482	29·484
25		BM.344 / 79 B	26·6	G.T.S. □ B.M. at Chinsura Barracks. Embedded in centre of platform in front of stables of Officers' quarters, and 75 feet N. of western half of Racket Court.	27·897	27·899

Branch-Line 75B. (Howrah to Nadia).

Designation of Bench-marks			Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
26		BM.345 / 79 B	26·7	Top of cannon embedded at W. margin of road opposite Nishanghat at Chinsura.	24·383	24·385
27		BM 346 / 79 B	28·0	B.O.M. On plinth at S. end of W. wall of Hooghly-Naihati overbridge on road along river bank.	29·109	29·111
28		BM.347 / 79 B	28·2	G.T.S. ○ B.M. On plinth of *imambara* or masjid, Hooghly, 80 feet W. of main entrance.	31·375	31·377
29		BM.348 / 79 B	28·5	G.T.S. ○ B.M. On stone at bottom step of small entrance at N.E. corner of Judge's Court (now Normal School) at Hooghly, and 1 chain from river bank.	34·303	34·305
30		BM 349 / 79 B	29·1	B.O.M. On masonry pillar on N. side of W. entrance to Bandel Church, and on E. margin of road along river bank.	26·603	26·605
31		BM.350 / 79 B	32·3	B.O.M. On inscription tablet in centre of upper terrace of Benia ghat opposite post office, Bansbaria.	33·080	33·082
32		BM.351 / 79 B	33·7	B.O.M. On stone of 2nd footing of steps leading up to Zafar Khan Ghazi's dargah (tomb) at Shahpur, on W. margin of road along river bank.	38·334	38·337
	a / 32	BM.352 / 79 B	34·4	G.T.S. □ B.M. at Tribeni Ghat. Embedded in centre of uppermost parapet on N. side of ghat. On either side of ghat there are shrines dedicated to the worship of Jagannath.	27·219	27·221
33		BM.9 / 79 A	35·8	⩘ On E. parapet of bridge, near Anukul Babu's garden house at Chandrahati village, on road along river bank. (P.W.D. bench-mark).	34·724	34·726
	a / 33	BM.10 / 79 A	38·9	G.T.S. ○ B.M. On stone set in centre parapet on E. side of pakka ghat at Dumardaha village.	22·407	22·409
	b / 33	BM.11 / 79 A	39·8	R.S. 1871 Revenue Survey stone. Situated in a field, 3 chains W. of road and a few chains N. of Dajipur village.	25·703	25·705
34		BM.12 / 79 A	42·0	B.O.M. On top step of Mahadeo's temple at Rukushpur, on W. margin of road.	33·616	33·618
35		BM.13 / 79 A	42·0	G.T.S. ○ B.M. On marble slab embedded in N.W. corner of plinth of Mahadeo's temple at Rukushpur.	33·956	33·958
	a / 35	BM.14 / 79 A	43·8	G.T.S. ○ B.M. On marble slab embedded in N.E. corner of plinth of southern temple of two, at entrance to tank at Jirat village. The temples and tank are on E. margin of road along river bank.	23·388	23·389

Branch-Line 75B. (Howrah to Nadia).

Designation of Bench-marks			Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
36		BM.15 / 79 A	45·8	G.T.S. ○ B.M. On N.W. corner of masonry plinth of Mahadeo's temple at Balagarh village, on E. margin of road and adjoining a pakka building known as "Banari Dalan", and 3 chains to N. of a temple called "Dol Mandir".	27·265	27·267
37		BM.16 / 79 A	46·4	B.O.M. On masonry seat on E. side of gate of police station, the last building at W. end of Balagarh bazar, on S. margin of road and near river bank.	24·123	24·124
	a / 37	BM.17 / 79 A	46·4	G.T.S. □ B.M. at Balagarh. Embedded in police station enclosure, 30 feet from N.W. corner of police station and 40 feet from B.M. No. 37.	23·459	23·460
	b / 37	BM.18 / 79 A	49·0	G.T.S. ○ B.M. at Somrah. On stone embedded in front or E. pavement of Hari Lal Sil's house on bank of river and facing Rakhal Das Sil's house.	36·729	36·731
38		BM.19 / 79 A	53·4	G.T.S. ○ B.M. On pavement immediately under western arch and to left of entrance to Brindaban Chandra Thakur's Mandir at Guptipara.	35·183	35·185
	a / 38	BM.20 / 79 A	53·6	G.T.S. ○ B.M. On flooring of hall belonging to Babu Rakhal Chandra Sen of Guptipara, in centre of top step leading down to tank.	27·053	27·054
39		BM.21 / 79 A	58·4	G.T.S. ○ B.M. On W. end of top step at S. entrance to Mission School building at Kalna, at eastern extremity of town and on bank of river.	42·943	42·945
	a / 39	BM.22 / 79 A	58·5	G.T.S. ○ B.M. On W. parapet of steps at N. entrance or that facing river, of Mission School building at Kalna.	43·374	43·376
	b / 39	BM.23 / 79 A	59·3	G.T.S. ○ B.M. On E. end of stone pavement at main entrance to Rasbari temple, opposite market, Kalna.	39·562	39·564
	c / 39	BM.24 / 79 A	60·4	G.T.S. □ B.M. at Kalna, Deputy Magistrate's court. Embedded flush with surface of a masonry pillar immediately opposite window at N.E. corner of building.	39·340	39·342
	d / 39	BM.25 / 79 A	60·4	G.T.S. ○ B.M. at Kalna, Deputy Magistrate's court. On flooring of front verandah of court-house, near central pillar, 49 feet from B.M. No. c/39.	41·918	41·920
40		BM.26 / 79 A	60·9	B.O.M. On W. parapet of sluice bridge on cart track to Mirzapur and ½ mile to N. of B.M. No. d/39.	25·844	25·845
	a / 40	BM.27 / 79 A	65·5	G.T.S. ○ B.M. Embedded in a hole cut into root of a large banyan tree on bank of river, a few chains N. of Gopiaghat bazar, and 30 chains S. of Mirzapur ferry.	35·071	35·073

Branch-Line 75B. (Howrah to Nadia).

Designation of Bench-marks			Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
41		BM.28 / 79 A	67·1	G.T.S. □ B.M. at Goalpara Bazar. Embedded in a block of masonry, a few inches above ground level, on W. margin of road from Kalna to Katwa and Nadia. The bench-mark is in an open plot of ground, between three houses belonging to Sham Mandal, fisherman, and 26 feet to S. of S.E. corner of house to N., in verandah of which a letter-box is kept.	38·288	38·290
42		BM.29 / 79 A	67·4	B.O.M. On N. end of W. parapet of bridge, 32 chains N. of Goalpara and on road to Katwa.	32·815	32·817
43		BM.30 / 79 A	68·7	B.O.M. On centre of E. parapet of bridge, 24 chains N. of tank on E. margin of road and midway between mile-posts Nos. 30 and 31 from Katwa.	34·201	34·203
44		BM.31 / 79 A	70·8	G.T.S. ○ B.M. On centre of E. parapet of bridge over Nengurdah khal on Kalna-Katwa road, and 6 chains N. of Samudragarh post office.	40·092	40·094
	1/44	BM.32 / 79 A	72·1	G.T.S. ○ B.M. at Kanchantala Indigo Factory. Embedded at S.E. corner of southernmost vat, and 1 chain E. of chimneys. The factory is 15 chains E. of road from Kalna to Katwa, 1 mile S. of Samudragarh post office.	39·110	39·112
	a/44	BM.33 / 79 A	74·8	G.T.S. □ B.M. No. 3 at Nadia. Embedded immediately opposite E. window and adjoining wall of policemen's quarters of outpost, 13 and 9 feet respectively from S.E. and N.E. corners of police quarters, and 79 feet N. of steps of outpost.	32·129	32·130
45		BM.34 / 79 A	74·9	G.T.S. ○ B.M. No. 2 at Nadia. Embedded in narrow pavement outside wall and to W. of doorway of Sribas temple on N. margin of road leading to Krishnagar ferry and 10 chains S. of thana or police outpost.	33·206	33·207
46		BM.35 / 79 A	75·0	G.T.S. □ B.M. No. 1 at Nadia. Embedded in pavement in front of block of pakka shops on N. margin of road, to Krishnagar ferry, 5 chains E. of Sribas temple, and 10 chains from ferry. The bench-mark is 47 feet E. of door at W. end of block, and 8 feet W. of door from E. end of block.	25·437	25·438

Main-Line 76. (Purnea to Ramganj).

Designation of Bench-marks			Distance from Purnea	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.13 / 72 O	0·0	G.T.S. / B.M. Purnea Block-stone Bench Mark No. 5. Embedded 40 feet from back or W. wall of Joint Magistrate's kachahri or most southerly block of buildings of Collector's offices.	118·328	118·313
2			0·8	Destroyed.	123·690	123·674
	a / 2	BM.80 / 72 O	1·6	G.T.S. / B.M. Purnea Bench Mark No. 7. On plinth at S.E. corner, 1 foot from wall of dak bungalow (occupied as Government telegraph office).	120·285	120·270
3		BM.81 / 72 O	2·7	G.T.S. / B.M. Purnea Bench Mark No. 8. Engraved at centre of parapet wall of culvert on N. side of road leading from Saurah bridge (No. 15) at Captain's Ghat to Purnea city, and 4 chains N. of W. end of bridge.	116·306	116·291
4		BM.82 / 72 O	3·7	Top of mile-post, Karagolaghat 30 miles, on N. side of road.	125·666	125·650
	a / 4	BM.83 / 72 O	3·8	G.T.S. B.M., Mauza Belauri Bench Mark. On well, 82 feet E. of S.E. corner of wall round Agha Saifulla Khan Bahadur's *kabargah*.	122·623	122·608
5		BM.84 / 72 O	4·7	Top of mile-post, Karagolaghat 31 miles, on N. side of road.	124·086	124·070
6		BM.85 / 72 O	5·7	Top of mile-post, Karagolaghat 32 miles, on N. side of road.	125·299	125·283
7		BM.86 / 72 O	6·7	Top of mile-post, Karagolaghat 33 miles, on N. side of road.	123·463	123·447
8		BM.87 / 72 O	7·7	Top of mile-post, Karagolaghat 34 miles, on N. side of road.	124·342	124·326
9		BM.88 / 72 O	9·7	Top of mile-post, Karagolaghat 36 miles, on N. side of road.	126·981	126·965
10		BM.89 / 72 O	10·7	Top of mile-post, Karagolaghat 37 miles, on N. side of road.	125·950	125·934
11		BM.90 / 72 O	11·7	Top of mile-post, Karagolaghat 38 miles, on N. side of road.	124·454	124·438
12		BM.91 / 72 O	12·7	Top of mile-post, Karagolaghat 39 miles, on N. side of road.	125·237	125·221
13		BM.92 / 72 O	13·7	Top of mile-post, Karagolaghat 40 miles, on N. side of road.	126·930	126·914
14		BM.93 / 72 O	14·2	G.T.S. / B.M. Belgachi encamping ground Block-stone Bench Mark. Embedded 3 chains N.N.W. of N.W. corner of P.W.D. inspection bungalow, and bears 332° from pakka pillar.	120·986	120·970
15		BM.94 / 72 O	14·7	Top of mile-post, Karagolaghat 41 miles, on N. side of road.	127·841	127·824

Main-Line 76. (Purnea to Ramganj).

Designation of Bench-marks			Distance from Purnea	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
16		BM.95 / 72 O	15·7	Top of mile-post, Karagolaghat 42 miles, on N. side of road.	126·831	126·814
17		BM.96 / 72 O	16·7	Top of mile-post, Karagolaghat 43 miles, on N. side of road.	128·975	128·958
18		BM.97 / 72 O	17·7	Top of mile-post, Karagolaghat 44 miles, on N. side of road.	128·107	128·090
19		BM.98 / 72 O	19·7	Top of mile-post, Karagolaghat 46 miles, on N. side of road.	127·807	127·790
20		BM.99 / 72 O	20·8	Top of mile-post, Karagolaghat 47 miles, on N. side of road.	128·102	128·085
	a / 20	BM.100 / 72 O	22·5	G.T.S. / B.M. Dengraghat Bench Mark No. 1. At E. end of highest of 3 steps leading into N. verandah of P.W.D. inspection road bungalow, on S. side of road.	123·694	123·678
21		BM.101 / 72 O	22·8	G.T.S. / B.M. Dengraghat Bench Mark No. 2. At E end of lowest of 3 steps at S. end of dak bungalow at 49th mile-post from Karagolaghat.	124·214	124·198
22		BM.102 / 72 O	24·7	Top of mile-post, Karagolaghat 51 miles, on W. side of road.	124·494	124·478
23		BM.103 / 72 O	25·7	Top of mile-post, Karagolaghat 52 miles, on W. side of road.	125·523	125·506
24		BM.104 / 72 O	26·7	Top of mile-post, Karagolaghat 53 miles, on W. side of road.	129·459	129·442
	a / 24	BM.105 / 72 O	26·8	G.T.S. / B.M. Nichontpur village Bench Mark. On top of wall on S. side of doorway leading into courtyard of Ismail Khan's masjid on W. side of road.	130·535	130·517
25		BM.106 / 72 O	27·7	Top of mile-post, Karagolaghat 54 miles, on W. side of road.	130·125	130·107
26		BM.107 / 72 O	28·7	Top of mile-post, Karagolaghat 55 miles, on W. side of road.	131·456	131·438
27		BM.108 / 72 O	29·7	Top of mile-post, Karagolaghat 56 miles, on W. side of road.	132·487	132·469
28		BM.109 / 72 O	30·7	Top of mile-post, Karagolaghat 57 miles, on W. side of road.	142·007	141·987
	a / 28	BM.110 / 72 O	30·7	G.T.S. / B.M. Asurgarh Block-stone Bench Mark. Embedded in encamping ground, 2 chains S.S.E. from S.E. corner of plinth of verandah of P.W.D. inspection bungalow and 8 feet E. of pakka pillar on which letters B.M. are engraved.	138·200	138·181
29		BM.111 / 72 O	31·7	Top of mile-post, Karagolaghat 58 miles, on W. side of road.	134·890	134·871

Main-Line 76. (Purnea to Ramganj).

Designation of Bench-marks			Distance from Purnea	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
30		BM.112 / 72 O	32·6	Top of mile-post, Karagolaghat 59 miles, on W. side of road.	135·836	135·817
31		BM.10 / 72 N	33·6	Top of mile-post, Karagolaghat 60 miles, on W. side of road.	138·899	138·879
	a / 31	BM.11 / 72 N	34·4	G.T.S. / B.M. Matiari village Bench Mark. At 3 feet N. of centre of most southerly of 3 entrances to Panali's masjid.	138·343	138·323
32		BM.12 / 72 N	34·6	Top of mile-post, Karagolaghat 61 miles, on N.W. side of road.	139·971	139·951
33		BM.13 / 72 N	35·6	Top of mile-post, Karagolaghat 62 miles, on N.W. side of road.	142·220	142·199
34		BM.14 / 72 N	36·6	Top of mile-post, Karagolaghat 63 miles, on N.W. side of road.	143·732	143·711
35		BM.15 / 72 N	37·6	Top of mile-post, Karagolaghat 64 miles, on N.W. side of road.	142·937	142·916
36		BM.16 / 72 N	38·6	Top of mile-post, Karagolaghat 65 miles, on N.W. side of road.	143·660	143·639
37		BM.17 / 72 N	39·6	Top of mile-post, Karagolaghat 66 miles, on N.W. side of road.	147·474	147·452
38		BM.18 / 72 N	40·6	Top of mile-post, Karagolaghat 67 miles, on N.W. side of road.	151·392	151·370
39		BM.19 / 72 N	41·6	Top of mile-post, Karagolaghat 68 miles, on N.W. side of road.	154·601	154·578
	a / 39	BM 20 / 72 N	42·2	G.T.S. / B.M. at Kishanganj Dak Bungalow. On N.W. end of top step leading into verandah from N.	156·337	156·314
40		BM.21 / 72 N	42·6	Top of mile-post, Karagolaghat 69 miles, on N.W. side of road.	155·496	155·473
	a / 40	BM 22 / 72 N	42·9	G.T.S. / B.M. Kutabganj Bench Mark. On top of curb on S. side of Gauri Sah Sonar's pakka well, 2 chains W. of road.	158·439	158·415
41		BM.23 / 72 N	43·6	Top of mile-post, Karagolaghat 70 miles, on N.W. side of road.	160·552	160·528
42		BM.24 / 72 N	44·6	G.T.S. / B.M. Mauza Balchauka Bench Mark. On top of low W. parapet wall of road culvert, 2 chains N.E. of 71st mile-post from Karagolaghat.	158·064	158·040
43		BM 25 / 72 N	45·6	Top of mile-post, Karagolaghat 72 miles, on N.W. side of road.	164·865	164·840
44		BM.1 / 78 B	46·6	Top of mile-post, Karagolaghat 73 miles.	167·485	167·460

Main-Line 76. (Purnea to Ramganj).

Designation of Bench-marks			Distance from Purnea	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
45		BM 2 / 78 B	47·9	G.T.S. / B.M. Panjipara village Bench Mark. On centre of stone slab at overflow on W. side of Bishanchand Bhagat's (of Bujpara) pakka well, 6 chains E. of road.	170·081	170·055
46		BM 3 / 78 B	48·6	Top of mile-post, Karagolaghat 75 miles, on N.W. side of road.	173·330	173·304
47		BM.4 / 78 B	49·6	Top of mile-post, Karagolaghat 76 miles, on N.W. side of road.	172·122	172·096
48		BM.5 / 78 B	50·6	Top of mile-post, Karagolaghat 77 miles, on N.W. side of road.	178·635	178·607
49		BM.6 / 78 B	51·6	Top of mile-post, Karagolaghat 78 miles, on N.W. side of road.	181·207	181·179
50		BM.7 / 78 B	52·4	G.T.S. / B.M. Mauza Ghaisal Block-stone Bench Mark. Embedded on E. of road, 10 chains S.W. by S. from B.M. No. 51 and 4 chains E.S.E. from N.E. corner of P.W.D. inspection bungalow.	180·028	180·000
51		BM.8 / 78 B	52·6	Top of mile-post, Karagolaghat 79 miles, on N.W. side of road.	184·045	184·016
52		BM 9 / 78 B	53·6	Top of mile-post, Karagolaghat 80 miles, on N.W. side of road.	188·579	188·550
53		BM.10 / 78 B	54·9	G.T.S. / B.M. at centre of N.W. parapet wall of road culvert, 28 chains N.E. of 81st mile-post from Karagolaghat.	188·424	188·394
54		BM.11 / 78 B	56·5	Top of mile-post, Karagolaghat 83 miles, on N.W. side of road.	194·765	194·734
55		BM.12 / 78 B	57·5	Top of mile-post, Karagolaghat 84 miles, on N.W. side of road.	198·028	197·997
56		BM.13 / 78 B	58·5	Top of mile-post, Karagolaghat 85 miles, on N.W. side of road.	197·163	197·132
57		BM.14 / 78 B	59·5	Top of mile-post, Karagolaghat 86 miles, on N.W. side of road.	200·085	200·053
58		BM.15 / 78 B	59·9	G.T.S. / B.M. Mauza Barhat Bench Mark. 1 foot from N.E. end of S.E. low parapet wall of road culvert, about 200 yards N.W. of village.	203·734	203·701
59		BM.16 / 78 B	60·6	Top of mile-post, Karagolaghat 87 miles, on N.W. side of road.	211·028	210·994
	a / 59	BM.17 / 78 B	61·3	Sonakhoda Block-stone Bench Mark No. 1. Embedded 10 feet N.W. of N.W. corner of plinth of Sonakhoda T. S. and on prolongation of W. side plinth of tower.	203·847	203·814
	1 / 59	BM.18 / 78 B	61·3	On ground level mark-stone of Sonakhoda G.T. Survey Tower Station, Bench Mark No. 2, lat. 26° 15′ 21″·79, long. 88° 12′ 4″·43. A principal station of North-East Longitudinal Series. (For full description *see* Synoptical Volume).	207·176	207·143

Main-Line 76. (Purnea to Ramganj).

Designation of Bench-marks		Distance from Purnea	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
60	BM.19 / 78 B	61·5	Top of mile-post, Karagolaghat 88 miles, on N.W. side of road.	215·704	215·669
61	BM.20 / 78 B	62·5	Top of mile-post, Karagolaghat 89 miles, on N.W. side of road.	219·549	219·513
62	BM.21 / 78 B	62·7	G.T.S. B.M. Mauza Aluabari Bench Mark. At N.E. corner of cornice over arch on S.E. side of road bridge.	220·656	220·620
63	BM.22 / 78 B	63·5	Top of mile-post, Karagolaghat 90 miles, on N.W. side of road.	221·273	221·237
a / 63	BM.23 / 78 B	63·9	G.T.S. B.M. Aluabari Bench Mark. At 8 inches from wall and 7 feet from E. corner of verandah flooring of P.W.D. inspection bungalow.	218·716	218·680
64	BM.24 / 78 B	65·5	Top of mile-post, Karagolaghat 92 miles, on N.W. side of road.	226·533	226·496
65	BM.25 / 78 B	66·5	G.T.S. B.M. Mauza Madaripur Bench Mark. At 1 foot from N.E. end of parapet wall on S.E. side of road culvert, 1 chain N. of 93rd mile-post.	226·097	226·060
66	BM.26 / 78 B	67·5	Top of mile-post, Karagolaghat 94 miles, on N.W. side of road.	226·103	226·066
67	BM.27 / 78 B	67·9	Mauza Phulhara Block-stone Bench Mark. Embedded at trijunction of village lands of Singdhai, Bagaligach and Magdama, 2 chains to W. of road, and 127° from pakka pillar.	221·376	221·340
68	BM.28 / 78 B	68·8	Ramganj Block-stone Bench Mark No. 3. Embedded between the two stone bar-comparison pillars.	227·509	227·471
69	BM.29 / 78 B	68·8	On ground level mark-stone of Ramganj, G.T. Survey Tower Station, Bench Mark No. 1, lat. 26° 18′ 55″·51, long. 88° 17′ 30″·43. A principal station of North-East Longitudinal Series. (For full description *see* Synoptical Volume).	230·524	230·486

Branch-Line 76A. (Kishanganj to Barsoi).

Designation of Bench-marks			Distance from Kishanganj	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.20 / 72 N	0·0	G.T.S. B.M. at Kishanganj Dak Bungalow. On N.W. end of top step leading into verandah from N.	156·337	156·314
	a / 1	BM 26 / 72 N	0·3	G.T.S. □ MINOR B.M. at Kishanganj Railway Station. Embedded about 6 inches below level of platform, to S. of station, 153 feet from S.W. corner of station building, 125 feet from home signal, and 196 feet from station well.	154·260	154·237
2		BM.27 / 72 N	0·5	G.T.S. B.O.M. MINOR On E. end of pier of bridge, near telegraph post No. $\frac{209}{4}$.	149·991	149·969
3		BM.28 / 72 N	1·3	G.T.S. B.O.M. MINOR On E. end of S. abutment of bridge, near telegraph post No. $\frac{208}{8}$.	152·053	152·031
4		BM.29 / 72 N	4·2	G.T.S. B.O.M. MINOR On E. end of S. abutment of bridge, near telegraph post No. $\frac{205}{8}$.	146·284	146·263
5		BM.30 / 72 N	7·0	G.T.S. B.O.M. MINOR On E. end of S. abutment of bridge, near telegraph post No. $\frac{202}{11}$.	140·095	140·075
6		BM.113 / 72 O	7·9	G.T.S. B.O.M. MINOR On E. end of S. abutment of bridge, near telegraph post No. $\frac{201}{14}$.	138·724	138·704
7		BM.114 / 72 O	8·3	G.T.S □ MINOR B.M. at Kanki Railway Station. Embedded about 6 inches below level of platform, to S. of station, 154 feet from S.E. corner of station building, 121 feet from home signal, and 224 feet from station well.	138·600	138·580
8		BM.115 / 72 O	10·3	G.T.S. B.O.M. MINOR On E. end of S. abutment of bridge, near telegraph post No. $\frac{199}{6}$.	134·967	134·948
9		BM.116 / 72 O	16·0	G.T.S. B.O.M. MINOR On E. end of S. abutment of bridge, near telegraph post No. $\frac{193}{10}$.	126·048	126·031
10		BM.117 / 72 O	17·3	G.T.S. □ MINOR B.M. at Dalkolha Railway Station. Embedded about 6 inches below level of platform, to S. of station, 152 feet from S.E. corner of station building, 121 feet from home signal, and 229 feet from station well.	124·542	124·526
11		BM.118 / 72 O	18·4	G.T.S. B.O.M. MINOR On E. end of 1st pier from S. of bridge, near telegraph post No. $\frac{191}{3}$.	121·703	121·687
12		BM.119 / 72 O	21·2	G.T.S. B.O.M. MINOR On E. end of 1st pier from S. of bridge, near telegraph post No. $\frac{188}{5}$.	119·350	119·335

Branch-Line 76A. (Kishanganj to Barsoi).

Designation of Bench-marks		Distance from Kishanganj	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
13	BM.120 / 72 O	25·2	G.T.S. B.O.M. MINOR On E. end of S. abutment of bridge, near telegraph post No. 184/5.	116·038	116·024
14	BM.121 / 72 O	27·0	G.T.S. B.O.M. MINOR On E. end of 1st pier from S. of bridge, near telegraph post No. 182/8.	121·434	121·419
15	BM.122 / 72 O	27·8	G.T.S. □ MINOR B.M. at Sudhani Railway Station. Embedded about 6 inches below level of platform, to S. of station, 153 feet from S.W. corner of station building, 224 feet from station well, and 122 feet from home signal.	115·521	115·507
16	BM.123 / 72 O	28·3	G.T.S. B.O.M. MINOR On E. end of S. abutment of bridge, near telegraph post No. 181/4.	115·341	115·327
17	BM.124 / 72 O	29·9	G.T.S. B.O.M. MINOR On E. end of 1st pier from S. of bridge, near telegraph post No. 179/9.	109·746	109·733
18	BM.125 / 72 O	31·4	G.T.S. B.O.M. MINOR On E. end of pier of bridge, near telegraph post No. 178/1.	108·388	108·375
19	BM.126 / 72 O	33·4	G.T.S. B.O.M. MINOR On N. end of pier of bridge, near mile-post No. 176.	107·819	107·806
20	BM.127 / 72 O	34·5	G.T.S. □ MINOR B.M. at Barsoi Railway Station. Embedded about 6 inches below level of platform, to E. of station, 18 feet S. of platform edge, 137 feet from station building and 333 feet E. of home signal.	108·713	108·700

Main-Line 77. (Howrah to Ramganj).

Designation of Bench-marks			Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.37 / 79 B	0·0	G.T.S. ○ B.M. On E. end of 2nd step from bottom, at main entrance porch, Howrah railway station.	18·136	18·138
2		BM 35 / 79 B	0·8	Top of 1st iron bollard, N. of landing, in front of River Steam Navigation Company's Godown, Strand, Bank road, Calcutta.	15·334	15·335
3		BM.34 / 79 B	0·8	G.T.S. ○ B.M. On top step of Gulab Ghat, at Grey's wharf, opposite 1st iron bollard to N. of landing, 2 chains from N.W. corner of River Steam Navigation Company's Godown, Strand road, Calcutta.	14·447	14·448
4		BM.353 / 79 B	1·1	G.T.S. □ B.M. at Calcutta Mint. Erected within compound fence of warders' quarters, near sentry-box at southern gate, and opposite 3rd iron post southwards.	17·016	17·018
	1/4	BM 354 / 79 B	1·4	G.T.S. □ B.M. at Calcutta Mint. Situated in Mint compound, between path leading to office from gate and drain alongside, or more exactly the bench-mark is 10 feet to N.W. of S.E. corner of Premelting Room, and 3 feet from western wall of same.	19·980	19·982
5		BM.34 / 79 B	1·4	G.T.S. ○ B.M. On top step of Gulab Ghat, at Grey's wharf, opposite 1st iron bollard to N. of landing, 2 chains from N.W. corner of River Steam Navigation Company's Godown, Strand road, Calcutta.	14·447	14·448
6		BM.33 / 79 B	1·7	G.T.S. ○ B.M. On S. corner of step at ground level, of S. arch of entrance to Chhote Lal Durga Prashad's Ghat on Strand road, on N. side of and adjoining Hooghly bridge.	18·602	18·604
7		BM.32 / 79 B	2·3	G.T.S. ○ B.M. On S.E. corner of basement of Nawab Abdul Ghani's Fountain, near junction of Fairlie Place with Strand road, Calcutta.	17·978	17·980
8		BM.31 / 79 B	3·0	G.T.S. ○ B.M. On pavement, on E. side and near 4th pillar from S. of Babu Rajchandar Dass's Ghat, Strand, Calcutta.	18·108	18·110
9		BM 30 / 79 B	3·3	G.T.S. ○ B.M. On pavement, in front of inscription stone of Sir William Peel's statue, near S.W. gate of Eden Gardens, Calcutta.	18·994	18·996
	a/9	BM.355 / 79 B	3·8	G.T.S. ○ B.M. On E. end of marble step at entrance to Gwalior monument at Pani Ghat, Strand, which bears following inscription:—Erected to the memory of the Officers and Soldiers who fell in the Actions of Maharajpur and Panniar on the 29th December 1843.	21·304	21·306
10		BM.356 / 79 B	4·1	○ at Napier of Magdala Statue, opposite Prinsep's Ghat, on W. corner of 1st step of pedestal of statue.	21·279	21·281
	1/10	BM.357 / 79 B	4·7	G.T.S. ○ B.M. at Hastings bridge. On S. pavement, at foot of 2nd pillar from lamp post.	29·895	29·898
	1a/10	BM.358 / 79 B	5·2	G.T.S. ○ B.M. B at Kidderpore new Dock. On coping of E. wall of main entrance, 11 feet N. of swing bridge.	16·173	16·175

Main-Line 77. (Howrah to Ramganj).

Designation of Bench-marks		Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
2/10	BM.359 / 79 B	5·2	G.T.S. ○ B.M. A at Kidderpore new Dock. On coping of W. wall of main entrance, 11 feet N. of swing bridge. This is the bench-mark of reference of Kidderpore tidal station.	16·173	16·175
2a/10	BM 360 / 79 B	5·3	○ at Kidderpore old Dock. On edge of coping of lower wall on E. side, 2 feet S. of centre of lower hinge.	12·107	12·108
3/10	BM 361 / 79 B	5·3	G.T.S. ○ B.M. at Kidderpore old Dock. On coping of upper wall on E. side, 6 feet S. of centre of upper hinge.	17·087	17·089
a/10	BM 362 / 79 B	4·7	G.T.S.○B.M. at Hastings bridge. On stone step under W. arch of S.E. corner cupola.	32·617	32·620
11	BM.363 / 79 B	4·9	G.T.S. ○ B.M. On N. end of E. parapet of culvert at junction of roads from Hastings and Presidency jail, 20 chains S. of Dufferin statue.	17·111	17·113
12	BM.364 / 79 B	5·3	G.T.S. ○ B.M. at Sir James Outram's Statue. On S.W. corner of 2nd step of pedestal of statue, near entrance to Park street.	19·710	19·712
a/12	BM 365 / 79 B	5·9	G.T.S. ○ B.M. On base of collimation pillar, flush with verandah flooring in front of adjusting room, Mathematical Instrument Office, Calcutta.	18·766	18·768
b/12	BM.366 / 79 B	5·9	G.T.S. ○ B.M. On uppermost step in front of N. doorway of Photo-Litho Office, Calcutta.	17·440	17·442
c/12	BM.367 / 79 B	6·0	G.T.S. ○ B.M. On flooring of E. verandah of Original Record room, under central arch, Surveyor General's Office, Calcutta.	18·594	18·596
d/12	BM 368 / 79 B	6·0	Erskine's Standard Bench Mark for Calcutta 1910 Situated in compound of Surveyor General's Office, in angle formed by main building and its eastern projection. The following are distances and bearings, respectively, of surrounding objects from bench-mark:—S.W. corner of eastern projection of Surveyor General's office 35 feet, 147°; angle formed by main building and above projection 78 feet, 37°; S.E. corner pillar of porch on S. face of Surveyor General's office 52 feet, 332°.	19·090	19·092
13	BM.369 / 79 B	5·9	On top surface of capping stone of pillar of Calcutta Latitude Station, lat. 22° 32′ 54″·67, long. 88° 21′ 28″·77. A secondary station of Calcutta Longitudinal Series, and situated in compound of Mathematical Instrument Office. The capping stone bears the following inscription:— This Stone Marks an Astronomical Station of the G. T. Survey Where the Latitude was Observed By Mr. H. Taylor in 1864-65.	18·464	18·466

Main-Line 77. (Howrah to Ramganj).

Designation of Bench-marks			Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
14		BM.370 / 79 B	5·9	Baird's Standard Bench Mark, Calcutta. Situated in Mathematical Instrument Office enclosure, Wood Street, 11 feet in front of and S. of centre of outer wall of portico.	19·068	19·070
15		BM.371 / 79 B	8·2	G.T.S. ○ B.M. On coping of platform opposite telegraph office at Sialdah railway station.	22·662	22·664
16		BM.372 / 79 B	8·2	G.T.S. □ B.M. at Sialdah Railway Station. Embedded 2 feet below level of station platform, at N.E. end of platform No. 1, 1 foot W. of a line of prolongation of face of station building at a point on this line 39 feet from corner of building. A sign board with letters B.M. is at N. W. side of stone.	20·662	20·664
17		BM 373 / 79 B	16·5	G.T.S. ∧ 1882 On stone embedded on W. margin of railway line opposite telegraph post No. $\frac{8}{9}$.	18·136	18·138
18		BM.374 / 79 B	17·9	G.T.S. □ B.M. at Sodepur Railway Station. Embedded 1 foot below level of station platform, at N. end of W. platform immediately under W. staging of overbridge, 11 feet from edge of platform, 36 feet from N.E. corner of station building, and 22 feet from S.E. corner of menials' quarters No. 7.	20·635	20·637
19		BM.375 / 79 B	18·5	G.T.S. ∧ 1882 On stone at side of road by gate of level crossing, near telegraph post No. $\frac{10}{10}$.	16·461	16·462
20		BM 376 / 79 B	20·4	G.T.S. ∧ 1882 On stone at E. margin of railway line, between telegraph posts Nos. $\frac{12}{6}$ and $\frac{12}{7}$.	17·714	17·716
21		BM 377 / 79 B	23·3	G.T.S. ○ B.M. On W. end of N. abutment of culvert, near telegraph post No. $\frac{15}{6}$.	17·214	17·215
22		BM.378 / 79 B	24·7	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. $\frac{16}{14}$.	19·722	19·724
	$\frac{1}{22}$	BM.379 / 79 B	24·9	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. $\frac{18}{5}$.	21·654	21·656
23		BM.380 / 79 B	26·9	G.T.S. □ B.M. at Shamnagar Railway Station. Embedded 1 foot below level of station platform, immediately under W. staging of overbridge, 11 feet from edge of platform, and 70 feet from base of home signal.	28·351	28·353
24		BM.381 / 79 B	28·1	G.T.S. ○ B.M. On W. end of N. abutment of bridge, near telegraph post No. $\frac{19}{23}$.	19·428	19·429

Main-Line 77. (Howrah to Ramganj).

Designation of Bench-marks		Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
25	BM.382 / 79 B	29·3	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. 21/2.	22·341	22·343
26	BM.383 / 79 B	30·7	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. 22/11.	23·611	23·613
27	BM.384 / 79 B	32·3	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. 24/2.	26·258	26·260
28	BM.385 / 79 B	34·3	G.T.S. ○ B.M. On W. end of N. abutment of bridge, near telegraph post No. 26/3.	31·597	31·599
29	BM.386 / 79 B	35·8	G.T.S. ○ B.M. On W. end of N. abutment of bridge, near telegraph post No. 27/13.	26·888	26·890
30	BM.387 / 79 B	36·2	G.T.S. □ B.M. at Kanchrapara Railway Station. Embedded 18 inches below level of station platform, under W. staging of over-bridge, 10 feet from edge of W. platform, and 24 feet S. of S.E. corner of station building.	28·342	28·344
31	BM.388 / 79 B	36·7	G.T.S. ○ B.M. On W. end of N. parapet of bridge, near telegraph post No. 28/11.	23·842	23·844
32	BM.389 / 79 B	38·2	G.T.S. ○ B.M. On W. end of N. abutment of bridge, near telegraph post No. 29/24.	24·369	24·371
33	BM.390 / 79 B	40·1	G.T.S. ○ B.M. On centre of W. parapet of bridge, near telegraph post No. 31/22.	25·999	26·001
34	BM.36 / 79 A	41·0	G.T.S. ○ B.M. On up platform of Madanpur railway station.	32·384	32·386
35	BM.37 / 79 A	42·4	G.T.S. ○ B.M. On W. end of N. abutment of bridge, near telegraph post No. 34/4.	31·248	31·250
36	BM.38 / 79 A	44·0	G.T.S. ○ B.M. On W. end of N. parapet of bridge, near telegraph post No. 35/18.	33·545	33·547
37	BM.39 / 79 A	45·7	G.T.S. ○ B.M. On W. end of N. abutment of bridge, near telegraph post No. 37/12.	35·647	35·649

Main-Line 77. (Howrah to Ramganj).

Designation of Bench-marks		Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
38	BM.40 / 79 A	46·6	G.T.S. □ B.M. at Chakdaha Railway Station. Embedded 18 inches below level of W. platform, under western staging of overbridge, 32 feet to S. of S E. corner of station building, and 11 feet from edge of platform.	34·949	34·951
39	BM.41 / 79 A	47·8	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. 39/12.	29·967	29·969
40	BM.42 / 79 A	48·8	G.T.S. ○ B.M. On N. parapet of bridge, near telegraph post No. 40/10.	28·371	28·373
41	BM.43 / 79 A	50·4	G T.S. ○ B.M. On S.E. corner of plinth of gate lodge, near telegraph post No. 42/2.	32·761	32·763
42	BM.44 / 79 A	52·1	G.T.S. ○ B.M. On W. end of N. parapet of bridge, near telegraph post No. 43/18.	31·525	31·527
a/42	BM 45 / 79 A	53·7	G.T.S. ○ B.M. On S.E. corner of plinth of gatelodge, near telegraph post No. 45/6.	34·828	34·830
43	BM.46 / 79 A	54·7	G.T.S. ○ B.M. On S.W. corner of plinth of gate lodge, near telegraph No. 46/7.	27·392	27·394
44	BM.47 / 79 A	56·5	G T.S. ○ B.M. On W. end of N. abutment of bridge, near telegraph post No. 48/2.	30·361	30·363
45	BM.48 / 79 A	58·1	G.T.S. ○ B.M. On W. end of N. abutment of bridge, near telegraph post No. 49/16.	29·572	29·574
46	BM 49 / 79 A	59·5	G.T.S. ○ B.M. On N. end of W. abutment of bridge, near telegraph post No. 51/2.	29·382	29·384
47	BM.50 / 79 A	61·2	G.T.S. ○ B.M. On W. end of N. abutment of bridge, near telegraph post No. 52/18.	29·967	29·969
48	BM.51 / 79 A	62·9	G.T.S. ○ B.M. On W. end of N. abutment of bridge, near telegraph post No. 54/9.	30·428	30·429
49	BM.52 / 79 A	64·1	G.T.S. ○ B.M. On W. end of N. abutment of bridge, near telegraph post No. 55/14.	29·839	29·840

Main-Line 77. (Howrah to Ramganj).

Designation of Bench-marks			Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	1/49	BM.53/79 A	64·4	G.T.S. ○ B.M. On W. end of N. abutment of bridge, near mile-post No. 57.	29·651	29·652
	a/49	BM 54/79 A	64·2	G.T.S. □ B.M. at Bogoola Railway Station. Embedded in up platform, 28 feet from N.E. corner of station building and immediately under trestle of overbridge in centre of square.	32·495	32·497
50		BM 55/79 A	69·6	G.T.S. ○ B.M. On W. end of N. abutment of bridge, near telegraph post No. 60/13.	31·236	31·237
51		BM 56/79 A	70·5	G.T.S. ○ B.M. On W. end of N. abutment of bridge, near telegraph post No. 61/12.	29·611	29·612
	1/51	BM 57/79 A	70·6	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. 63/3.	39·031	39·033
	a/51	BM 58/79 A	73·8	G.T.S. ○ B.M. On E. parapet of bridge, near telegraph post No. 64/11.	40·763	40·765
	b/51	BM.59/79 A	75·2	G.T.S. ○ B.M. On W. parapet of bridge, near telegraph post No. 65/17.	38·261	38·263
52		BM 60/79 A	76·8	G.T.S. ○ B.M. On W. end of N. abutment of bridge, near telegraph post No. 67/7.	31·347	31·348
53		BM.61/79 A	78·4	G.T.S. ○ B.M. On S. end of up platform of Banpur railway station.	39·818	39·820
54		BM.62/79 A	78·4	G.T.S. □ B.M. at Banpur Railway Station. Embedded about 13 inches below level of up platform, under western staging of overbridge, 10 feet from face of station well, and 43 feet from S.E. corner of station building.	38·327	38·328
	a/54	BM.63/79 A	80·9	G.T.S. ○ B.M. On E. parapet of bridge, near telegraph post No. 71/6.	34·813	34·814
	b/54	BM.64/79 A	82·5	G.T.S. ○ B.M. On E. end of S. abutment of bridge, near telegraph post No. 72/19.	34·251	34·252
55		BM.65/79 A	83·6	G.T.S. ○ B.M. On E. parapet of bridge, near telegraph post No. 73/22.	28·024	28·025

Main-Line 77. (Howrah to Ramganj).

Designation of Bench-marks			Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
56		BM.66 / 79 A	85·2	G.T.S. ○ B.M. On E. end of S. abutment of bridge, near telegraph post No. 75/10.	36·135	36·136
57		BM.67 / 79 A	86·9	G.T.S. ○ B.M. On E. parapet of bridge, near telegraph post No. 77/3.	41·201	41·202
58		BM.68 / 79 A	87·5	G.T.S. □ B.M. at Jayrampur Railway Station. Embedded about 6 inches below level of up platform, under western staging of overbridge, and 10 feet from edge of platform.	44·568	44·569
59		BM.69 / 79 A	88·9	G.T.S. ○ B.M. On E. end of S. wing wall of bridge, near telegraph post No. 79/3.	31·679	31·680
60		BM.70 / 79 A	90·7	G.T.S. ○ B.M. On E. end of S. abutment of bridge, near mile-post No. 81.	38·347	38·348
61		BM.71 / 79 A	92·5	G.T.S. ○ B.M. On E. parapet of bridge, near telegraph post No. 82/17.	38·440	38·441
62		BM.72 / 79 A	94·7	G.T.S. ○ B.M. On E. end of S. abutment of bridge, near telegraph post No. 84/17.	39·406	39·407
63		BM.73 / 79 A	95·5	G.T.S. ○ B.M. On E. parapet of bridge, near telegraph post No. 85/16.	39·422	39·423
64		BM.74 / 79 A	97·6	G.T.S. ○ B.M. On E. parapet of bridge, near telegraph post No. 87/16.	40·077	40·078
65		BM.75 / 79 A	99·5	G.T.S. ○ B.M. On E. end of S. abutment of bridge, near telegraph post No. 89/12.	40·178	40·179
	a/65	BM.76 / 79 A	102·7	G.T.S. ○ B.M. On E. end of S. abutment of bridge, near telegraph post No. 92/14.	40·176	40·177
66		BM.77 / 79 A	103·6	G.T.S. □ B.M. at Alamdanga Railway Station. Embedded 163 feet from N. side of passenger waiting shed on down platform, 123 feet from N. edge of down platform, and 9 feet from face of platform edge.	55·686	55·687
	a/66	BM.78 / 79 A	104·3	G.T.S. ○ B.M. On lower edge at S. end of W. abutment of bridge, near telegraph post No. 94/2.	47·474	47·475

Main-Line 77. (Howrah to Ramganj).

Designation of Bench-marks			Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
67		BM.79 / 79 A	105·6	G.T.S. ○ B.M. On E. parapet of bridge, near telegraph post No. 95/7.	49·268	49·269
68		BM.80 / 79 A	106·6	G.T.S. ○ B.M. On S.E. end of S.W. abutment of bridge, near telegraph post No. 96/8.	42·371	42·372
69		BM.81 / 79 A	108·3	G.T.S. ○ B.M. On E. parapet of bridge, near telegraph post No. 98/1.	42·968	42·969
70		BM.1 / 79 E	110·2	G.T.S. ○ B.M. On S.E. wing wall of bridge, near telegraph post No. 99/22.	36·151	36·151
	a/70	BM.2 / 79 E	111·8	G.T.S. ○ B.M. On S.E. end of S.W. abutment of bridge, near telegraph post No. 101/12.	34·082	34·082
	b/70	BM.3 / 79 E	113·0	G.T.S. ○ B.M. On S.E. wing wall of bridge, near telegraph post No. 102/17.	35·242	35·242
71		BM.4 / 79 E	113·2	G.T.S. □ B.M. at Poradaha Railway Station. Embedded about 3 inches below level of island platform, immediately under western staging of overbridge, 10 and 14 feet respectively from E. and W. edges of platform.	46·468	46·468
	a/71	BM.5 / 79 E	118·8	G.T.S. ○ B.M. On E. end of S. abutment of bridge, near telegraph post No. 108/8.	63·448	63·449
72		BM 6 / 79 E	121·0	G.T.S. ○ B.M. On E. end of S. abutment of bridge, near telegraph post No. 110/20.	48·872	48·872
73		BM.7 / 79 E	123·4	G.T.S. ○ B.M. On E. end of S. abutment of bridge, near telegraph post No. 113/5.	51·850	51·850
74		BM.1 / 78 H	125·2	G.T.S. ○ B.M. On E. end of bridge, near telegraph post No. 114/25.	43·071	43·071
75		BM.2 / 78 H	129·7	G.T.S. □ B.M. at Damukdia Railway Station. Embedded to S.W. of station building, 15 and 17 feet respectively from W. and S. corners, and 77 feet in a direct line from main line to Damukdia ghat.	47·945	47·945
76		BM.3 / 78 H	130·0	B.M. "B" at Damukdia. Iron bolt embedded in centre of masonry pillar, on right bank of the Ganges, about ¼ mile N.E. of Damukdia railway station, and about 130 feet N. of B.M. No. 75.	49·352	49·352

Main-Line 77. (Howrah to Ramganj).

Designation of Bench-marks		Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
$\frac{1}{76}$	BM.4 / 78 H	130·1	B.M. "A" at Damukdia. Iron bolt embedded in centre of masonry pillar W. of railway line, and 396 feet W. of B.M. No. 76.	48·576	48·576
$\frac{a}{76}$	BM.5 / 78 H	130·0	B.M. "E" at Damukdia. Iron rail embedded in masonry pillar, 15 feet S. of B.M. No. 76.	49·941	49·941
77		131·3	Destroyed.	51·485	51·485
$\frac{1}{77}$	BM.6 / 78 H	131·4	B.M. "D" at Sara. Iron rail embedded in masonry pillar, on left bank of the Ganges.	48·245	48·245
78	BM.7 / 78 H	132·1	G.T.S. □ B.M. at Sara Railway Station. Embedded flush with flooring in N.E. corner of station verandah, 78 feet from home signal, 30 feet in a right line from edge of platform above rails, and 8 feet from centre of Government railway police office door.	53·393	53·393
$\frac{a}{78}$	BM.8 / 78 H	134·1	G.T.S. ○ B.M. On stone embedded in masonry pillar, near mile-post No. 3 from Sara.	51·953	51·953
79	BM.9 / 78 H	136·5	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. $\frac{5}{9}$.	54·126	54·125
80	BM.10 / 78 H	138·5	G.T.S. ○ B.M. On S.E. cap of bridge, between telegraph posts Nos. $\frac{7}{9}$ and $\frac{7}{10}$.	49·948	49·947
81	BM.11 / 78 H	139·9	G.T.S. □ B.M. at Gopalpur Railway Station. Embedded in S. corner of station verandah, 34 and 33 feet respectively from N. and W. corners of ladies' waiting room, and 19 feet from platform edge above rails.	51·978	51·977
$\frac{a}{81}$	BM.1 / 78 D	142·1	G.T.S. ○ B.M. On S.E. cap of bridge, between telegraph posts Nos. $\frac{10}{22}$ and $\frac{10}{23}$.	50·558	50·557
82	BM.2 / 78 D	144·4	G.T.S. ○ B.M. On S.E. cap of bridge, between telegraph posts Nos. $\frac{13}{7}$ and $\frac{13}{8}$.	51·560	51·559
83	BM.3 / 78 D	147·5	G.T.S. □ B.M. at Malanchi Railway Station. Embedded flush with flooring in S.W. corner of station verandah, 20 and 19 feet respectively from N.E. and N.W. corners of ladies' waiting room, and 18 feet from home signal.	54·853	54·852
84	BM.4 / 78 D	149·0	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. $\frac{17}{21}$.	53·820	53·819
85	BM.5 / 78 D	150·2	G.T.S. ○ B.M. On S.E. cap of bridge, near mile-post No. 19 from Sara.	54·151	54·150

Main-Line 77. (Howrah to Ramganj).

Designation of Bench-marks		Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
86	BM 6 / 78 D	152·6	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 21/12.	52·505	52·504
87		154·2	Destroyed.	63·579	63·577
88	BM.7 / 78 D	155·2	G.T.S. □ B.M. at Nattore Railway Station. Embedded flush with flooring in station verandah, 3 and 10 feet respectively from its S.E. and S.W. corners, 7 feet from centre of door of officers' waiting room, and 38 feet from home signal.	51·952	51·950
89	BM.8 / 78 D	156·8	G.T.S. ○ B.M. On S.E. cap of bridge, between telegraph posts Nos. 25/16 and 25/17.	50·826	50·824
90		157·9	Destroyed.	63·574	63·572
91	BM.9 / 78 D	159·6	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 28/11.	49·998	49·996
92	BM.10 / 78 D	161·1	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 29/22.	50·708	50·706
93	BM.11 / 78 D	163·8	G.T.S. □ B.M. at Madhnagar Railway Station. Embedded flush with platform below name-plate, 170 feet from S.W. corner of masonry surrounding station signal levers, and 137 feet from S.E. corner of station building.	51·365	51·363
94	BM.12 / 78 D	166·1	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 34/22.	51·793	51·791
95	BM.13 / 78 D	167·4	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 36/6.	51·495	51·493
96	BM.14 / 78 D	168·7	G.T.S. ○ B.M. On S.E. cap of bridge, between telegraph posts Nos. 37/12 and 37/13.	51·510	51·508
97	BM.15 / 78 D	169·9	G.T.S. ○ B.M. at Atrai Railway Station. On upper surface of platform wall.	52·511	52·509

Main-Line 77. (Howrah to Ramganj).

Designation of Bench-marks			Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
98		BM.16 / 78 D	171·4	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 40/6.	51·909	51·907
99		BM.17 / 78 D	173·6	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 42/10.	51·679	51·677
100		BM.18 / 78 D	175·5	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 44/9.	51·560	51·557
101		BM.19 / 78 D	178·1	G.T.S. □ B.M. at Raninagar Railway Station. Embedded flush with flooring in S.W. corner of station verandah, 1 foot from that corner, 28 feet from N.W. corner, 11 feet from centre of central door of station building and 28 feet from edge of platform wall.	51·559	51·556
102		BM.20 / 78 D	178·8	G.T.S. ○ B.M. On S.E. cap of bridge, between telegraph posts Nos. 47/16 and 47/17.	51·326	51·323
103		BM.21 / 78 D	179·8	G.T.S. ○ B.M. On S.E. cap of bridge, between telegraph posts Nos. 48/15 and 48/16.	51·002	50·999
	a/103	BM.22 / 78 D	181·5	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 50/6.	51·142	51·139
104		BM.23 / 78 D	182·7	G.T.S. □ B.M. at Santahar Railway Station. Embedded in S.E. corner of front verandah, 1 foot from that corner, 10 feet from S.W. corner, 30 feet from edge of platform wall and 8 feet from centre of door of 1st and 2nd class waiting room.	52·815	52·812
105		BM.24 / 78 D	183·5	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 52/9.	53·652	53·649
	1/105	BM.25 / 78 D	183·5	G.T.S. ○ B.M. at Tilakpur Railway Station. Embedded in masonry pillar, 3 feet from centre of name-plate.	55·292	55·289
106		BM.12 / 78 H	189·8	G.T.S. ○ B.M. On S.E. cap of bridge, between telegraph posts Nos. 58/16 and 58/17.	55·681	55·677
107			191·8	Destroyed.	68·732	68·728

Main-Line 77. (Howrah to Ramganj).

Designation of Bench-marks			Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
108		BM.13 / 78 H	194·1	G.T.S. □ B.M. at Akkelpur Railway Station. Embedded flush with flooring in S.W. corner of front verandah, 11 feet from its S.E. corner, 31 feet from N.E. corner, 14 feet from centre of central door of station and 31 feet from edge of platform wall.	59·320	59·316
	a / 108	BM.14 / 78 H	195·5	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 64/6.	58·789	58·785
109		BM 1 / 78 G	197·0	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 65/20.	60·082	60·078
	1 / 109	BM.2 / 78 G	197·1	G.T.S. ○ B.M. at Jamalganj Railway Station. Embedded in masonry pillar, 3 feet from centre of name-plate.	63·358	63·354
110		BM.3 / 78 G	200·6	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 69/11.	65·445	65·440
111		BM.4 / 78 G	203·4	G.T.S. □ B.M. at Jaypur Railway Station. Embedded in S.W. corner of front verandah, 1 foot from that corner, 10 and 38 feet respectively from S.E. and N.E. corners, and 8 feet from centre of S. door of station building.	67·889	67·884
112		BM.5 / 78 G	205·1	G.T.S. ○ B.M. On stone embedded in masonry pillar, near mile-post No. 74 from Sara.	71·659	71·653
113		BM.6 / 78 G	207·1	G.T.S. ○ B.M. On stone embedded in masonry pillar, 6 inches above ground level at mile-post No. 76 from Sara.	73·949	73·943
114		BM.7 / 78 G	209·5	G.T.S. □ B.M. at Panchabibi Railway Station. Embedded in upper surface of platform wall, 21 and 17 feet respectively from N.E. and S.E. corners of ladies' waiting room and 42 feet from S.W. corner of front verandah of station building.	77·841	77·835
115		BM.8 / 78 G	211·9	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 80/20.	79·748	79·741
116		BM 9 / 78 G	213·5	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 82/11.	80·995	80·988
117		BM.10 / 78 G	215·7	G.T.S. ○ B.M. at Hili Railway Station. On upper surface of platform wall opposite 3rd class waiting shed.	84·242	84·235
118		BM.11 / 78 G	217·5	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 86/10.	84·533	84·525

Main-Line 77. (Howrah to Ramganj).

Designation of Bench-marks			Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
119		BM 12 / 78 G	219·3	G.T.S. ○ B.M. 88/5.	84·995	84·987
120		BM.13 / 78 G	221·0	G.T.S. ○ B.M. 89/22 and 89/23.	92·575	92·566
121		BM.14 / 78 G	222·8	G.T.S. ○ B.M. 91/18.	94·469	94·460
	a/121	BM 1 / 78 C	223·8	G.T.S. □ B.M. at Chorkai Railway Station. Embedded flush with flooring in verandah of station building, 8 and 19 feet respectively from its S.W. and N.W. corners, 12 feet from centre of station door and 28 feet from home signal.	96·622	96·613
122		BM.2 / 78 C	225·2	G.T.S. ○ B.M. 94/3 and 94/4.	97·366	97·356
123		BM.3 / 78 C	226·9	G.T.S. ○ B.M. 95/22.	97·899	97·889
124		BM.4 / 78 C	227·8	G.T.S. ○ B.M. 96/19.	99·780	99·770
125		BM.5 / 78 C	229·2	G.T.S. ○ B.M. 98/5.	101·591	101·580
126		BM.6 / 78 C	230·9	G.T.S. ○ B.M. at Phulbari Railway Station. On upper surface of platform wall opposite home signal.	105·202	105·191
127		BM 7 / 78 C	232·4	G.T.S. ○ B.M. 101/9.	104·067	104·056
	a/127	BM.8 / 78 C	233·3	G.T.S. ○ B.M. 102/7 and 102/8.	103·824	103·813
128		BM.9 / 78 C	236·8	G.T.S. □ B.M. at Bhowanipore Railway Station. Embedded flush with pavement immediately in front of S.E. corner of station building, 6 feet from centre of S. door of station, 28 feet from home signal, and 62 feet from S.E. corner of ladies' waiting room.	112·206	112·194

Main-Line 77. (Howrah to Ramganj).

Designation of Bench-marks		Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
129	BM.10 / 78 C	238·0	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 107/1.	112·767	112·754
130	BM.11 / 78 C	239·4	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 108/9.	112·724	112·711
131	BM.12 / 78 C	242·3	G.T.S. □ B.M. at Parbatipur. Embedded in masonry platform, 35, 72 and 102 feet respectively from N.E., S.E. and N.W. corners of plate-layer's bungalow, and 18 feet from centre of pakka closed-in well due W. from bench-mark	114·577	114·564
a/131	BM.13 / 78 C	244·0	G.T.S. ○ B.M. On S.E. cap of bridge, between telegraph posts Nos. 112/17 and 112/18.	118·262	118·248
132	BM.14 / 78 C	245·4	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 114/10.	123·169	123·154
a/132	BM 15 / 78 C	247·1	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 115/21.	122·874	122·859
133		248·5	Destroyed.	126·637	126·621
134	BM.16 / 78 C	250·0	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 118/24.	129·834	129·818
135	BM 17 / 78 C	251·5	G.T.S. □ B.M. at Saidpur Railway Station. Embedded flush with flooring in S.W. corner of station verandah, 10 and 78 feet respectively from its S.E. and N.E. corners, and 8 feet from centre of station master's office door.	134·159	134·142
136	BM.18 / 78 C	253·2	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 122/6.	138·033	138·015
137	BM.19 / 78 C	255·8	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 124/19.	145·896	145·877
138	BM.20 / 78 C	257·2	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 126/5.	144·497	144·478
a/138	BM.21 / 78 C	259·1	G.T.S. ○ B.M. at Daroani Railway Station. On S.E. corner of verandah pavement.	148·021	148·002

Main-Line 77. (Howrah to Ramganj).

Designation of Bench-marks			Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
139		BM.22 / 78 C	261·5	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 130/12.	155·316	155·295
	a/139	BM.23 / 78 C	263·8	G.T.S. □ B.M. at Nelphamari Railway Station. Embedded flush with flooring in S.W. corner of station verandah, 11, 17 and 21 feet respectively from S.E., N.W. and N.E. corners.	159·604	159·582
	b/139	BM.24 / 78 C	265·1	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 134/3.	162·084	162·062
140		BM.25 / 78 C	267·2	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 136/9.	166·660	166·637
141		BM.30 / 78 B	269·6	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 138/16.	168·543	168·519
	a/141	BM.31 / 78 B	271·6	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 140/14.	168·449	168·425
	b/141	BM.32 / 78 B	273·1	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 142/4.	172·374	172·349
142		BM.33 / 78 B	274·0	G.T.S. □ B.M. at Domar Railway Station. Embedded flush with flooring in front verandah, 10 feet from S.E., 1 foot from S.W., 18 feet from N.W. and 20 feet from N.E. corners.	179·908	179·881
	a/142	BM.34 / 78 B	276·5	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 145/12.	183·097	183·070
143		BM.35 / 78 B	278·6	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 147/18.	190·793	190·764
144		BM.36 / 78 B	280·4	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 149/13.	197·321	197·290
	a/144	BM.37 / 78 B	284·0	G.T.S. ○ B.M. at Chilahati Railway Station. On S.W. corner of verandah flooring.	207·123	207·091

Main-Line 77. (Howrah to Ramganj).

Designation of Bench-marks			Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
145		BM 38 / 78 B	285·4	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 154/15.	209·069	209·035
146		BM.39 / 78 B	286·7	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 155/23.	216·944	216·909
147		BM.40 / 78 B	288·4	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 157/13.	224·327	224·290
148		BM.41 / 78 B	290·4	G.T.S. □ B.M. at Haldibari Railway Station. Embedded flush with flooring in station verandah, 20 feet from N.E., 11 feet from S.E. and 1 foot from S.W. corners, and 8 feet from centre of station master's office door.	230·870	230·832
	1/148	BM.42 / 78 B	293·4	On the ⊙ on ground floor mark-stone of Chilahati G. T. Survey Tower Station, lat. 26° 18′ 9″·82, long. 88° 45′ 27″·41. A principal station of Assam Longitudinal Series. (For full description *see* Synoptical Volume).	216·308	216·272
149		BM.43 / 78 B	294·1	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 163/8.	238·980	238·939
	a/149	BM.44 / 78 B	297·7	G.T.S. ○ B.M. at Mandalghat Railway Station. On S.E. corner of verandah flooring.	250·342	250·299
150			298·9	Destroyed.	252·958	252·914
151			302·5	Destroyed.	265·805	265·758
152		BM.45 / 78 B	303·7	G.T.S. □ B.M. at Jalpaiguri Railway Station. Embedded flush with flooring in station verandah, 1 foot from S.E. and 11 feet from S.W. corners, and 8 feet from centre of door of ladies' waiting room.	269·173	269·125

Main-Line 77. (Howrah to Ramganj).

Designation of Bench-marks			Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
153		BM.46 / 78 B	305·9	G.T.S. ○ B.M. On N.E. cap of bridge, near telegraph post No. 175/3.	279·712	279·662
	a / 153	BM.47 / 78 B	308·0	G.T.S. ○ B.M. On N.E. cap of bridge, near telegraph post No. 177/4.	289·378	289·326
154		BM.48 / 78 B	310·3	G.T.S. ○ B.M. On N.E. cap of bridge, near telegraph post No. 179/9.	294·509	294·455
	a / 154	BM.49 / 78 B	311·8	G.T.S. ○ B.M. On N.E. cap of bridge, near mile-post No. 181 from Sara.	303·415	303·360
	b / 154	BM.50 / 78 B	313·9	G.T.S. □ B.M. at Belakoba Railway Station. Embedded flush with flooring in station verandah, 1 foot from S.E., 11 feet from N.E. and 30 feet from N.W. corners, and 5 feet from centre of booking office door.	319·127	319·069
155		BM.51 / 78 B	315·8	G.T.S. ○ B.M. On N.W. cap of bridge, near telegraph post No. 185/2.	317·290	317·232
156		BM.52 / 78 B	317·4	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 186/12.	330·487	330·425
157		BM.53 / 78 B	319·2	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 188/8.	342·095	342·031
158		BM.54 / 78 B	322·7	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 192/2.	367·418	367·348
159		BM.55 / 78 B	325·4	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 194/11.	382·484	382·410
160		BM.56 / 78 B	326·6	G.T.S. □ B.M. at Siliguri Railway Station. Embedded in pavement of station platform below name-plate, 13 feet from edge of platform wall above rails, 27 feet from ramp in same, 88 feet E. of centre of pakka base of large crane and 71 feet S. of home semaphore.	392·824	392·748
	1 / 160	BM.57 / 78 B	326·6	G.T.S. ○ B.M. at Siliguri Railway Station. On stone pavement of platform between gentlemen's waiting room and private room.	393·059	392·983
	a / 160	BM.58 / 78 B	328·1	G.T.S. ○ B.M. On N. corner of centre step leading into N. end of road-cess bungalow at old Siliguri.	385·312	385·237

Main-Line 77. (Howrah to Ramganj).

Designation of Bench-marks			Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
161		BM.59 / 78 B	332·4	G.T.S. ○ B.M. On masonry platform surrounding Phulbari Hat well, about 200 feet E. of main road.	344·282	344·217
162		BM.60 / 78 B	333·8	G.T.S. ○ B.M. at Sannyasikata. Embedded about 1 foot below ground level, 23 and 12 feet respectively from N.E. and N.W. corners of Jagirjoti School and 18 feet W. of school well. It is E. of main road, and 77 feet at a point 18 chains S. of mile-plate No. 117.	332·367	332·306
163		BM.61 / 78 B	334·6	G.T.S. ○ B.M. On E. parapet of culvert, 8 chains S. of mile-plate No. 116.	327·627	327·567
164		BM.62 / 78 B	336·3	G.T.S. ○ B.M. On centre of W. parapet of culvert, 17 chains N. of mile-plate No. 114.	320·365	320·306
	a / 164	BM 63 / 78 B	337·7	G.T.S. ○ B.M. On centre of W. parapet of culvert, 13 chains S. of mile-plate No. 113.	307·175	307·119
165		BM.64 / 78 B	340·7	G.T.S. ○ B.M. On centre of E. parapet of culvert, 15 chains S. of mile-plate No. 110.	293·409	293·357
166		BM.65 / 78 B	341·5	G.T.S. ○ B.M. On centre of E. parapet of culvert, 1 chain N. of mile-plate No. 109.	290·190	290·138
	a / 166	BM 66 / 78 B	341·6	G.T.S. ○ B.M. On masonry platform of well at Titaliya inspection bungalow.	295·038	294·985
	1 / 166	BM.67 / 78 B	341·6	G.T.S. ○ B.M. at Titaliya Inspection Bungalow. Embedded about 1 foot below ground level, due S. of P.W. inspection bungalow on left bank of Mahananda river, 27 and 54 feet respectively from its S. and E. corners, and 57 feet from N. corner of out-offices and stables.	309·094	309·039
167		BM.68 / 78 B	343·1	G.T.S. ○ B.M. On centre of E. parapet of culvert, 39 chains N. of mile-plate No. 107.	288·945	288·894
	a / 167	BM 69 / 78 B	344·9	G.T.S. ○ B.M. On top step, N.E. corner, of old tomb in disused cemetery, about 4 chains W. of main road and 16 chains S. of mile-plate No. 106.	299·010	298·957
168		BM.70 / 78 B	346·2	G.T.S. ○ B.M. On N. end of E. parapet of culvert, 25 chains N. of mile-plate No. 104.	279·143	279·094
169		BM.71 / 78 B	350·7	G.T.S. ○ B.M. On S. end of E. parapet of road-bridge, 15 chains S. of mile-plate No. 100.	237·816	237·775
	a / 169	BM 72 / 78 B	352·1	G.T.S. ○ B.M. On kerb of well, 3 chains W. of Chopra inspection bungalow.	234·595	234·555

Main-Line 77. (Howrah to Ramganj).

Designation of Bench-marks			Distance from Howrah	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
	b/169	BM.73/78 B	*miles* 352·1	G.T.S. ○ B.M. at Chopra Inspection Bungalow. Embedded about 1 foot below ground level, to S.W. of bungalow, 12, 48 and 44 feet respectively from its S.W., N.W., and S.E. corners, and about 2 chains E. of main road.	*feet* 230·658	*feet* 230·618
170		BM.28/78 B	351·7	Ramganj Block-stone Bench Mark No. 3. Embedded between the two stone bar-comparison pillars.	227·509	227·471
	a/170	BM.74/78 B	351·7	G.T.S. ○ B.M. at Ramganj Bench Mark No. 2. On top of most westerly stone bar-comparison pillar.	232·129	232·091
	b/170	BM.75/78 B	351·9	G.T.S. ○ B.M. Embedded E. of large pakka well at S.E. corner of Ramganj hat.	233·237	233·199
171		BM.29/78 B	351·7	On ground level mark-stone of Ramganj G.T. Survey Tower Station, Bench Mark No. 1, lat. 26° 18′ 55″·51, long. 88° 17′ 30″·43. A principal station of North-East Longitudinal Series. (For full description *see* Synoptical Volume).	230·524	230·486

Branch-Line 77A. (Parbatipur to Gauhati).

Designation of Bench-marks			Distance from Parbatipur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM 12 / 78 C	0·0	G.T.S. □ B.M. at Parbatipur. Embedded in masonry platform, 35, 72 and 102 feet respectively from N.E., S.E. and N.W. corners of plate-layer's bungalow, and 18 feet from centre of pakka closed-in well due W. from bench-mark.	114·577	114·564
2		BM.26 / 78 C	1·8	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 112/16.	115·097	115·084
3		BM.27 / 78 C	3·7	G.T.S. ○ B.M. On S. cap of bridge, near telegraph post No. 114/15.	117·714	117·700
	a/3	BM.28 / 78 C	3·8	G.T.S. ○ B.M. On S. end of centre pier of bridge, between telegraph posts Nos. 116/4 and 116/5.	113·504	113·491
4		BM.15 / 78 G	6·9	G.T.S. ○ B.M. On S.E. cap of bridge, between telegraph posts Nos. 117/18 and 117/19.	113·391	113·378
5		BM.16 / 78 G	7·9	G.T.S. ○ B.M. On W. cap of bridge, near telegraph post No. 118/20.	113·551	113·538
6		BM.17 / 78 G	8·9	G.T.S. ○ B.M. On S. end of W. pier of bridge, between telegraph posts Nos. 119/21 and 119/22.	116·858	116·844
	a/6	BM.18 / 78 G	9·5	G.T.S. □ B.M. at Badarganj Railway Station. Embedded about 6 inches below platform level, 53 and 28 feet respectively from N.E. and S.E. corners of station building, 17 feet from platform edge above rails and 15 feet from centre of base of home signal.	115·326	115·312
	b/6	BM.19 / 78 G	10·8	G.T.S. ○ B.M. On E. end of S.W. parapet wall of bridge, between telegraph posts Nos. 121/17 and 121/18.	119·156	119·142
	c/6	BM.20 / 78 G	12·6	G.T.S. ○ B.M. On S. end of most easterly pier of bridge, near telegraph post No. 123/12.	109·721	109·708
	d/6	BM.21 / 78 G	13·9	G.T.S. ○ B.M. On S.E. cap of bridge, near telegraph post No. 124/19.	113·257	113·244
7		BM.22 / 78 G	15·1	G.T.S. ○ B.M. On S. end of pier of bridge, near telegraph post No. 126/2.	111·069	111·056
8		BM.23 / 78 G	15·4	G.T.S. □ B.M. at Shampur Railway Station. Embedded about 6 inches below rail level, 42 feet from home signal, 69 feet from S.W. corner of station building and 19 feet from nearest rail at a point 49 feet from intersection of that rail with prolongation of W. plinth of station building.	113·628	113·615

Branch-Line 77A. (Parbatipur to Gauhati).

Designation of Bench-marks			Distance from Parbatipur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	a/8	BM.24 / 78 G	16·6	G.T.S. ○ B.M. On S. end of pier of bridge, between telegraph posts Nos. 127/14 and 127/15.	106·549	106·536
9		BM 25 / 78 G	17·8	G.T.S. ○ B.M. On S.E. cap of bridge, between telegraph posts Nos. 128/17 and 128/18.	107·198	107·185
10		BM.26 / 78 G	19·0	G.T.S. ○ B.M. On S. end of most westerly pier of bridge, between telegraph posts Nos. 129/21 and 129/23.	110·705	110·692
11		BM 27 / 78 G	20·1	G.T.S. ○ B.M. On N.W. cap of bridge, near telegraph post No. 131/2.	106·745	106·732
12		BM.28 / 78 G	21·4	G.T.S. ○ B.M On S.E. cap of bridge, near telegraph post No. 132/10.	104·917	104·904
13		BM 29 / 78 G	22·4	G.T.S. ○ B.M. On S.E. cap of bridge, between telegraph posts Nos. 133/9 and 133/10.	105·033	105·020
14		BM.30 / 78 G	23·0	G.T.S. □ B.M. at Rangpur Railway Station. Embedded 6 inches below platform level, 16 feet from S.W. corner of S. verandah, 45 feet from N.W. corner of N. verandah of station building, 7 feet E. of nearest lamp-post and 21 feet from edge of platform above rails.	106·731	106·718
15		BM.31 / 78 G	24·3	G.T S. ○ B M. On S.W. cap of bridge, near telegraph post No. 135/7.	106·076	106·063
16		BM 32 / 78 G	25·5	G.T S. ○ B.M. On S.W. parapet wall of bridge, between telegraph posts Nos. 136/12 and 136/13.	105·348	105·335
17		BM 33 / 78 G	27·4	G.T S. ○ B.M. On S.W. parapet wall of bridge, near telegraph post No. 138/11.	105·260	105·247
	a/17	BM.34 / 78 G	29·6	G.T.S. ○ B.M. On S.W. cap of bridge, between telegraph posts Nos. 140/14 and 140/15.	108·655	108·642
18		BM.35 / 78 G	30·8	G.T.S. ○ B.M. On S.W. cap of bridge, between telegraph posts Nos. 141/21 and 141/22.	103·480	103·467
19		BM.36 / 78 G	31·6	G.T S. ○ B M. On S.W. cap of bridge, between telegraph posts Nos. 142/14 and 142/15.	103·149	103·136

Branch-Line 77A. (Parbatipur to Gauhati).

Designation of Bench-marks		Distance from Parbatipur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
a/19	BM.37/78 G	33·0	G.T.S. ○ B.M. On S.W. cap of bridge, near telegraph post No. 144/6.	101·483	101·470
20	BM.38/78 G	33·4	G.T.S. □ B.M. at Kaunia Railway Station. Embedded in front verandah, about 6 inches below rail level, 51 feet from N.W. corner of N. verandah, 29 feet from S.W. corner of station building and 18 feet W. of home signal.	101·229	101·216
a/20	BM.39/78 G	34·8	G.T.S. ○ B.M. On E. end of S. abutment of bridge across Tista river.	105·164	105·151
21	BM.40/78 G	35·8	G.T.S. ○ B.M. On S.W. wing wall of culvert, about ¼ mile S. of Tista railway station.	95·425	95·413
a/21	BM.41/78 G	36·2	G.T.S. □ B.M. at Tista Railway Station. Embedded about 6 inches below rail level, 82 feet S. of home signal, 48 and 65 feet respectively from S.W. and S.E. corners of masonry flooring of station building, 3 feet S. of centre of station name-board and 17 feet E. of nearest rail.	99·128	99·115
b/21	BM.42/78 G	41·0	G.T.S. □ B.M. at Mahendranagar Railway Station. Embedded in front verandah flush with flooring, 2, 7 and 42 feet respectively from S.W., S.E. and N.E. corners and 19 feet from N.E. corner of main building.	104·916	104·902
22	BM.43/78 G	43·0	G.T.S. ○ B.M. On E. end of S. abutment of bridge, near telegraph post No. 154/6 G.	104·143	104·129
23	BM.44/78 G	43·4	G.T.S. □ B.M. at Lalmanirhat Railway Station. Embedded in front verandah flush with flooring, 2, 9 and 109 feet respectively from S.W., S.E. and N.E. corners of verandah.	108·051	108·036
a/23	BM.45/78 G	44·7	G.T.S. ○ B.M. On E. end of pier of bridge, near telegraph post No. 155/23 G.	106·303	106·289
24	BM.46/78 G	46·1	G.T.S. ○ B.M. On E. end of S. abutment of bridge, near telegraph post No. 10/15 M.	107·385	107·370
25	BM.47/78 G	47·3	G.T.S. ○ B.M. On E. end of S. abutment of bridge, between telegraph posts Nos. 11/12 M and 11/13 M.	106·691	106·676
26	BM.48/78 G	49·5	G.T.S. □ B.M. at Mogalhat Railway Station. Embedded in front verandah flush with flooring, 3 and 57 feet respectively from W. and E. corners, and 33 feet in a right line from a point 2 feet from wall in prolongation of E. face of main building.	110·482	110·466
27	BM.1/78 F	50·3	G.T.S. ○ B.M. On S. end of W. abutment of bridge across Dharlla river.	114·338	114·322

Branch-Line 77A. (Parbatipur to Gauhati).

Designation of Bench-marks			Distance from Parbatipur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
28		BM.2 / 78 F	51·4	G.T.S. □ B.M. at Gitaldaha Railway Station. Embedded about 2 inches below ground level, 285 and 284 feet respectively from S.W. and S.E. corners of station building.	108·431	108·415
29		BM.3 / 78 F	52·6	G.T.S. ○ B.M. On N. end of most north-easterly pier of bridge, between telegraph posts Nos. $\frac{2}{11}$ and $\frac{2}{12}$.	108·823	108·807
	a / 29	BM.4 / 78 F	53·6	G.T.S. ○ B.M. On N.W. end of most north-easterly pier of bridge across Banideo nadi.	113·954	113·938
	b / 29	BM.5 / 78 F	55·0	G.T.S. ○ B.M. On N. parapet of culvert, near telegraph post No. $\frac{5}{3}$.	108·404	108·388
	c / 29	BM.6 / 78 F	57·0	G.T.S. ○ B.M. On N.W. end of most north-easterly pier of bridge across Haldikuria nadi.	111·224	111·208
30		BM.7 / 78 F	59·8	G.T.S. □ B.M. at Bamanhat Railway Station. Embedded 3 feet below rail level, 650 feet W. of station building, 218 and 112 feet respectively from telegraph posts Nos. $\frac{9}{21}$ and $\frac{9}{22}$ which bear 291° and 344° respectively from bench-mark.	108·732	108·716
	a / 30	BM.8 / 78 F	60·5	Rail embedded in masonry pillar, near telegraph post No. $\frac{10}{15}$. (Railway bench-mark).	105·349	105·334
	b / 30	BM.9 / 78 F	61·4	Rail embedded in masonry pillar, near telegraph post No. $\frac{11}{13}$. (Railway bench-mark).	100·844	100·829
31		BM.10 / 78 F	62·9	G.T.S. ○ B.M. On masonry pillar, near telegraph post No. $\frac{13}{1}$.	104·445	104·430
	a / 31	BM.11 / 78 F	62·9	Rail embedded in masonry pillar, near telegraph post No. $\frac{13}{1}$. (Railway bench-mark Bogni nala).	100·701	100·686
	b / 31	BM.12 / 78 F	64·1	Rail embedded in masonry pillar, near telegraph post No. $\frac{14}{4}$. (Railway bench-mark).	101·100	101·085
32		BM 13 / 78 F	64·6	G.T.S. ○ B.M. On masonry pillar, near telegraph post No. $\frac{14}{16}$.	104·341	104·326
	a / 32	BM.14 / 78 F	64·7	Rail embedded in masonry pillar, near telegraph post No. $\frac{14}{16}$. (Railway bench-mark Phulkumar).	100·823	100·808
	b / 32	BM.15 / 78 F	65·9	Rail embedded in masonry pillar, near telegraph post No. $\frac{16}{1}$. (Railway bench-mark Doharsi).	96·886	96·872

Branch-Line 77A. (Parbatipur to Gauhati).

Designation of Bench-marks		Distance from Parbatipur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
c/32	BM.16 78 F	66·2	Rail embedded in masonry pillar, near telegraph post No. 16/9. (Railway bench-mark Sallak).	98·747	98·732
d/32	BM.17 78 F	66·5	Rail embedded in masonry pillar, near telegraph post No. 16/17. (Railway bench-mark Area nala).	103·215	103·200
e/32	BM.18 78 F	67·4	G.T.S. □ B.M. at Pateswari Railway Station. Embedded about 3 feet below rail level, to S. of railway line, 406 feet from S.W. corner of pointsman's hut and 1199 feet from S.W. corner of station building.	106·316	106·300
f/32	BM.19 78 F	68·2	Block embedded in masonry pillar in centre of embankment, near telegraph post No. 18/7. (Railway bench-mark).	108·120	108·104
33	BM.20 78 F	68·2	Block embedded in masonry pillar, near telegraph post No. 18/9. (Railway bench-mark).	102·313	102·298
1/33	BM 21 78 F	68·4	Block embedded in masonry pillar E. of Sankosh bridge. (Railway bench-mark).	96·976	96·962
2/33	BM 22 78 F	68·6	G.T.S. ○ B.M. On masonry pillar S. of E. end of Sankosh bridge.	96·296	96·282
34	BM 23 78 F	71·0	G.T.S. ○ B.M. On masonry pillar S. of railway line, near Perparu village, taluk Banurkutti.	103·811	103·795
a/34	BM.24 78 F	72·3	G.T.S. ○ B.M. On N.E. cap of bridge across Biskhawa nadi.	107·942	107·926
35	BM.25 78 F	73·2	Block No. 60 embedded in masonry pillar in centre of embankment. (Railway bench-mark).	105·288	105·272
a/35	BM 26 78 F	73·5	G.T.S. ○ B.M. On N.W. wing wall of culvert, about 44 chains W. of mile-post No. 15 from Dhubri.	98·011	97·996
b/35	BM.27 78 F	74·6	G.T.S. ○ B.M. On masonry pillar at W. end of Gadadhar bridge.	96·955	96·941
c/35	BM.28 78 F	74·8	Block embedded in masonry pillar S. of E. abutment of Gadadhar bridge. (Railway bench-mark).	87·100	87·087
d/35	BM 29 78 F	75·7	G.T.S. □ B.M. at Golokganj Railway Station. Embedded to N. of railway line between W. tank house and station building, about 150 feet from centre of former, and 335 feet from S.W. corner of latter.	94·180	94·166
36	BM.30 78 F	77·0	G.T.S. ○ B.M. On S.W. wing wall of bridge, about 10 chains W. of mile-post No. 12 from Dhubri.	93·427	93·413
37	BM.31 78 F	78·6	G.T.S. ○ B.M. On N. wing wall of W. abutment of bridge, 48 chains W. of Balajan inspection bungalow.	94·957	94·943

Branch-Line 77A. (Parbatipur to Gauhati).

Designation of Bench-marks			Distance from Parbatipur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
	a/37	BM.32 / 78 F	80·2	G.T.S. ○ B.M. On N. wing wall of W. abutment of bridge, near mile-post No. 9 from Dhubri.	94·923	94·909
38		BM.33 / 78 F	80·8	G.T.S. ○ B.M. On S. wing wall of W. abutment of bridge, about 30 chains W. of mile-post No. 8 from Dhubri.	95·258	95·244
39		BM.34 / 78 F	81·7	G.T.S. ○ B.M. On S. wing wall of W. abutment of bridge, 32 chains W. of mile-post No. 7 from Dhubri.	94·635	94·621
40		BM.35 / 78 F	83·0	G.T.S. ○ B.M. On S. wing wall of W. abutment of bridge, about 14 chains W. of mile-post No. 6 from Dhubri.	93·887	93·873
41		BM.36 / 78 F	83·6	G.T.S. □ B.M. at Gauripur Railway Station. Embedded to N. of railway line, 10 feet behind main signal, 204 feet from centre of pakka well in N.W. corner of station yard and 202 feet from nearest corner of Traffic menials' quarters.	102·260	102·245
	a/41	BM.37 / 78 F	84·6	G.T.S. ○ B.M. On N. end of E. parapet of culvert, about ¼ mile S. of mile-post No. 5 from Dhubri.	88·868	88·855
42		BM.38 / 78 F	87·3	G.T.S. ○ B.M. On N. end of E. parapet of culvert, about 17 chains S. of mile-post No. 2 from Dhubri.	88·786	88·773
43		BM.39 / 78 F	87·8	G.T.S. □ B.M. at Dhubri Railway Station. Embedded within station verandah, flush with flooring, 42 and 26 feet respectively from S.W. and N.W. stanchions of station building, and 52 and 40 feet respectively from S.E. and N.E. stanchions.	100·709	100·695
	a/43	BM.40 / 78 F	89·0	On ground level mark-stone of Dhubri G.T. Survey Hill Station, lat. 26° 1′ 3″·82, long. 89° 59′ 51″·26. A principal station of Assam Longitudinal Series. (For full description *see* Synoptical Volume).	140·719	140·699
44		BM.41 / 78 F	88·6	G.T.S. ○ B.M. On N.E. end of front verandah flooring of Dhubri post office.	115·333	115·316
	1/44	BM.42 / 78 F	89·2	G.T.S. ⊕ B.M. On E. end of S. wing wall of culvert, near Government *ganja* shop, Dhubri.	97·643	97·629
	2/44	BM.43 / 78 F	89·5	G.T.S. ⊕ B.M. On N. parapet of culvert in centre of Gurdon road opposite Police Lines, Dhubri.	96·508	96·494
45		BM.1 / 78 J	96·5	G.T.S. ○ B.M. On coping of pakka well in Fakirganj village, N. of inspection bungalow.	97·765	97·751
46		BM 2 / 78 J	96·6	G.T.S. □ B.M. at Fakirganj Inspection Bungalow. Embedded about 9 inches below ground level, 11 and 39 feet respectively from N.E. and S.E. corners of front verandah, and 43 feet from N.W. corner of main building. The letters B.M. are cut on plinth of verandah.	93·086	93·073
47		BM 3 / 78 J	96·6	G.T.S. ○ B.M. On N.E. corner of front verandah of Fakirganj inspection bungalow.	95·814	95·800
	a/47	BM.4 / 78 J	102·7	G.T.S. ○ B.M. On masonry platform of well at Jamadar hat, 3 chains E. of post office.	96·356	96·342

Branch-Line 77A. (Parbatipur to Gauhati).

Designation of Bench-marks			Distance from Parbatipur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
	b/47	BM 5 / 78 J	*miles* 105·3	G.T.S. □ B.M. at Langrabhita. Embedded to E. of inspection bungalow, 18 feet from S.E. corner of front verandah, 20 and 38 feet respectively from S.E. and N.E. corners of main building and 64 feet W. of well in compound.	*feet* 97·929	*feet* 97·915
	c/47	BM.6 / 78 J	105·3	G.T.S. ○ B.M. On masonry platform of well at Langrabhita inspection bungalow.	97·912	97·898
	d/47	BM.7 / 78 J	110·5	G.T.S. ○ B.M. On N. cap of W. abutment of bridge, near telegraph post No. 106/16.	107·835	107·820
48		BM.8 / 78 J	115·8	G.T.S. □ B.M. at Lakhipur Police Station. Embedded 14 and 28 feet respectively from S.E. and N.E. corners of main building, and 9 feet from S.E. corner of front verandah.	103·289	103·274
49		BM.9 / 78 J	115·8	G.T.S. ○ B.M. On masonry platform of Lakhipur inspection bungalow well.	103·359	103·344
50		BM.10 / 78 J	120·6	G.T.S. ○ B.M. On rock *in situ* on S. of road, near telegraph post No. 96/16.	112·370	112·354
	1/50	BM.11 / 78 J	125·3	G.T.S. □ B.M. at Baida. Embedded 48 and 61 feet respectively from S.W. and S.E. corners of inspection bungalow verandah and 31 feet N. of well in compound.	128·447	128·428
	2/50	BM.12 / 78 J	125·3	G.T.S. ○ B.M. On masonry platform of Baida inspection bungalow well.	127·872	127·853
	a/50	BM.13 / 78 J	131·5	G.T.S. ○ B.M. On rock *in situ* on W. side of road, near mile-post No. 86.	124·152	124·134
	b/50	BM.14 / 78 J	135·6	G.T.S. □ B.M. at Agia Inspection Bungalow. Embedded about 6 inches below ground level, 36 feet from N.E. corner of front portico, 28 and 49 feet respectively from N.E. and S.E. corners of main building.	126·105	126·087
51		BM.15 / 78 J	135·7	G.T.S. ○ B.M. On kerb of pakka well in Agia village at junction of Goalpara-Agia and Gauhati-Agia roads.	132·682	132·662
	1/51	BM.16 / 78 J	144·4	G.T.S. □ B.M. at Goalpara. Embedded 36 and 39 feet respectively from S.E. and S.W. corners of circuit house, and 83 and 85 feet respectively from N.E. and N.W. corners of court house.	143·963	143·942
	2/51	BM.17 / 78 J	144·4	G.T.S. ○ B.M. On lowest of most easterly steps on S. side of circuit house, Goalpara.	144·464	144·443
	3/51	BM.18 / 78 J	144·8	On ⊙ on top of pillar of Goalpara G.T. Survey Hill Station, lat. 26° 10′ 52″·15, long. 90° 38′ 6″·25. A secondary station of Assam Longitudinal Series: situated on a small hill between the town and Brahmaputra river and close to and S. of subdivisional office court house and circuit house.	387·091	387·034

Branch-Line 77A. (Parbatipur to Gauhati).

Designation of Bench-marks			Distance from Parbatipur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
	a/51	BM.19/78 J	*miles* 139·7	G.T.S. ○ B.M. On masonry platform of well, near telegraph post No. 4/23 on Goalpara-Agia road.	*feet* 139·088	*feet* 139·067
52		BM.20/78 J	144·0	G.T.S. ○ B.M. On S.W. wing wall of culvert at Chandaria village on Krishnai road and about 2 chains W. of S.W. extremity of Goalpara hill.	119·640	119·623
	a/52	BM.21/78 J	153·4	G.T.S. ○ B.M. On masonry platform of well at Khamarmanikpur village.	137·856	137·836
	b/52	BM 22/78 J	155·5	G.T.S. □ B.M. at Krishnai Inspection Bungalow. Embedded about 6 inches below ground level, 37 and 24 feet respectively from S.W. and N.W. corners of main building and 39 feet from N.W. corner of front portico.	149·881	149·859
53		BM 23/78 J	157·0	G.T.S. ○ B.M. On W. end of S.E. parapet of bridge, near telegraph post No. 72/3.	152·387	152·365
54		BM.24/78 J	158·4	G.T.S. ○ B.M. On N. parapet of culvert, between telegraph posts Nos. 70/17 and 70/18.	154·648	154·626
55		BM 25/78 J	159·1	On S. parapet of culvert, near telegraph post No. 70/3.	154·579	154·557
56		BM.1/78 K	159·9	On N. parapet of culvert, near telegraph post No. 69/6.	159·462	159·439
	a/56	BM.2/78 K	163·1	G.T.S. ○ B.M. On masonry platform of well at Dudhnai police station, and at junction of roads Gauhati-Dhubri and Damra-Nandeshwari.	166·911	166·887
57		BM.3/78 K	163·7	⊙ On S. end of W. abutment of Dudhnai bridge.	169·036	169·012
	a/57	BM.4/78 K	169·2	G.T.S. □ B.M. at Darangiri. Embedded about 6 inches below ground level, to E. of inspection bungalow, 30 and 17 feet respectively from S.W. and N.W. corners of main building and 148 feet S.W. of pakka well outside compound.	165·175	165·152
58		BM.5/78 K	171·6	G.T.S. ○ B.M. On S. parapet of culvert, near telegraph post No. 57/12.	169·428	169·405
59		BM.1/78 O	179·4	On S. parapet of culvert, near telegraph post No. 49/16.	151·808	151·787
60		BM.2/78 O	180·1	On N. parapet of culvert, between telegraph posts Nos. 48/23 and 48/24.	152·170	152·149

Branch-Line 77A. (Parbatipur to Gauhati).

Designation of Bench-marks			Distance from Parbatipur	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
	a/60	BM.3/78 O	*miles* 180·5	G.T.S. □ B.M. at Dhupdara. Embedded about 6 inches below ground level, to W. of inspection bungalow, 18 and 32 feet respectively from N.W. and S.W. corners of main building and 41 feet from pakka well in compound.	*feet* 153·014	*feet* 152·993
	b/60	BM.4/78 O	182·2	G.T.S. ○ B.M. On N.E. wing wall of culvert, near telegraph post No. 46/20.	155·601	155·579
61		BM 5/78 O	185·3	On S. parapet of culvert, near telegraph post No. 43/18.	167·609	167·586
62		BM.6/78 O	187·0	On N. parapet of bridge No. 211, near telegraph post No. 42/2.	167·417	167·394
63		BM.7/78 O	187·2	G.T.S. ○ B.M. On E. end of S. parapet of culvert, near telegraph post No. 41/22.	162·070	162·048
64		BM.8/78 O	187·9	G.T.S. ○ B.M. On N.W. end of N. parapet of culvert, near telegraph post No. 41/4.	157·672	157·650
65		BM.9/78 O	189·4	G.T.S. ○ B.M. On S.W. end of S. parapet of culvert, near telegraph post No. 39/15.	154·161	154·140
	a/65	BM.10/78 O	192·3	G.T.S. □ B.M. at Boko. Embedded about 6 inches below ground level, to E. of inspection bungalow, 26 and 34 feet respectively from N.E. and S.E. corners of main building and 128 feet due E. of S.E. extremity of bridge across stream flowing by W. of bungalow.	149·746	149·725
	b/65	BM.11/78 O	193·0	G.T.S. ○ B.M. On rock *in situ*, 1 chain S. of roadway, between telegraph posts Nos. 35/23 and 35/24.	166·977	166·954
66		BM.1/78 N	195·3	G.T.S. ○ B.M. On E. parapet of culvert, near telegraph post No. 33/17.	150·121	150·100
67		BM 2/78 N	196·5	↗ On trijunction pillar, near telegraph post No. 32/13.	163·451	163·428
	a/67	BM 3/78 N	203·2	G.T.S. □ B.M. at Chhaygaon. Embedded about 6 inches below ground level, to E. of inspection bungalow, 39 and 57 feet respectively from E. and S. corners of main walls of building and 68 feet from N. corner.	150·469	150·447
	b/67	BM.4/78 N	204·9	G.T.S. ○ B.M. On S. end of W. abutment of bridge, near telegraph post No. 24/2.	154·174	154·152

Branch-Line 77A. (Parbatipur to Gauhati).

Designation of Bench-marks			Distance from Parbatipur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
68		BM.5 / 78 N	209·4	On N. parapet of culvert, near telegraph post No. 19/15.	154·318	154·295
69		BM.6 / 78 N	211·6	On S. parapet of culvert, near telegraph post No. 17/11.	157·707	157·683
70		BM.7 / 78 N	212·0	G.T.S. ○ B.M. On S. end of pier of bridge, between telegraph posts Nos. 16/22 and 16/23.	157·981	157·957
	a/70	BM.8 / 78 N	214·6	G.T.S. □ B.M. at Palasbari. Embedded about 6 inches below ground level, to N. of inspection bungalow, 57 and 79 feet respectively from N.E. and N.W. corners of main verandah flooring, and 48 feet from centre of outer edge of portico.	154·176	154·153
	b/70	BM.9 / 78 N	220·5	G.T.S. □ B.M. at Khanamukh Serai. Embedded about 1 foot below road level, in front of P.W.D. subordinates' quarters, on W. side of main road, 6 feet from telegraph post No. 8/5, 56 feet from N.W. end of S. abutment of bridge and 20 feet from centre of road.	159·722	159·698
71		BM.10 / 78 N	221·0	On S. end of E. parapet of culvert, near telegraph post No. 7/18.	163·269	163·244
	a/71	BM.11 / 78 N	224·4	G.T.S. ○ B.M. On N. parapet of culvert, near telegraph post No. 4/10.	164·329	164·304
72		BM.12 / 78 N	226·3	On W. parapet of culvert, near telegraph post No. 2/11.	167·687	167·661
73		BM.13 / 78 N	227·0	On cap of S.W. wing wall of bridge, near telegraph post No. 1/19.	168·614	168·588
	a/73	BM.14 / 78 N	228·5	1895 at Gauhati Railway Station. On stone embedded in verandah of railway station immediately in front of main exit.	171·280	171·254
74		BM.15 / 78 N	228·5	G.T.S. □ B.M. at Gauhati Railway Station. Embedded in platform of railway station, 20 feet E. of home signal, 29 feet in a right line from platform edge above rails, and 43 and 63 feet respectively from S.E. and N.E. corners of station building.	170·857	170·831

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Branch-Line 77B. (Parbatipur to Manihari).

	Designation of Bench-marks		Distance from Parbatipur	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM 12 / 78 C	0·0	G.T.S. □ B.M. at Parbatipur. Embedded in masonry platform, 35, 72 and 102 feet respectively from N.E., S.E. and N.W. corners of plate-layer's bungalow, and 18 feet from centre of pakka closed-in well due W. from bench-mark.	114·577	114·564
2		BM.29 / 78 C	0·7	G.T.S. B.O.M. MINOR On N. end of E. abutment of bridge, near telegraph post No. 112/1.	117·439	117·425
3		BM 30 / 78 C	2·2	G.T.S. B.O.M. MINOR On N. end of E. abutment of bridge, near telegraph post No. 113/8.	116·941	116·927
4		BM 31 / 78 C	4·7	G.T.S. B.O.M. MINOR On N.E. wing wall of bridge, near telegraph post No. 115/15.	126·962	126·947
5		BM.32 / 78 C	6·9	G.T.S. B.O.M. MINOR On N. end of 1st pier from E. of bridge, near telegraph post No. 118/2.	118·026	118·012
6		BM 33 / 78 C	8·2	G.T.S. B.O.M. MINOR On N. end of E. abutment of bridge, near telegraph post No. 119/8.	119·007	118·993
7		BM.34 / 78 C	8·9	G.T.S. □ MINOR E.M. at Chirir Bandar Railway Station. Embedded about 6 inches below level of platform, 181 feet E. of home signal, and 14 feet from edge of platform.	117·486	117·472
8		BM.35 / 78 C	9·5	G.T.S. B.O.M. MINOR On N. end of 1st pier from E. of bridge, near telegraph post No. 120/12.	125·687	125·672
9		BM.36 / 78 C	12·7	G.T.S. B.O.M. MINOR On N. end of 1st pier from E. of bridge, near telegraph post No. 123/14.	113·006	112·993
10		BM.37 / 78 C	13·6	G.T.S. □ MINOR B.M. at Kaugaon Railway Station. Embedded about 6 inches below level of platform, 180 feet E. of home signal, and 15 feet from edge of platform.	115·498	115·485
11		BM.38 / 78 C	14·0	G.T.S. B.O.M. MINOR On N.E. wing wall of bridge, near telegraph post No. 125/7.	123·373	123·359
12		BM 39 / 78 C	14·1	G.T.S. B.O.M. MINOR On N.E. wing wall of bridge, near telegraph post No. 125/7.	125·311	125·297
13		BM.40 / 78 C	16·2	G.T.S. B.O.M. MINOR On N. end of E. abutment of bridge, near telegraph post No. 127/8.	111·788	111·775

Branch-Line 77B. (Parbatipur to Manihari).

Designation of Bench-marks			Distance from Parbatipur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
14		BM.41 / 78 C	18·0	G.T.S. B.O.M. MINOR On N.E. wing wall of bridge, near telegraph post No. $\frac{129}{7}$.	113·756	113·743
15		BM.42 / 78 C	18·5	G.T.S. □ MINOR B.M. at Dinajpur Railway Station. Embedded about 6 inches below level of platform, 262 feet E. of home signal, and 18 feet from edge of platform.	114·882	114·869
16		BM.43 / 78 C	19·2	G.T.S. B.O.M. MINOR On E. abutment of bridge over Purnabhaba river.	124·489	124·475
17		BM.44 / 78 C	19·4	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge over Purnabhaba river.	124·398	124·384
18		BM.45 / 78 C	21·2	G.T.S. B.O.M. MINOR On N. end of E. abutment of bridge, near telegraph post No. $\frac{132}{9}$.	108·932	108·920
19		BM.46 / 78 C	21·7	G.T.S. B.O.M. MINOR On N. end of 1st pier from E. of bridge, near telegraph post No. $\frac{132}{18}$.	106·959	106·947
20		BM.47 / 78 C	22·1	G.T.S. B.O.M. MINOR On N. end of E. abutment of bridge, near telegraph post No. $\frac{133}{7}$.	108·675	108·663
21		BM.48 / 78 C	23·6	G.T.S. B.O.M. MINOR On N. end of centre pier of bridge, near telegraph post No. $\frac{134}{16}$.	112·329	112·316
22		BM.49 / 78 C	25·9	G.T.S. B.O.M. MINOR On S. end of E. abutment of bridge, near telegraph post No. $\frac{137}{5}$.	116·421	116·407
23		BM.50 / 78 C	26·0	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge, near telegraph post No. $\frac{137}{5}$.	116·573	116·559
	$\frac{1}{23}$	BM.51 / 78 C	30·3	On ground level mark-stone of Ramchandpur G.T. Survey Tower Station, lat. 25° 40′ 23″·29, long. 88° 32′ 32″·03. A principal station of Calcutta Meridional Series. (For full description *see* Synoptical Volume).	108·739	108·726
24		BM.52 / 78 C	29·9	G.T.S. B.O.M. MINOR On N. end of centre pier of bridge, near telegraph post No. $\frac{141}{2}$.	110·181	110·168
25		BM.53 / 78 C	30·6	G.T.S. □ MINOR B.M. at Radhikapur Railway Station. Embedded about 6 inches below level of platform, 75 feet from S.E. corner of tank house, 148 feet from home signal, 151 feet from S.W. corner of station building, and 13 feet from edge of platform.	111·088	111·075

Branch-Line 77B. (Parbatipur to Manihari).

Designation of Bench-marks		Distance from Parbatipur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
26	BM 54 / 78 C	31·0	G.T.S. B.O.M. MINOR — On N. end of 1st pier from E. of bridge, near telegraph post No. 142/2.	111·415	111·402
27	BM 55 / 78 C	31·4	G.T.S. B.O.M. MINOR — On N. end of 1st pier from E. of bridge, near telegraph post No. 142/10.	112·353	112·340
28	BM.56 / 78 C	32·8	G.T.S. B.O.M. MINOR — On N. end of pier of bridge, near telegraph post No. 143/17.	109·594	109·581
29	BM.57 / 78 C	34·6	G.T.S. B.O.M. MINOR — On N. end of E. abutment of bridge, near telegraph post No. 145/13.	117·631	117·617
30	BM 58 / 78 C	36·0	G.T.S. B.O.M. MINOR — On N. end of E. abutment of bridge, near telegraph post No. 147/2.	117·501	117·487
31	BM 59 / 78 C	37·6	G.T.S. B.O.M. MINOR — On N. end of centre pier of Chiramati bridge, near telegraph post No. 148/13.	119·729	119·715
32	BM.60 / 78 C	38·0	G.T.S. □ MINOR B.M. — at Kaliganj Railway Station. Embedded about 6 inches below level of platform, to E. of station, 141 feet from building, 228 feet from home signal, and 18 feet from edge of platform at a point 67 feet from E. end of pavement above ramp.	120·094	120·080
33	BM.61 / 78 C	38·8	G.T.S. B.O.M. MINOR — On N. end of E. abutment of bridge, near telegraph post No. 149/17.	117·471	117·457
34	BM.62 / 78 C	40·7	G.T.S. B.O.M. MINOR — On N. end of 1st pier from E. of bridge, near telegraph post No. 151/16.	115·269	115·256
35	BM.63 / 78 C	41·6	G.T.S. B.O.M. MINOR — On N. end of 1st pier from E. of bridge, near telegraph post No. 152/12.	115·660	115·647
36	BM 64 / 78 C	42·9	G.T.S. B.O.M. MINOR — On N. end of 1st pier from E. of bridge, near telegraph post No. 154/1.	111·186	111·173
37	BM 65 / 78 C	45·8	G.T.S. B.O.M. MINOR — On N. end of E. abutment of bridge, near telegraph post No. 156/16.	110·800	110·787
38	BM.66 / 78 C	47·1	G.T.S. B.O.M. MINOR — On N. end of pier of bridge, near telegraph post No. 158/5.	110·393	110·380

Branch-Line 77B. (Parbatipur to Manihari).

Designation of Bench-marks			Distance from Parbatipur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
39		BM.67 / 78 C	48·9	G.T.S. B.O.M. MINOR On N. end of E. abutment of bridge, near mile-post No. 160.	106·383	106·371
40		BM.68 / 78 C	50·0	G.T.S. B.O.M. MINOR On N. end of centre pier of bridge, near telegraph post No. $\frac{161}{3}$.	105·269	105·257
41		BM.69 / 78 C	50·5	G.T.S. □ MINOR B.M. at Raiganj Railway Station. Embedded about 6 inches below level of platform, to E. of station, 139 feet from S.E. corner of ladies' waiting room, 225 feet from home signal, and 18 feet from edge of platform at a point 19 feet from E. end of pavement above ramp.	107·170	107·158
42		BM.70 / 78 C	51·4	G.T.S. B.O.M. MINOR On N. end of 1st pier from E. of bridge, near telegraph post No. $\frac{162}{10}$.	110·197	110·184
43		BM.71 / 78 C	53·6	G.T.S. B.O.M. MINOR On N. end of E. abutment of bridge, near telegraph post No. $\frac{164}{15}$.	102·330	102·318
44		BM.72 / 78 C	54·6	G.T.S. B.O.M. MINOR On N. end of 1st pier from E. of bridge, near telegraph post No. $\frac{165}{13}$.	104·507	104·495
45		BM.73 / 78 C	57·1	G.T.S. □ MINOR B.M. at Kachna Railway Station. Embedded about 6 inches below level of platform, to E. of station, 150 feet from S.E. corner of station building, 217 feet from home signal, and 13 feet from edge of platform at a point 77 feet from E. end of pavement above ramp.	107·079	107·067
	a / 45	BM.74 / 78 C	58·1	G.T.S. B.O.M. MINOR On lower ledge of abutment at N.E. end of bridge, near telegraph post No. $\frac{167}{6}$.	111·788	111·775
46		BM.128 / 72 O	61·8	G.T.S. B.O.M. MINOR On N. end of E. abutment of bridge, near telegraph post No. $\frac{171}{18}$.	110·553	110·540
	a / 46	BM.129 / 72 O	64·2	G.T.S. B.O.M. MINOR On N. end of 1st pier from E. of bridge, near telegraph post No. $\frac{170}{10}$.	107·274	107·262
	b / 46	BM.75 / 78 C	65·0	G.T.S. B.O.M. MINOR On N. end of 1st pier from E. of bridge, near telegraph post No. $\frac{169}{15}$.	107·360	107·348
47		BM.127 / 72 O	63·8	G.T.S. □ MINOR B.M. at Barsoi Railway Station. Embedded about 6 inches below level of platform, to E. of station, 18 feet S. of platform edge, 137 feet from station building, and 333 feet E. of home signal.	108·713	108·700
48		BM.130 / 72 O	64·9	G.T.S. B.O.M. MINOR On N. end of E. abutment of bridge over Mahananda river.	126·013	125·998

Branch-Line 77B. (Parbatipur to Manihari).

Designation of Bench-marks			Distance from Parbatipur	Description of Bench-marks		Corrected Elevation	
Geodetic		Topographic				Dynamic	Orthometric
			miles			*feet*	*feet*
49		BM.131 / 72 O	65·3	G.T.S. B.O.M. MINOR	On S. end of W. abutment of bridge over Mahananda river, near mile-post No. 176.	125·980	125·965
50		BM.132 / 72 O	66·3	G.T.S. B.O.M. MINOR	On N. end of E. abutment of bridge, near telegraph post No. 177/5.	111·708	111·695
51		BM.133 / 72 O	67·4	G.T.S. B.O.M. MINOR	On N. end of 1st pier from E. of bridge, near telegraph post No. 178/9.	106·089	106·077
52		BM.134 / 72 O	68·4	G.T.S. B.O.M. MINOR	On N. end of 1st pier from E. of bridge, near telegraph post No. 179/8.	105·849	105·836
53		BM.135 / 72 O	69·6	G.T.S. B.O.M. MINOR	On N. end of E. abutment of bridge, near telegraph post No. 180/12.	109·610	109·598
54		BM.136 / 72 O	71·5	G.T.S. B.O.M. MINOR	On lower ledge of abutment at N.E. end of bridge, near telegraph post No. 182/10.	106·215	106·203
	a/54	BM.137 / 72 O	73·8	G.T.S. B.O.M. MINOR	On N. end of E. abutment of bridge over Kankai, nadi, near mile-post No. 184.	118·003	117·990
	b/54	BM.138 / 72 O	74·4	G.T.S. B.O.M. MINOR	On N. end of W. abutment of bridge over Kankai, nadi, near telegraph post No. 184/1.	117·993	117·980
55		BM.139 / 72 O	74·1	G.T.S. B.O.M. MINOR	On N. end of E. pier of bridge, near telegraph post No. 185/3.	107·657	107·645
56		BM.140 / 72 O	75·3	G.T.S. B.O.M. MINOR	On N. end of 1st pier from E. of bridge, near telegraph post No. 186/8.	105·585	105·573
57		BM.141 / 72 O	76·3	G.T.S. B.O.M. MINOR	On N. end of E. pier of bridge, near telegraph post No. 187/8.	107·845	107·833
58		BM.142 / 72 O	77·3	G.T.S. B.O.M. MINOR	On N. end of pier of bridge, near telegraph post No. 188/8.	106·009	105·997
59		BM.143 / 72 O	77·7	G.T.S. □ MINOR B.M.	at Sonaili Railway Station. Embedded about 6 inches below level of platform, to W. of station building, 131 feet from home signal, and 72 feet from W. end of pavement of platform above ramp.	107·835	107·823
60		BM.144 / 72 O	78·3	G.T.S. B.O.M. MINOR	On N. end of E. pier of bridge, near telegraph post No. 189/8.	106·060	106·048

Branch-Line 77B. (Parbatipur to Manihari).

Designation of Bench-marks		Distance from Parbatipur	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
61	BM.145 / 72 O	79·9	G.T.S. B.O.M. MINOR On N. end of E. pier of bridge, near telegraph post No. 191/2.	105·276	105·264
62	BM.146 / 72 O	81·1	G.T.S. B.O.M. MINOR On N. end of 1st pier from E. of bridge, near telegraph post No. 192/5.	105·108	105·096
63	BM.147 / 72 O	83·3	G.T.S. B.O.M. MINOR On lower ledge of abutment at N.E. end of bridge, near telegraph post No. 194/9.	103·536	103·525
64	BM.148 / 72 O	84·0	G.T.S. B.O.M. MINOR On N. end of 1st pier from E. of bridge, near telegraph post No. 195/5.	102·417	102·406
65	BM.149 / 72 O	85·6	G.T.S. B.O.M. MINOR On N. end of pier of bridge, near telegraph post No. 196/15.	102·737	102·726
66	BM.150 / 72 O	88·1	G.T.S. □ MINOR B.M. at Katihar Railway Station. Embedded about 6 inches below level of platform, to S. of station near name-board, 137 feet from S.W. corner of station building, 10 feet from both E. and W. edges of platform, and 348 feet S. of home signal.	104·492	104·481
67	BM.151 / 72 O	89·6	G.T.S. B.O.M. MINOR On W. end of N. abutment of bridge, near telegraph post No. 200/15.	104·213	104·202
68	BM.152 / 72 O	90·3	G.T.S. B.O.M. MINOR On W. end of pier of bridge, near telegraph post No. 201/9.	103·080	103·069
69	BM.153 / 72 O	91·8	G.T.S. B.O.M. MINOR On W. end of 1st pier from N. of bridge, near telegraph post No. 202/17.	103·289	103·278
70	BM.154 / 72 O	93·0	G.T.S. B.O.M. MINOR On W. end of 1st pier from N. of bridge, near telegraph post No. 204/3.	103·144	103·133
71	BM.155 / 72 O	93·4	G.T.S. □ MINOR B.M. at Manshahi Railway Station. Embedded about 6 inches below level of platform, to S. of station near name-board, 130 feet from home signal, and 33 chains from S. distant signal.	104·456	104·445
72	BM.156 / 72 O	94·2	G.T.S. B.O.M. MINOR On lower ledge W. of N. abutment of bridge, near telegraph post No. 205/6.	101·542	101·532

Branch-Line 77B. (Parbatipur to Manihari).

Designation of Bench-marks			Distance from Parbatipur	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
	a/72	BM.157/72 O	*miles* 98·4	G.T.S. B.O.M. MINOR On lower ledge W. of N. abutment of bridge, near telegraph post No. 209/10.	*feet* 101·121	*feet* 101·111
73		BM.158/72 O	99·0	G.T.S. B.O.M. MINOR On 1st pier from N. of bridge, near telegraph post No. 210/4.	102·760	102·750
74		BM.159/72 O	103·1	G.T.S. □ MINOR B.M. at Manihari Railway Station. Embedded about 6 inches below level of platform, to S. of station, 152 feet from S.E. corner of station building, and 182 feet E. of E. bank of Kosi river.	103·191	103·181

Branch-Line 77C. (Katihar to Anchara Ghat).

Designation of Bench-marks			Distance from Katihar	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.150 / 72 O	0·0	G.T.S. □ MINOR B.M. at Katihar Railway Station. Embedded about 6 inches below level of platform, to S. of railway station near name-board, 137 feet from S.W. corner of station building, 10 feet from both E. and W. edges of platform, and 348 feet S. of home signal.	104·492	104·481
2		BM.160 / 72 O	0·8	G.T.S. B.O.M. MINOR On E. end of S. abutment of bridge, near telegraph post No. 199/9.	103·843	103·832
3		BM.161 / 72 O	3·5	G.T.S. B.O.M. MINOR On E. end of S. abutment of bridge, near telegraph post No. 202/15.	107·172	107·160
4		BM.162 / 72 O	5·5	G.T.S. B.O.M. MINOR On E. end of 1st pier from S. of bridge, near telegraph post No. 204/14.	108·661	108·649
5		BM.163 / 72 O	7·7	G.T.S. B.O.M. MINOR On E. end of pier of bridge, near telegraph post No. 206/16.	112·023	112·010
6		BM.164 / 72 O	8·7	G.T.S. □ MINOR B.M. at Rautara Railway Station. Embedded about 6 inches below level of platform, 150 feet N. of station building, 18 feet from edge of platform, 177 feet from home signal, and 163 feet from E. wall of railway menials' quarters No. 2.	115·159	115·146
7		BM.165 / 72 O	9·9	G.T.S. B.O.M. MINOR On E. end of pier of bridge, near telegraph post No. 208/22.	114·761	114·747
8		BM.166 / 72 O	12·8	G.T.S. B.O.M. MINOR On E. end of pier of bridge, near telegraph post No. 211/22.	118·554	118·540
9		BM.167 / 72 O	14·9	G.T.S. B.O.M. MINOR On E. end of pier of bridge, near telegraph post No. 214/1.	120·760	120·745
10		BM.168 / 72 O	17·4	G.T.S. □ MINOR B.M. at Purnea Railway Station. Embedded about 6 inches below level of platform, 150 feet N. of station building, 17 feet from edge of platform, 255 feet from home signal, and 124 feet E. of railway menials' quarters No. 2.	125·274	125·258
	1/10		20·7	Destroyed.	119·747	119·732
	2/10	BM.13 / 72 O	21·2	G.T.S. B.M. Purnea Block-stone Bench Mark No. 5. Embedded 40 feet from back or W. wall of Joint Magistrate's kachahri or most southerly block of buildings of Collector's offices.	118·328	118·313

Branch-Line 77C. (Katihar to Anchara Ghat).

Designation of Bench-marks		Distance from Katihar	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
11	BM.169 / 72 O	17·8	G.T.S. B.O.M. MINOR On centre of E. parapet of bridge, near telegraph post No. 216/21.	124·730	124·714
12	BM 170 / 72 O	19·9	G.T.S. B.O.M. MINOR On E. end of 1st pier from S. of bridge, near telegraph post No. 219/1.	127·807	127·791
13	BM 171 / 72 O	21·3	G.T.S. B.O.M. MINOR On E. end of 1st pier from S. of bridge, near telegraph post No. 220/8.	132·180	132·163
14	BM.172 / 72 O	22·6	G.T.S. B.O.M. MINOR On E. end of S. abutment of bridge, near telegraph post No. 221/14.	136·176	136·158
15	BM.173 / 72 O	26·9	G.T.S. B.O.M. MINOR On E. end of S. abutment of bridge, near telegraph post No. 226/2.	137·264	137·246
16	BM.174 / 72 O	29·9	G.T.S. B.O.M. MINOR On E. parapet of bridge, near telegraph post No. 229/3.	143·629	143·609
17	BM 175 / 72 O	33·4	G.T.S. B.O.M. MINOR On E. end of S. abutment of bridge, between telegraph posts Nos. 232/10 and 232/11.	146·422	146·401
18	BM.31 / 72 N	36·3	G.T.S. □ MINOR B.M. at Kusiargaon Railway Station. Embedded about 6 inches below level of platform, 150 feet N.N.W. of station building, 132 feet N.N.W. of home signal, and 17 feet from edge of platform at a point 70 feet from N. end of pavement above ramp.	156·069	156·046
19	BM.32 / 72 N	36·9	G.T.S. B.O.M. MINOR On E. end of S. abutment of bridge, near telegraph post No. 236/3.	155·458	155·435
20	BM 33 / 72 N	39·0	G.T.S. B.O.M. MINOR On E. end of S. abutment of bridge, near telegraph post No. 238/2.	156·370	156·347
21	BM 34 / 72 N	42·4	G.T.S. B.O.M. MINOR On lower ledge at N. side of E. abutment of bridge, near telegraph post No. 241/12.	166·741	166·716
22	BM.35 / 72 N	43·8	G.T.S. □ MINOR B.M. at Araria Railway Station. Embedded about 6 inches below level of platform, to E.S.E. of station building, 234 feet from home signal, 130 feet S.E. of centre of station well, and 17 feet from edge of platform at a point 69 feet from E. end of pavement above ramp.	172·680	172·654

Branch-Line 77C. (Katihar to Anchara Ghat).

Designation of Bench-marks		Distance from Katihar	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
23	BM 36 / 72 N	44·6	G.T.S. B.O.M. MINOR On lower ledge at N. side of 2nd pier from E. of bridge, near telegraph post No. $\frac{243}{14}$.	170·583	170·557
24	BM 37 / 72 N	45·7	G.T.S. B.O.M. MINOR On N.E. end of S.E. abutment of bridge, near telegraph post No. $\frac{244}{18}$.	172·187	172·161
25	BM.38 / 72 N	49·6	G.T.S. B.O.M. MINOR On N.E. end of S.E. abutment of bridge, near telegraph post No. $\frac{248}{14}$.	175·064	175·037
26	BM 39 / 72 N	52·3	G.T.S. B.O.M. MINOR On E. end of 1st pier from S. of bridge, near telegraph post No. $\frac{251}{10}$.	184·138	184·109
27	BM 40 / 72 N	53·7	G.T.S. B.O.M. MINOR On E. end of 1st pier from S. of bridge, near telegraph post No. $\frac{252}{18}$.	186·462	186·433
28	BM 41 / 72 N	55·2	G.T.S. B.O.M. MINOR On E. end of pier of bridge, near telegraph post No. $\frac{254}{9}$.	187·096	187·066
29	BM 42 / 72 N	58·8	G.T.S. □ MINOR B.M. at Forbesganj Railway Station. Embedded about 6 inches below level of platform, 150 feet N. of station building, 131 feet from home signal, and 18 feet from edge of platform at a point 69 feet from N. end of pavement above ramp.	197·711	197·679
30	BM.43 / 72 N	59·7	G.T.S. B.O.M. MINOR On N.E. end of 1st pier from S.E. of bridge, near telegraph post No. $\frac{259}{1}$.	195·668	195·636
31	BM.44 / 72 N	61·9	G.T.S. B.O.M. MINOR On N. end of 1st pier from E. of bridge, near telegraph post No. $\frac{261}{5}$.	200·973	200·940
32	BM 45 / 72 N	62·4	G.T.S. B.O.M. MINOR On N. end of 1st pier from E. of bridge, near telegraph post No. $\frac{261}{13}$.	202·364	202·330
33	BM 46 / 72 N	64·2	G.T.S. B.O.M. MINOR On N. end of 1st pier from E. of bridge, near telegraph post No. $\frac{263}{10}$.	203·021	202·987
34	BM.47 / 72 N	64·8	G.T.S. B.O.M. MINOR On N. end of pier of bridge, near telegraph post No. $\frac{264}{3}$.	202·256	202·222

Branch-Line 77C. (Katihar to Anchara Ghat).

Designation of Bench-marks		Distance from Katihar	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
35	BM.48 / 72 N	65·5	G.T.S. B.○M. MINOR On N. end of 1st pier from E. of bridge, near telegraph post No. 264/15.	204·446	204·412
36	BM.49 / 72 N	66·5	G.T.S. □ MINOR B.M. at Debiganj Railway Station. Embedded about 6 inches below level of platform, 163 feet N. of station building, 132 feet from home signal, and 18 feet from edge of platform.	206·678	206·644
37	BM.50 / 72 N	66·9	G.T.S. B.○M. MINOR On N. end of 2nd pier from W. of bridge, near telegraph post No. 266/4.	208·292	208·257
38	BM.51 / 72 N	67·8	G.T.S. B.○M. MINOR On N. end of 1st pier from E. of bridge, near telegraph post No. 267/4.	208·182	208·147

Branch-Line 77D. (Poradaha to Faridpur).

Designation of Bench-marks			Distance from Poradaha	Description of Bench-marks	Corrected Elevation	
	Geodetic	Topographic			Dynamic	Orthometric
			miles		*feet*	*feet*
1		BM.4 / 79 E	0·0	G.T.S. □ B.M. at Poradaha Railway Station. Embedded about 3 inches below level of island platform, immediately under western staging of overbridge, 10 and 14 feet respectively from E. and W. edges of platform.	46·468	46·468
2		BM 8 / 79 E	0·3	G T S. B O M. MINOR On E. end of S. abutment of bridge, near telegraph post No. 103/5.	42·074	42·074
3		BM.9 / 79 E	2·1	G.T.S. B.O.M. MINOR On S.E. parapet of culvert, near telegraph post No. 104/20.	42·346	42·346
4		BM.10 / 79 E	3·4	G T.S. B O M. MINOR On S.E. end of S.W. abutment of bridge, near telegraph post No. 106/3.	44·004	44·004
5		BM.11 / 79 E	5·1	G.T.S. B.O.M. MINOR On S. parapet of culvert, near telegraph post No. 107/17.	45·995	45·995
6		BM.12 / 79 E	5·5	G.T.S. B O M. MINOR On S. parapet of culvert, near telegraph post No 108/3.	43·336	43·336
7		BM.13 / 79 E	7·1	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge, near telegraph post No. 109/15.	42·277	42·277
8		BM.14 / 79 E	8·1	G.T.S. □ MINOR B.M. at Kaliganga Railway Station. Embedded 18 inches below the surface of masonry block, to S. of railway line, 18 feet from telegraph post No. 110/15, and about 300 feet from home signal.	45·462	45·462
9		BM 15 / 79 E	8·9	G.T.S. B.O.M. MINOR On W. end of S. parapet of culvert, near telegraph post No. 111/12.	45·836	45·836
10		BM.16 / 79 E	9·7	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge over Gorai river, near telegraph post No. 112/9.	58·863	58·863
	a/10	BM.17 / 79 E	11·0	G.T.S. B.O.M. MINOR On S.W. parapet of culvert, near telegraph post No. 113/15.	49·492	49·492
11		BM.18 / 79 E	13·3	G.T.S. B O M. MINOR On S.W. end of N.W. abutment of bridge, near telegraph post No. 115/22.	40·075	40·075

Branch-Line 77D. (Poradaha to Faridpur).

Designation of Bench-marks		Distance from Poradaha	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
12	BM.19 / 79 E	13·9	G.T.S. B.O.M. MINOR On N.W. parapet of culvert, near telegraph post No. 116/13.	41·183	41·183
13	BM.20 / 79 E	14·4	G.T.S. B.O.M. MINOR On W. end of N. abutment of bridge, near telegraph post No. 117/1.	38·295	38·295
14	BM 21 / 79 E	15·6	G.T.S. B.O.M. MINOR On S.W. end of N.W. abutment of bridge, near telegraph post No. 118/6.	39·065	39·065
15	BM.22 / 79 E	16·6	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge, near telegraph post No. 119/6.	39·229	39·229
16	BM.23 / 79 E	18·0	G.T.S. B.O.M. MINOR On S.W. end of N.W. abutment of bridge, near telegraph post No. 120/15.	39·103	39·103
a/16	BM.24 / 79 E	18·7	G.T.S. □ MINOR B.M. at Khoksa Railway Station. Embedded 18 inches below level of railway platform, 16 feet from edge of platform, 53 feet from S.W. corner of station building, and 41 feet from home signal.	41·887	41·887
17	BM 25 / 79 E	19·2	G.T.S. B.O.M. MINOR On S.W. end of N.W. abutment of bridge, near telegraph post No. 121/23.	38·604	38·604
a/17	BM 26 / 79 E	20·3	G.T.S. B.O.M. MINOR On S.W. end of N.W. abutment of bridge, near telegraph post No. 122/24.	38·668	38·668
18	BM.27 / 79 E	21·6	G.T.S. B.O.M. MINOR On S.W. end of N.W. abutment of bridge, near telegraph post No. 124/6.	37·609	37·609
19	BM.28 / 79 E	23·0	G.T.S. B.O.M. MINOR On S.W. end of N.W. abutment of bridge, near telegraph post No. 125/16.	36·971	36·971
20	BM.29 / 79 E	24·2	G.T.S. B.O.M. MINOR On S.W. parapet of culvert, near telegraph post No. 126/22.	36·021	36·022
a/20	BM.30 / 79 E	25·3	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge, near telegraph post No. 127/23.	36·053	36·054
b/20	BM 31 / 79 E	26·5	G.T.S. B.O.M. MINOR On S. parapet of culvert, near telegraph post No. 129/4.	39·411	39·412

Branch-Line 77D. (Poradaha to Faridpur).

Designation of Bench-marks			Distance from Poradaha	Description of Bench-marks	Corrected Elevation	
Geodetic		Topographic			Dynamic	Orthometric
	c/20	BM.32 79 E	*miles* 27·7	G.T.S. B.O.M. MINOR On S. parapet of culvert, near telegraph post No. 130/9.	*feet* 40·487	*feet* 40·488
21		BM.33 79 E	29·2	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge, near telegraph post No. 131/22.	34·363	34·364
	a/21	BM.34 79 E	30·0	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge, near telegraph post No. 132/18.	34·719	34·720
	b/21	BM.35 79 E	31·6	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge, near telegraph post No. 134/6.	34·301	34·302
	c/21	BM.36 79 E	33·1	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge, near telegraph post No. 135/18.	32·545	32·545
	d/21	BM.37 79 E	34·2	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge, near telegraph post No. 136/20.	30·914	30·914
22		BM.38 79 E	34·4	G.T.S. □ MINOR B.M. at Belgachhi Railway Station. Embedded in platform to W. of station building, 53 feet from S.W. corner of building, 16 feet from edge of platform, and 45 feet from telegraph post No. 137/3.	34·114	34·115
23		BM.39 79 E	35·5	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge, near telegraph post No. 138/6.	30·898	30·898
24		BM.40 79 E	37·0	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge, near telegraph post No. 139/20.	31·463	31·463
	a/24	BM.41 79 E	38·2	G.T.S. B.O.M. MINOR On S. parapet of culvert, near telegraph post No. 140/25.	31·917	31·917
	b/24	BM.42 79 E	39·5	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge, near telegraph post No. 142/3.	31·653	31·653
25		BM.43 79 E	41·0	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge, near telegraph post No. 143/17.	31·218	31·218

Branch-Line 77D. (Poradaha to Faridpur).

Designation of Bench-marks		Distance from Poradaha	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
	a/25 BM.44/79 E	42·4	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge, near telegraph post No. 145/1.	28·829	28·829
26	BM.45/79 E	44·2	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge, near telegraph post No. 146/19.	26·015	26·015
	a/26 BM.46/79 E	45·1	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge, near telegraph post No. 147/16.	25·804	25·804
	b/26 BM.47/79 E	45·6	G.T.S. □ MINOR B.M. at Panchuria Railway Station. Embedded at S. side or back of station building, close to station well, 34 feet from S.E. corner of station building, 18 feet from station well, and 83 feet from home signal.	25·701	25·701
	1/26 BM.48/79 E	45·8	G.T.S. B.O.M. MINOR On W. end of N. abutment of bridge, near telegraph post No. 148/12.	26·206	26·206
27	BM.49/79 E	46·7	G.T.S. B.O.M. MINOR On W. end of N. abutment of bridge, near telegraph post No. 149/7.	24·971	24·971
28	BM.50/79 E	49·2	G.T.S. B.O.M. MINOR On W. parapet of culvert, near telegraph post No. 151/20.	24·145	24·145
	a/28 BM.51/79 E	49·7	G.T.S. B.O.M. MINOR On W. end of N. abutment of bridge, near telegraph post No. 152/7.	27·353	27·354
	1/28 BM.52/79 E	49·3	On upper mark-stone of Khankhanapur G.T. Survey Tower Station, lat. 23° 41′ 11″·51, long. 89° 42′ 40″·49. A principal station of Brahmaputra Meridional Series. (For full description *see* Synoptical Volume).	21·828	21·828
29	BM.53/79 E	50·8	G.T.S. B.O.M. MINOR On W. parapet of culvert, near telegraph post No. 153/10.	24·013	24·014
30	BM.54/79 E	52·3	G.T.S. B.O.M. MINOR On S.W. end of N.W. abutment of bridge, near telegraph post No. 154/23.	26·988	26·989
31	BM.55/79 E	53·5	G.T.S. B.O.M. MINOR On S.W. end of N.W. abutment of bridge, near telegraph post No. 156/5.	28·060	28·061

Branch-Line 77D. (Poradaha to Faridpur).

Designation of Bench-marks		Distance from Poradaha	Description of Bench-marks	Corrected Elevation	
Geodetic	Topographic			Dynamic	Orthometric
		miles		*feet*	*feet*
32	BM.56 / 79 E	55·1	G.T.S. B.O.M. MINOR On S. parapet of culvert, near telegraph post No. 157/19.	22·134	22·135
33	BM 57 / 79 E	56·8	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge, near telegraph post No. 159/10.	26·374	26·375
34	BM 58 / 79 E	58·0	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge, near telegraph post No. 160/12.	33·438	33·439
35	BM.59 / 79 E	59·4	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge, near telegraph post No. 162/1.	33·355	33·356
36	BM 60 / 79 E	61·3	G.T.S. B.O.M. MINOR On S. end of W. abutment of bridge, near telegraph post No. 163/18.	26·163	26·164
37	BM.61 / 79 E	61·7	G.T.S. □ MINOR B.M. at Faridpur Railway Station. Embedded about 5 feet below level of platform, at S. side or back of station building, 45 feet from S.W. corner of station master's office, 36 feet from S.W. corner of 1st and 2nd class waiting room, and 21 feet from telegraph post No. 164/7.	21·569	21·570

Main-Lines 78 to 86.

The following are the nine short main-lines of levelling that connect the level-net with the accepted tidal stations :—

Line No. 78 Mean-Sea-Level to Karachi	For bench-marks at Karachi see line 43, page 5, Vol. XIXB
Line No. 79 Mean-Sea-Level to Bombay	For bench-marks at Bombay see line 51, page 80, Vol. XIXB and line 32, page 330, Vol. XIXA
Line No. 80 Mean-Sea-Level to Karwar	For bench-marks at Karwar see line 17, page 135, Vol. XIXA
Line No. 81 Mean-Sea-Level to Beypore	For bench-marks at Beypore see line 12, page 97, Vol. XIXA
Line No. 82 Mean-Sea-Level to Cochin	For bench-marks at Cochin see line 13, page 102, Vol. XIXA
Line No. 83 Mean-Sea-Level to Negapatam	For bench-marks at Negapatam see line 5, page 43, Vol. XIXA
Line No. 84 Mean-Sea-Level to Madras	For bench-marks at Madras see line 8, page 62, Vol. XIXA
Line No. 85 Mean-Sea-Level to Vizagapatam	For bench-marks at Vizagapatam see line 30, page 321, Vol. XIXA
Line No. 86 Mean-Sea-Level to False Point	For bench-marks at False Point see line 42, page 516, Vol. XIXA

Lines Burma A and Burma B.

The levelling in Burma is at present based upon riverain determinations of mean-sea-level; furthermore its accuracy has not as yet been tested by means of circuit-closures. No final values of height will be therefore deducible until the levelling has been extended to close upon itself and to form a net-work of circuits connected with open-coast tidal stations.

In the mean time provisional values will be published in pamphlet form.

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78 K	... 493
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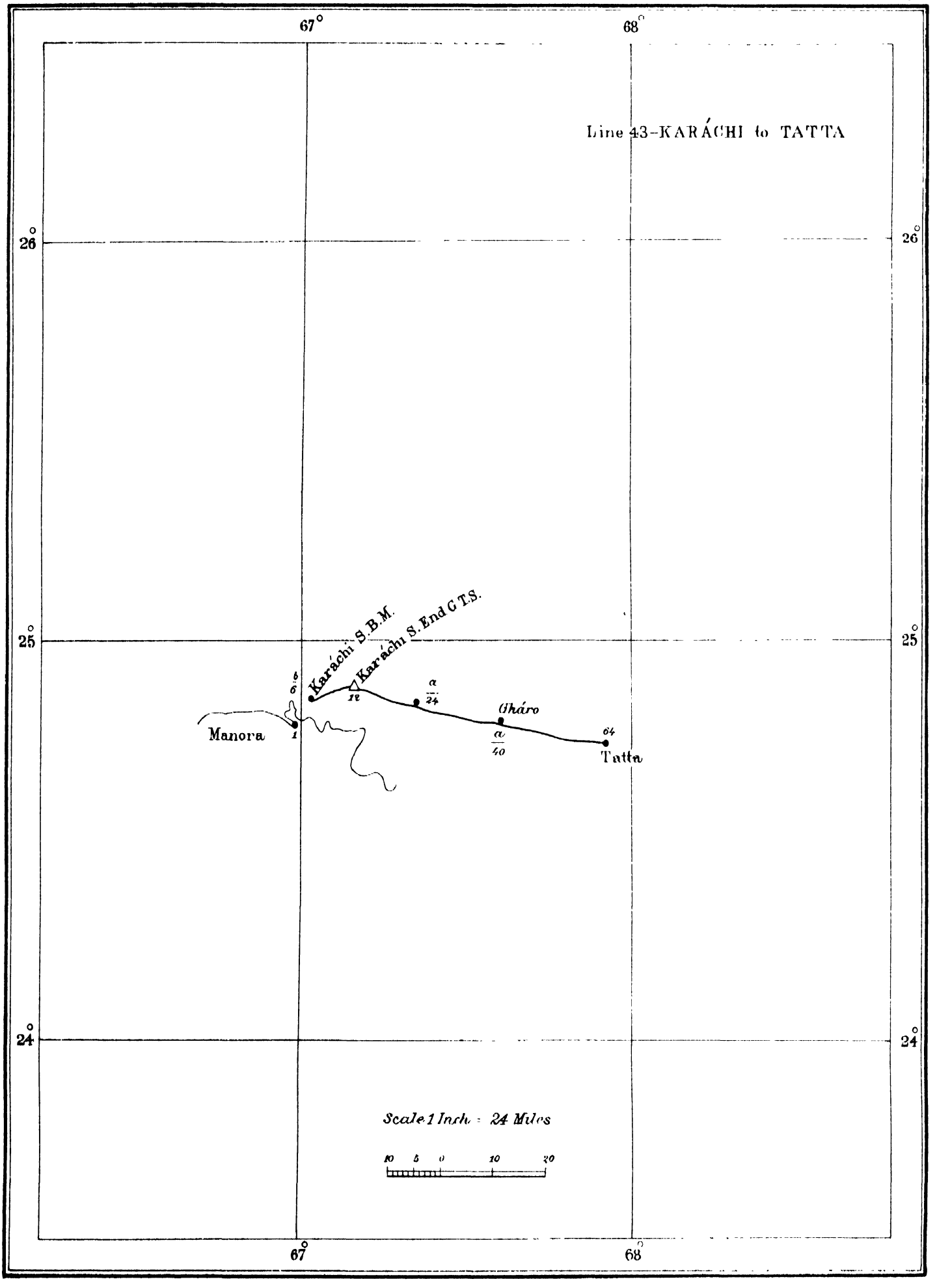
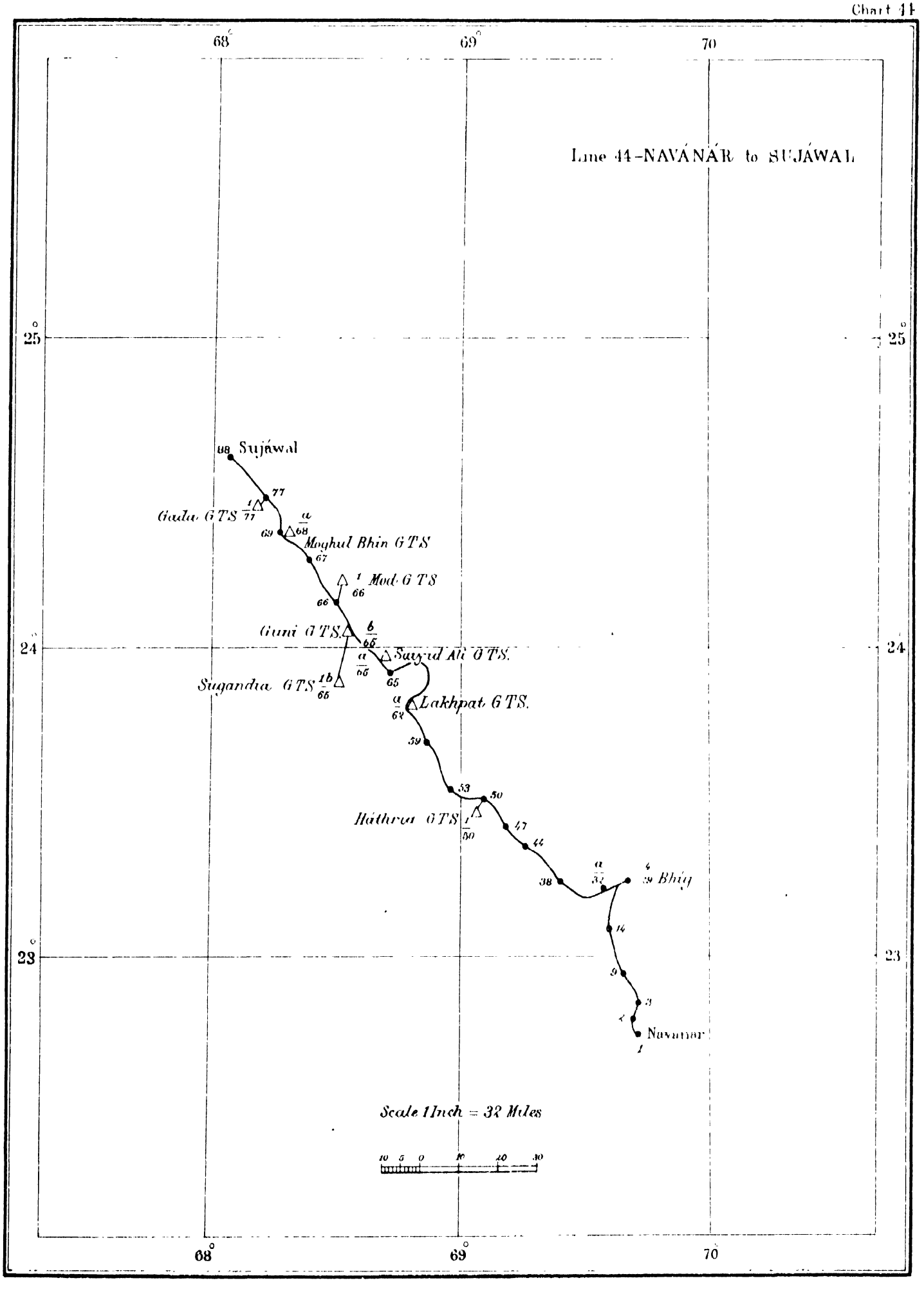
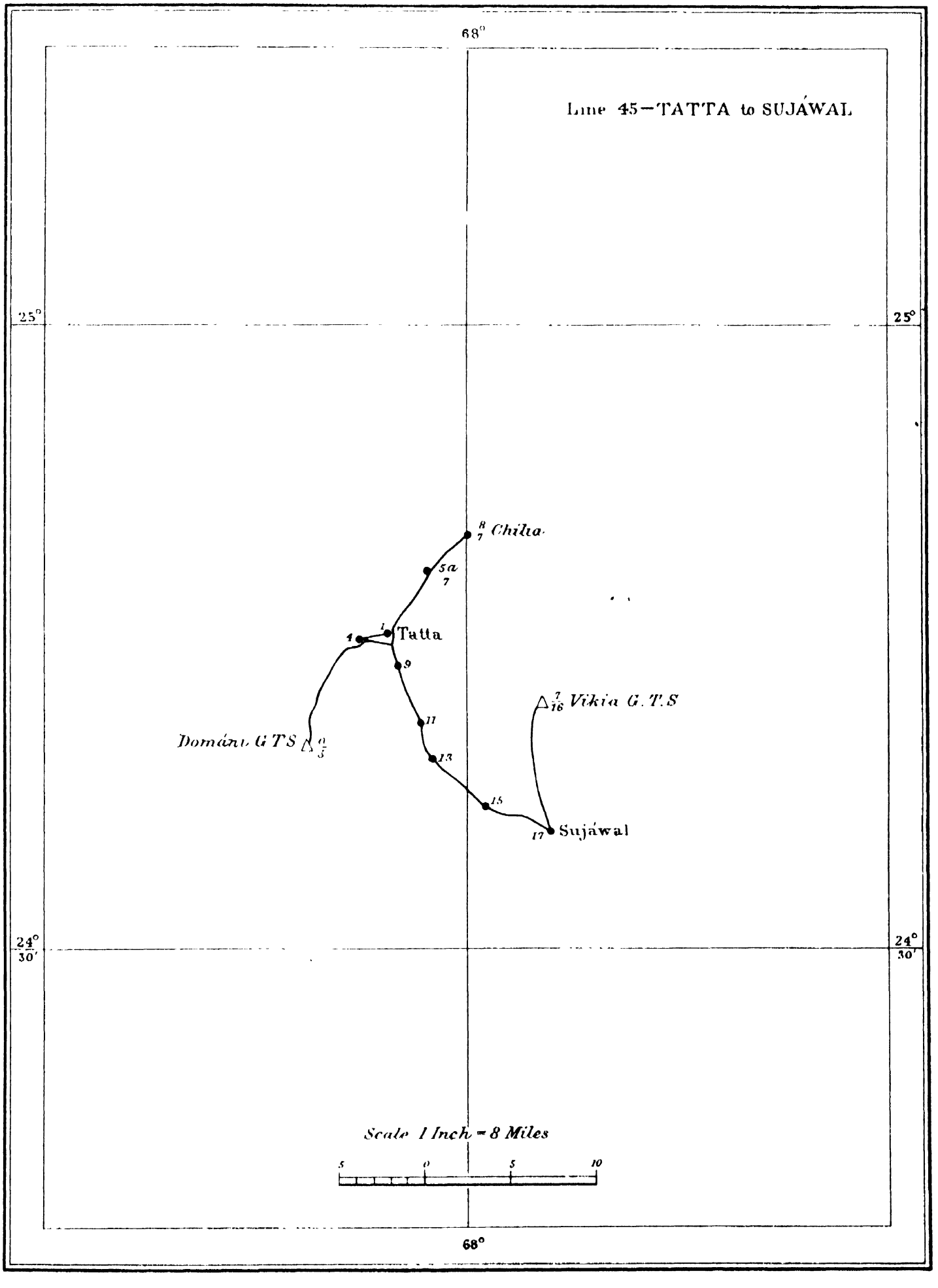
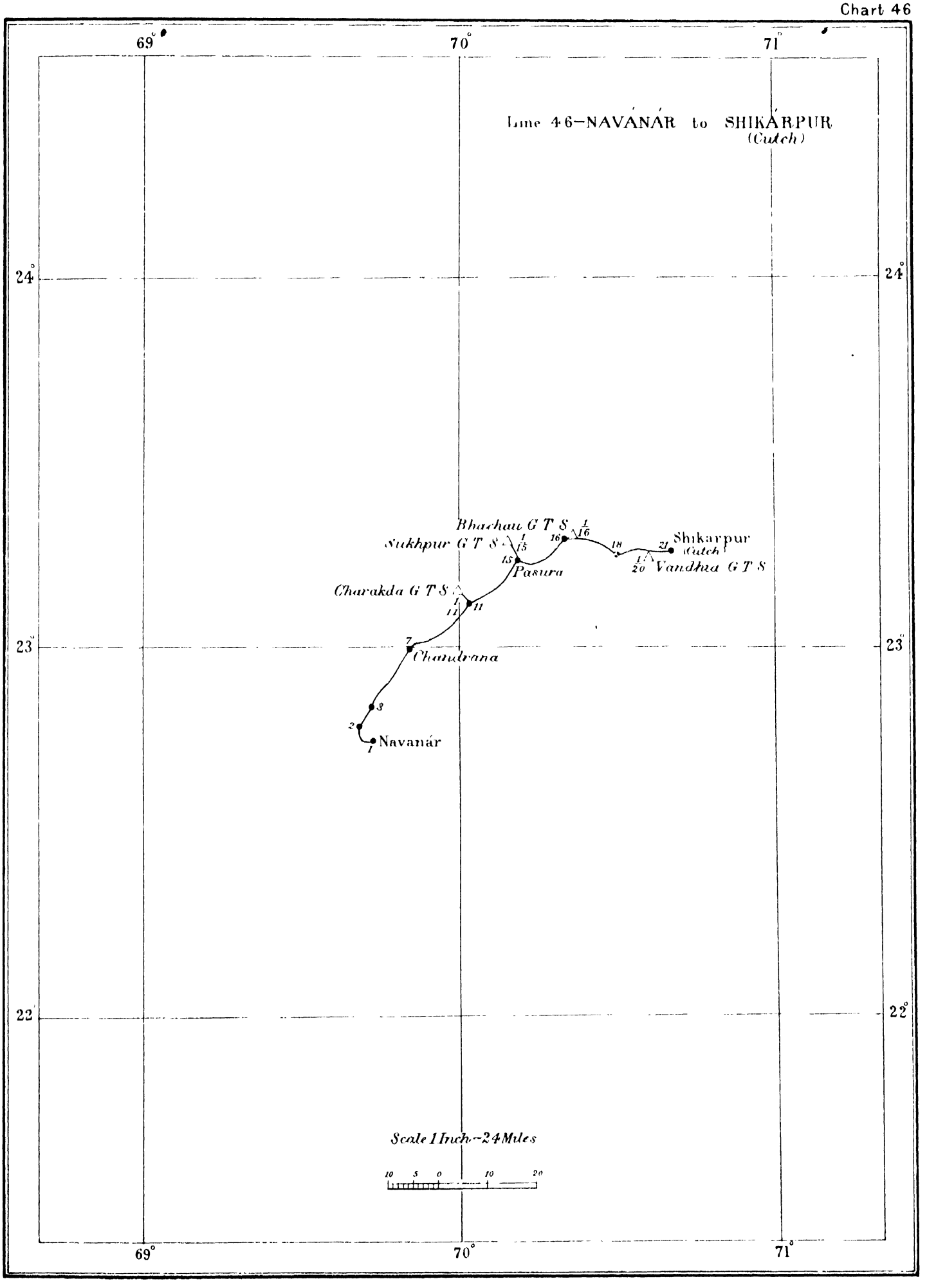
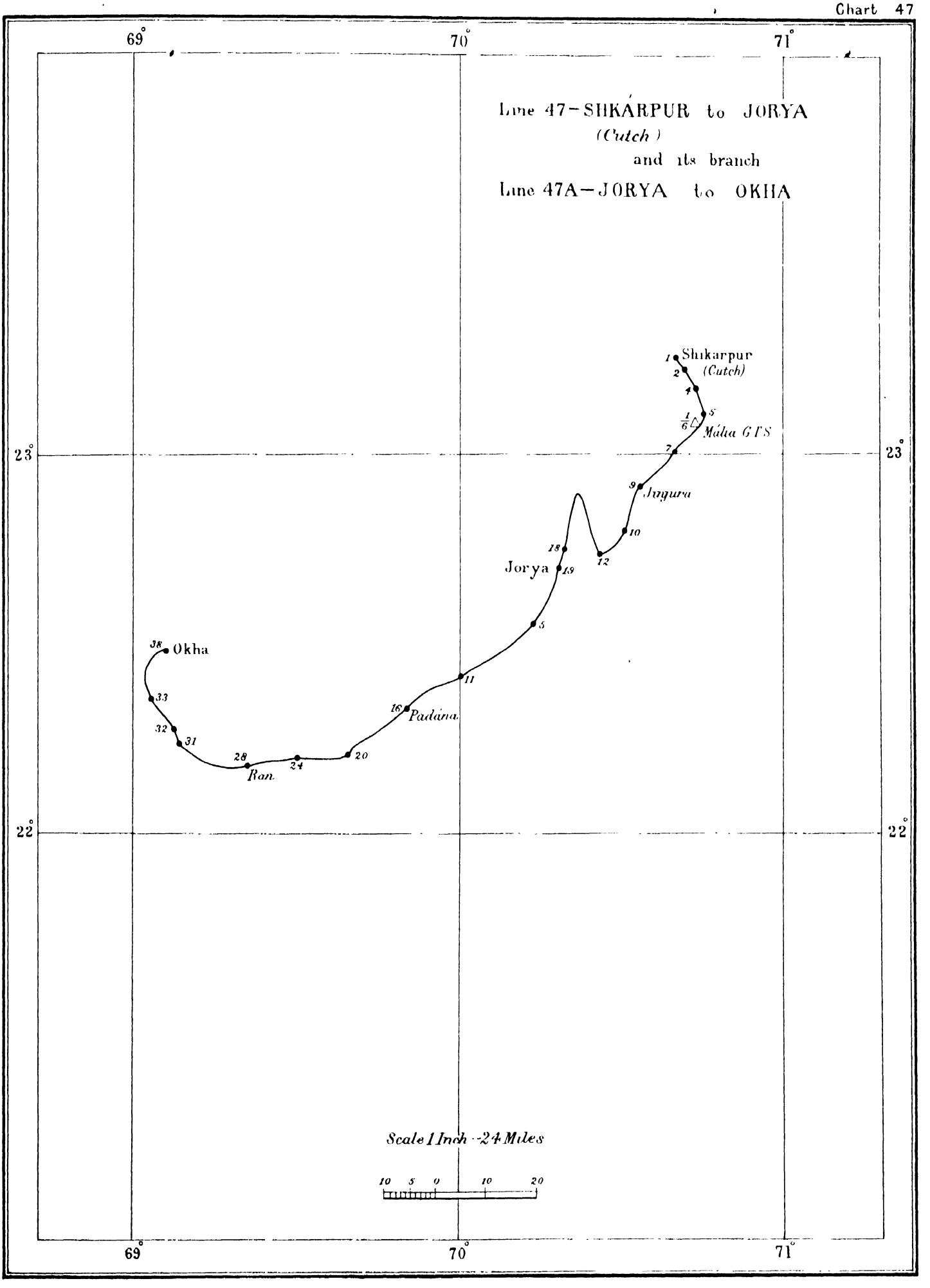
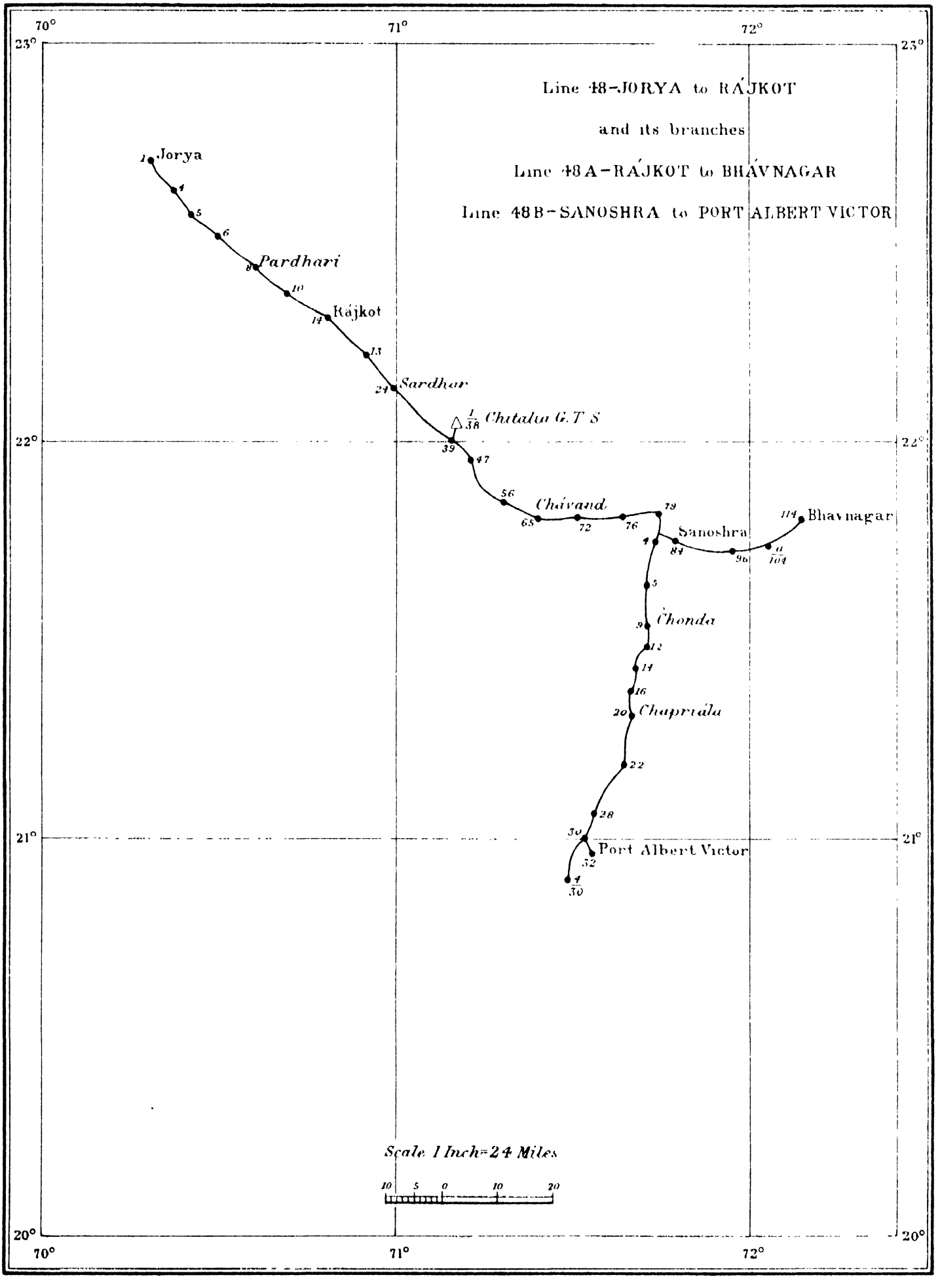

67°
68°
Line 43–KARÁCHI to TATTA
26°
25°
24°
Karáchi S.B.M.
Karáchi S. End G.T.S.
6
6
12
a/24
Gháro
a/40
64
Tatta
Manora
1
Scale 1 Inch = 24 Miles
10 5 0 10 20

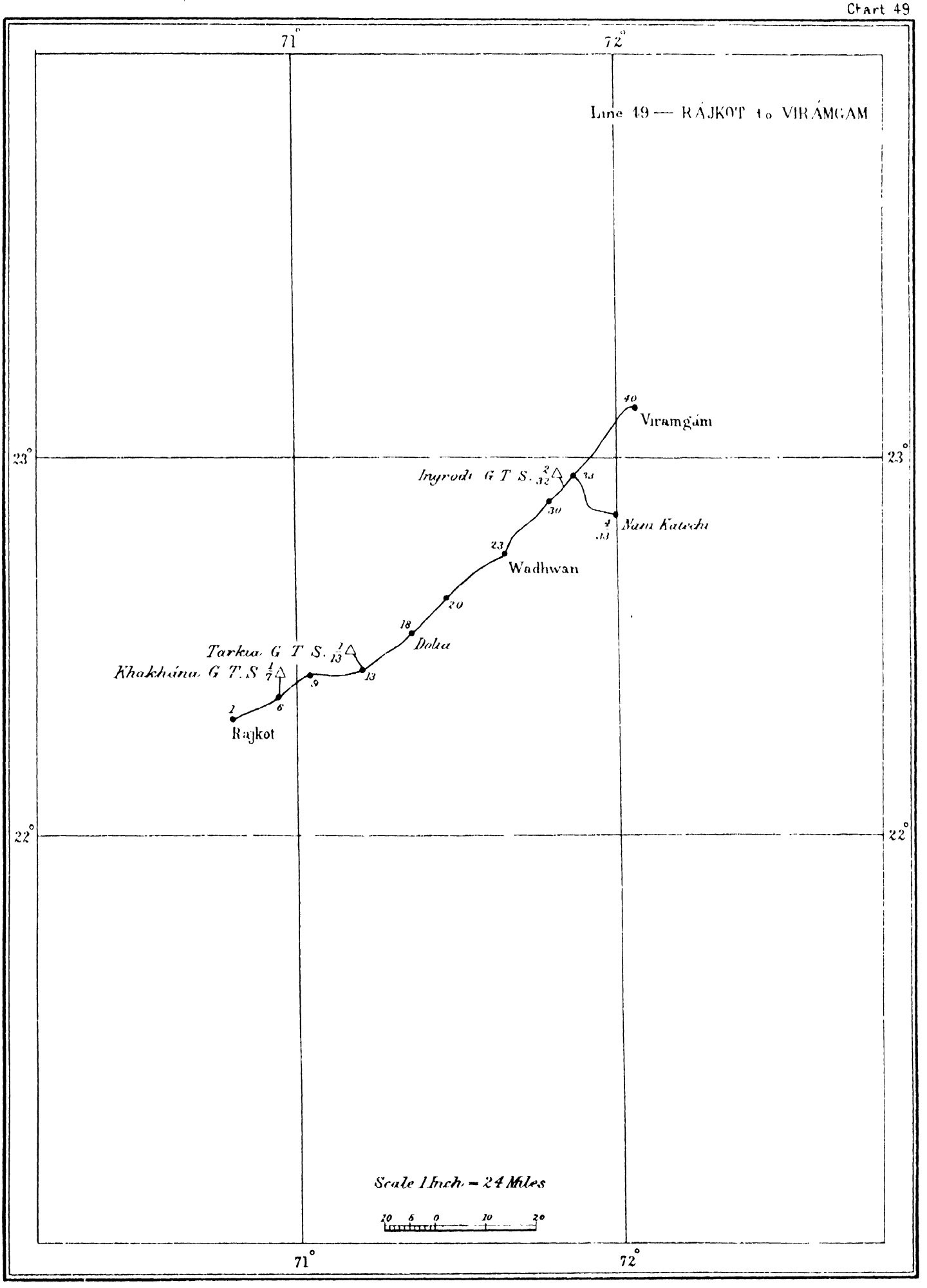

Line 44–NAVÁNÁR to SUJÁWAL
68°
69°
70°
25°
24°
23°
68 Sujáwal
77
1/77 Gadu GTS
a/68
69
Moghul Bhin GTS
67
1 Mod GTS
66
Guni GTS.
b/66
a/66
Sayyid Ali GTS.
65
1b/66 Sugandia GTS
a/64
Lakhpat GTS.
59
53
50
Háthria GTS 1/50
47
44
a/32
4
39 Bhúj
38
14
9
3
2
Navanar
1
Scale 1 Inch = 32 Miles
10 5 0 10 20 30

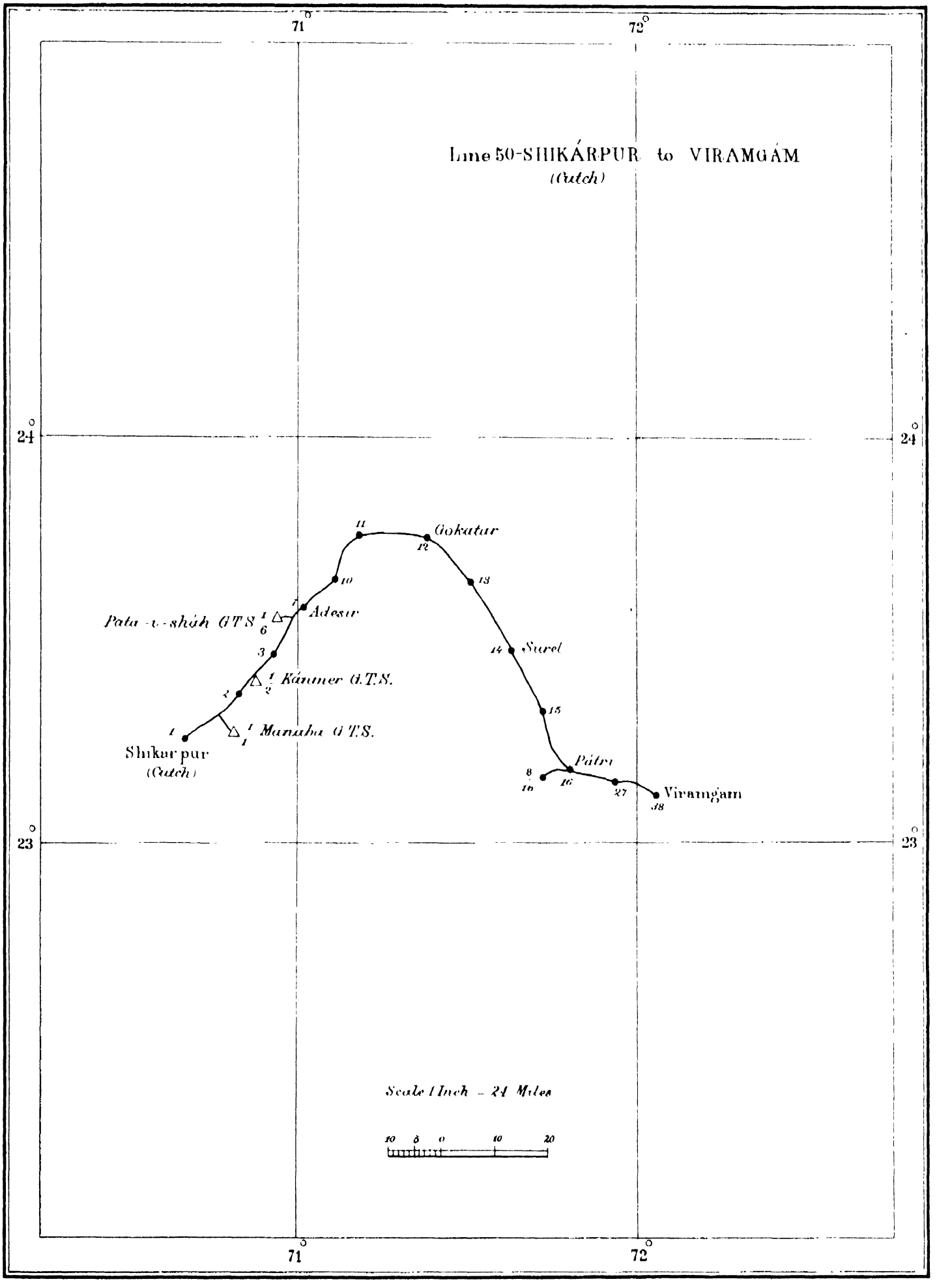

68°
Line 45—TATTA to SUJÁWAL
25°
25°
8/7 Chilia
5a/7
1
Tatta
1
9
11
13
15
17
Sujáwal
7/16 Vikia G.T.S
Dománi G.T.S 0/3
24° 30'
24° 30'
Scale 1 Inch = 8 Miles
5 0 5 10
68°

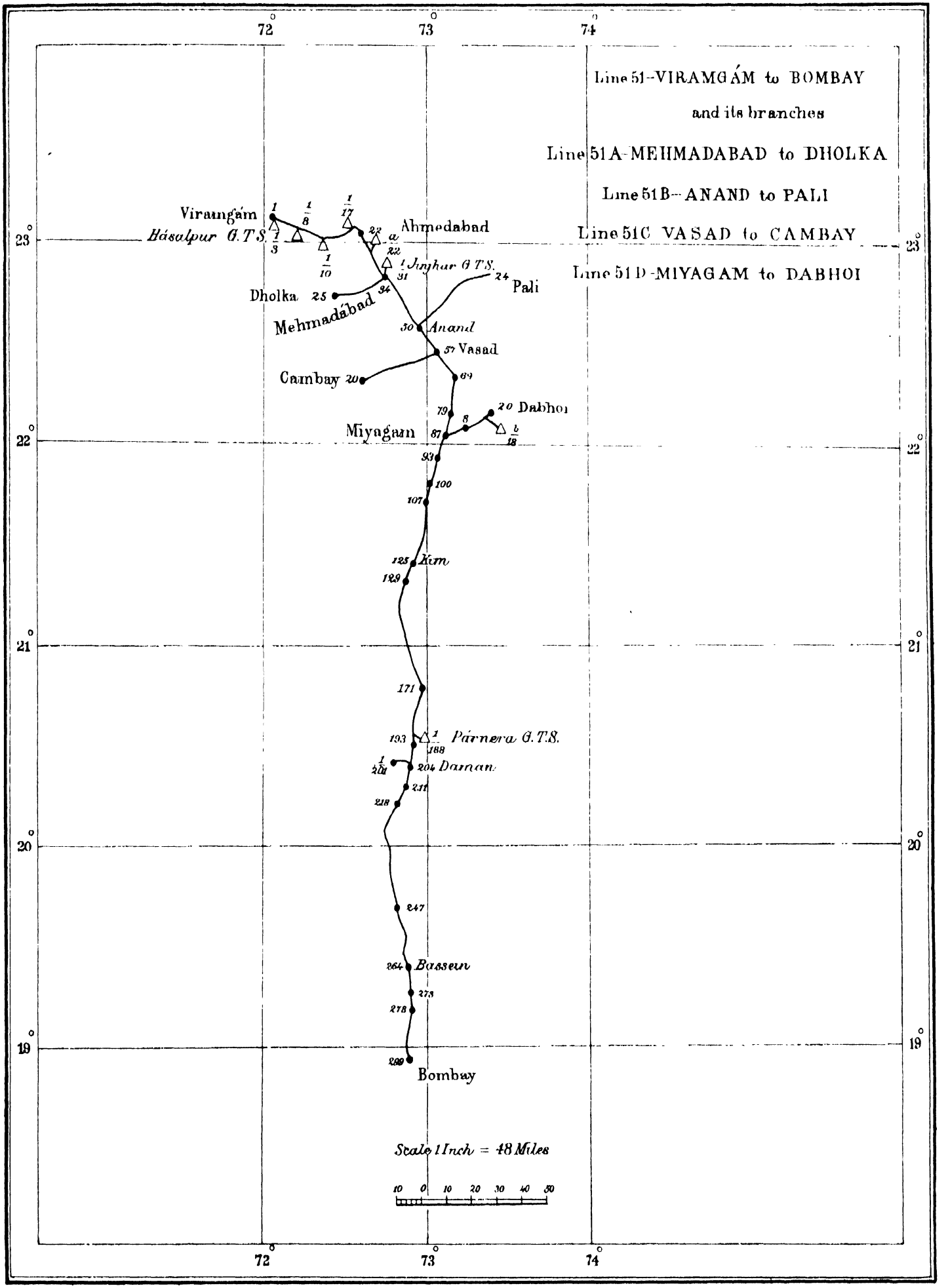

69°
70°
71°
24°
23°
22°
Line 46—NAVANAR to SHIKARPUR
(Cutch)
Navanár
Chandrana
Charakda G T S
Pasura
Sukhpur G T S
Bhachau G T S
Vandhia G T S
Shikarpur
(Cutch)
Scale 1 Inch=24 Miles
10 5 0 10 20

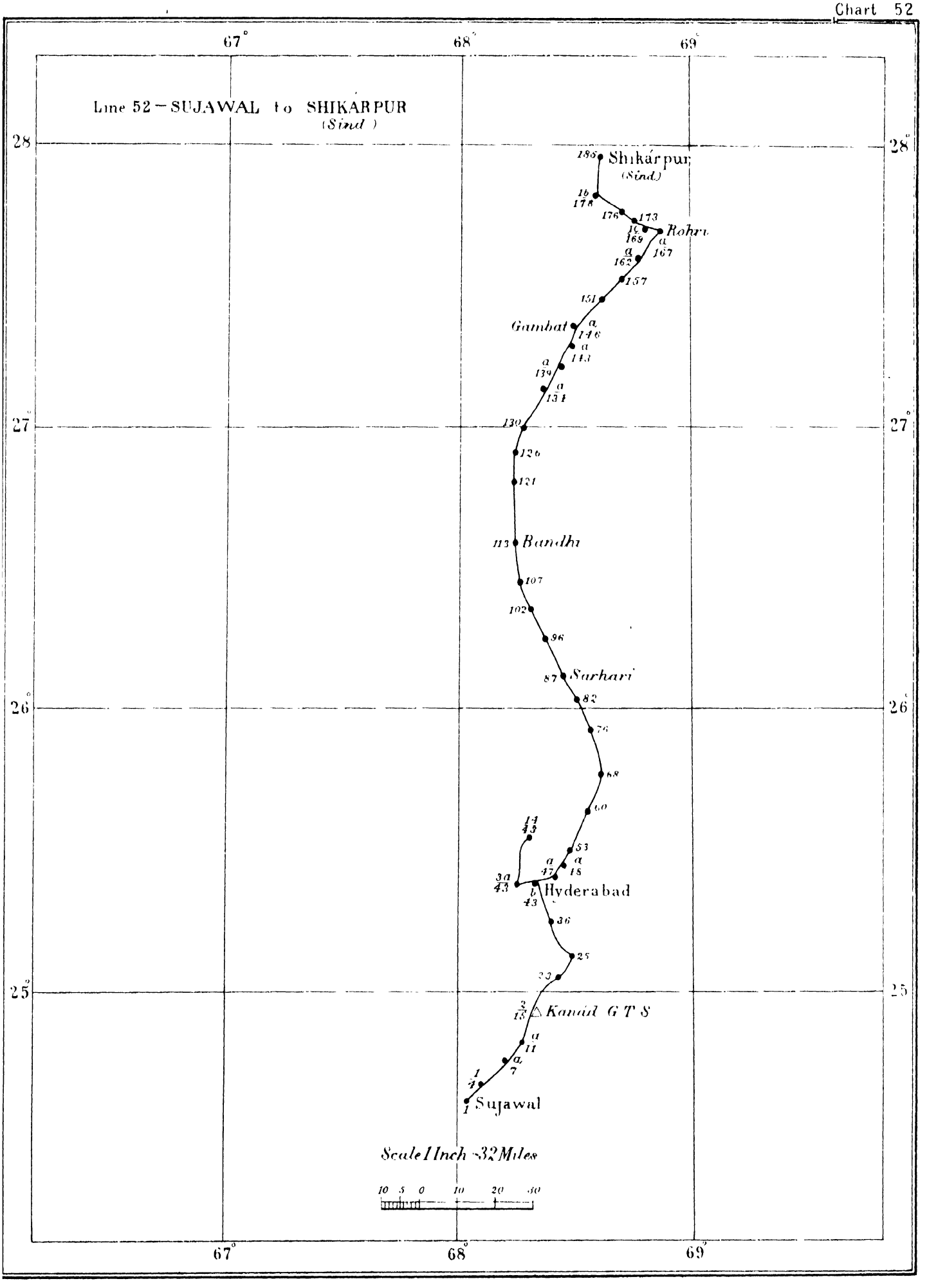

69°
70°
71°
23°
22°
Line 47–SHIKARPUR to JORYA
(Cutch)
and its branch
Line 47A–JORYA to OKHA
1 Shikarpur
(Cutch)
2
4
5
1/6
Máha GTS
7
9
Jagura
10
12
18
Jorya
19
5
11
16
Padana
20
24
28
Ran
31
32
33
38 Okha
Scale 1 Inch = 24 Miles
10 5 0 10 20

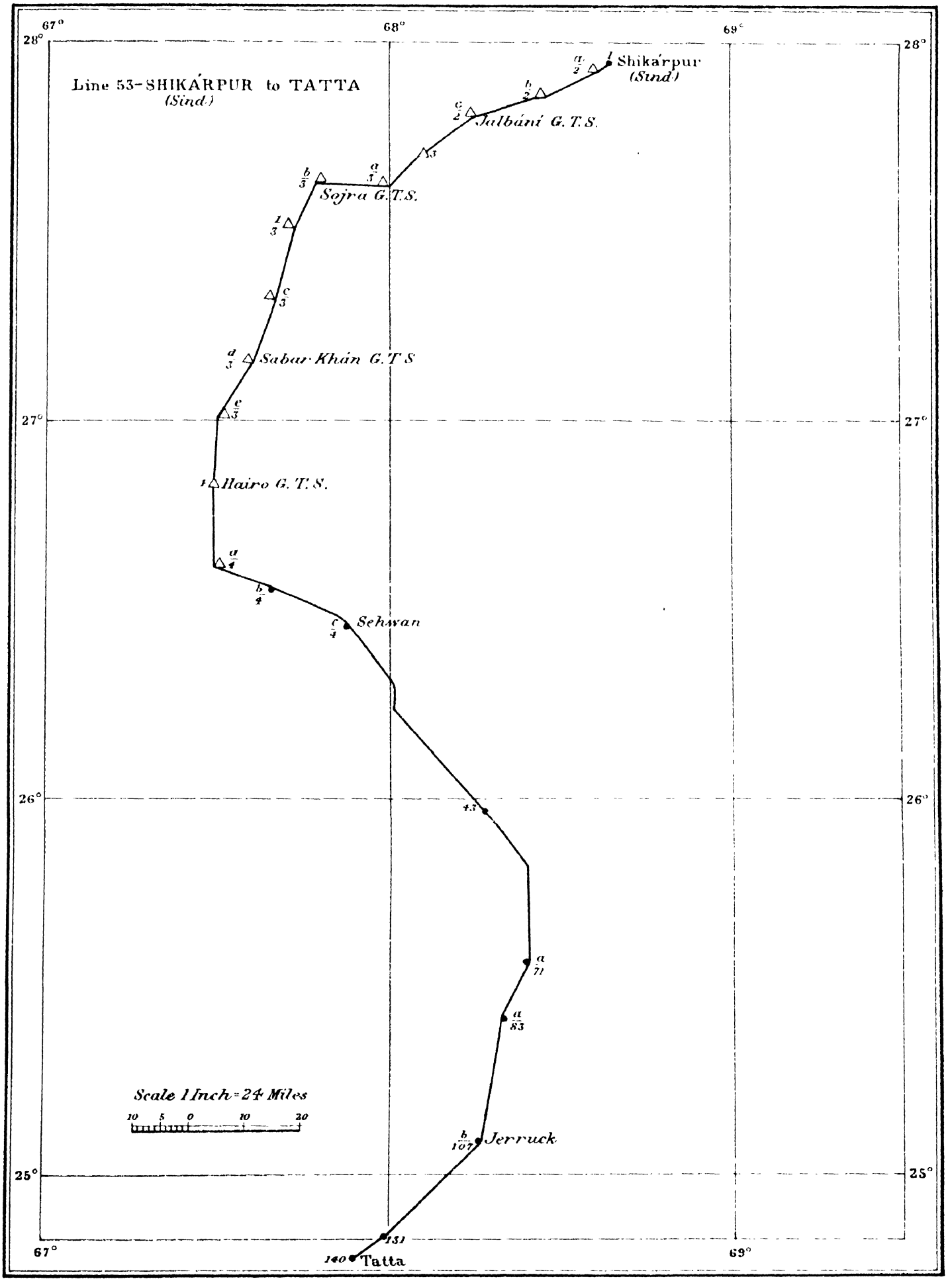

Line 48–JORYA to RÁJKOT
and its branches
Line 48A–RÁJKOT to BHÁVNAGAR
Line 48B–SANOSHRA to PORT ALBERT VICTOR
70°
71°
72°
23°
22°
21°
20°
Jorya
Pardhari
Rájkot
Sardhar
Chatala G.T.S
Chávand
Sanoshra
Bhavnagar
Chonda
Chapriala
Port Albert Victor
Scale 1 Inch=24 Miles
10 5 0 10 20

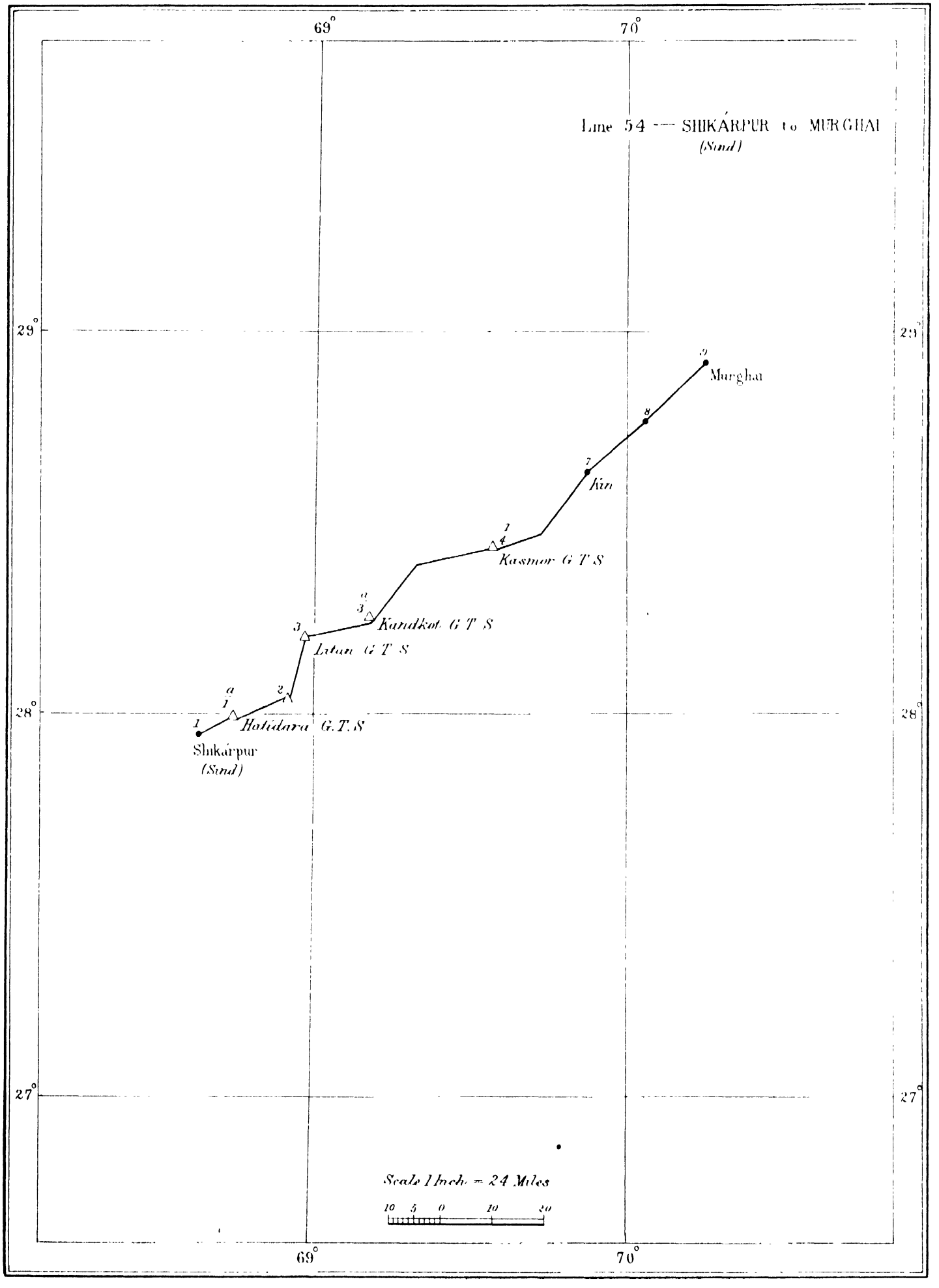

Line 49 — RÁJKOT to VIRÁMGAM
71°
72°
23°
22°
Rajkot
1
6
9
13
Khakhána G T S. 1/7
Tarkna G T S. 1/13
18
Dolia
20
Wadhwan
23
30
Nam Katechi
4/33
Ingrodi G T S. 2/32
33
Viramgám
40
Scale 1 Inch = 24 Miles
10 5 0 10 20

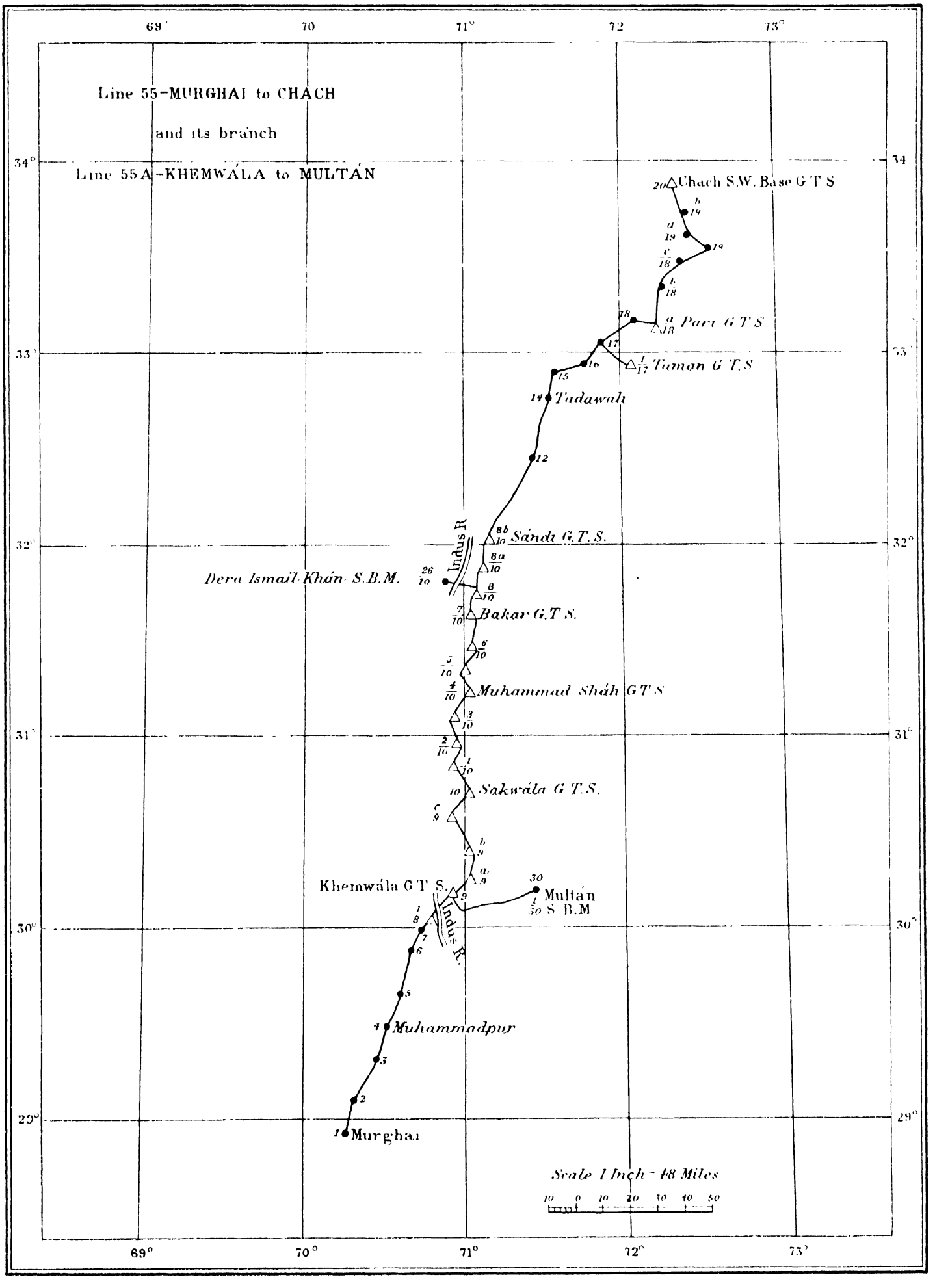

Line 50-SHIKÁRPUR to VIRAMGÁM
(Cutch)
71°
72°
24°
23°
Shikarpur
(Cutch)
Mandhi G.T.S.
Kánmer G.T.S.
Adesar
Pata-u-sháh G.T.S.
Gokatar
Surel
Pátri
Viramgam
Scale 1 Inch = 24 Miles
10 5 0 10 20

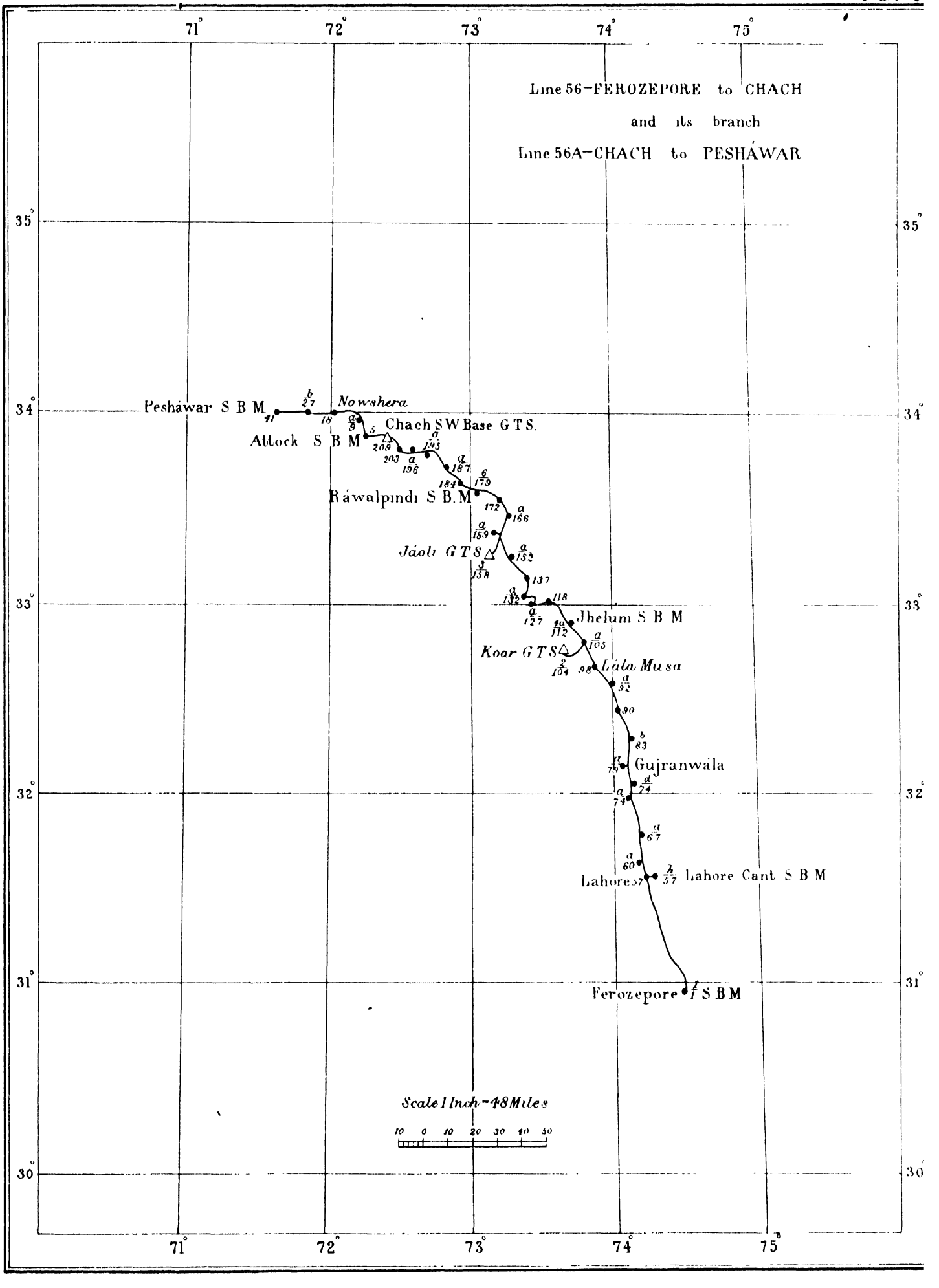

Line 51–VIRAMGÁM to BOMBAY
and its branches
Line 51A–MEHMADABAD to DHOLKA
Line 51B–ANAND to PALI
Line 51C VASAD to CAMBAY
Line 51D–MIYAGAM to DABHOI
72
73
74
23°
22°
21°
20°
19°
Viramgám
Hásalpur G.T.S.
Ahmedabad
Jinghar G.T.S.
Dholka
Mehmadábad
Pali
Anand
Vasad
Cambay
Dabhoi
Miyagam
Kim
Párnera G.T.S.
Daman
Bassein
Bombay
Scale 1 Inch = 48 Miles
10 0 10 20 30 40 50

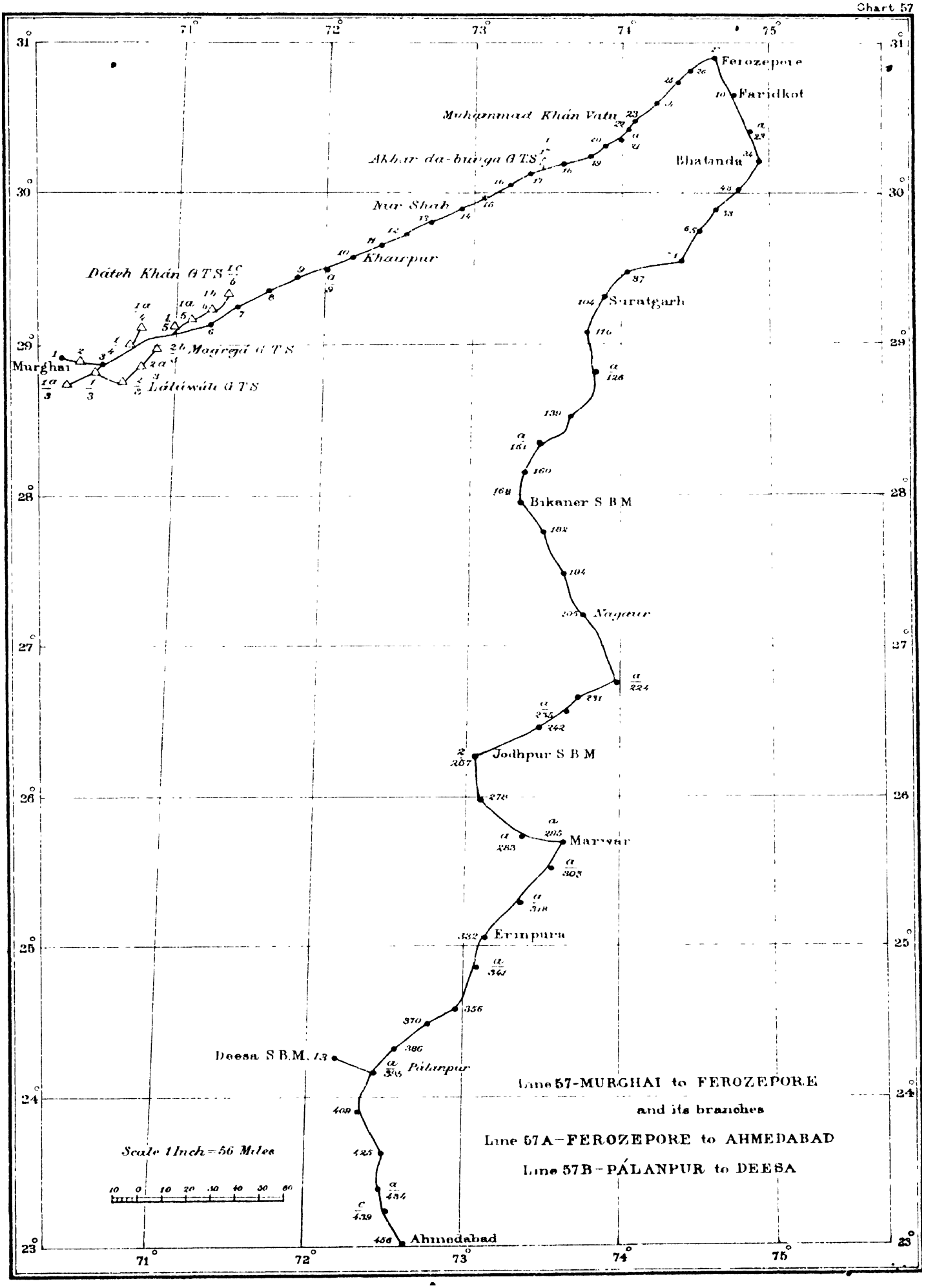

Line 52 — SUJAWAL to SHIKARPUR
(Sind)
67°
68°
69°
28°
27°
26°
25°
186
Shikarpur
(Sind)
16
178
176
173
Rohri
169
167
162
157
151
Gambat
146
143
139
134
130
126
121
113
Bandhi
107
102
96
87
Sarhari
82
78
68
60
53
47
43
Hyderabad
36
25
23
Kandiaro G T S
11
7
4
1
Sujawal
Scale 1 Inch = 32 Miles
10 5 0 10 20 30


Line 53-SHIKÁRPUR to TATTA
(Sind)
67°
68°
69°
28°
27°
26°
25°
Shikárpur
(Sind)
Jalbání G.T.S.
Sojra G.T.S.
Sabar Khán G.T.S
Hairo G.T.S.
Sehwan
Jerruck
Tatta
Scale 1 Inch = 24 Miles
10 5 0 10 20


69°
70°
Line 54 — SHIKÁRPUR to MURGHAI
(Sind)
29°
28°
27°
9
Murghai
8
7
Kin
1
4
Kasmor G T S
a
3
Kandkot G T S
3
Latan G T S
a
1
2
1
Hatidara G.T.S
Shikárpur
(Sind)
Scale 1 Inch = 24 Miles
10 5 0 10 20


Line 55–MURGHAI to CHACH
and its branch
Line 55A–KHEMWÁLA to MULTÁN
Chach S.W. Base G T S
Pari G T S
Taman G T S
Tudawali
Sándi G.T.S.
Indus R
Dera Ismail Khán S.B.M.
Bakar G.T.S.
Muhammad Sháh G T S
Sakwála G T.S.
Khemwála G T S.
Multán
S B.M
Muhammadpur
Murghai
Scale 1 Inch = 48 Miles
69°
70°
71°
72°
73°
34°
33°
32°
31°
30°
29°


Line 56–FEROZEPORE to CHACH
and its branch
Line 56A–CHACH to PESHAWAR
71°
72°
73°
74°
75°
35°
34°
33°
32°
31°
30°
Peshawar S B M
Nowshera
Chach SW Base G T S.
Attock S B M
Rawalpindi S B M
Jaoli G T S
Jhelum S B M
Koar G T S
Lala Musa
Gujranwala
Lahore
Lahore Cant S B M
Ferozepore I S B M
Scale 1 Inch = 48 Miles
10 0 10 20 30 40 50

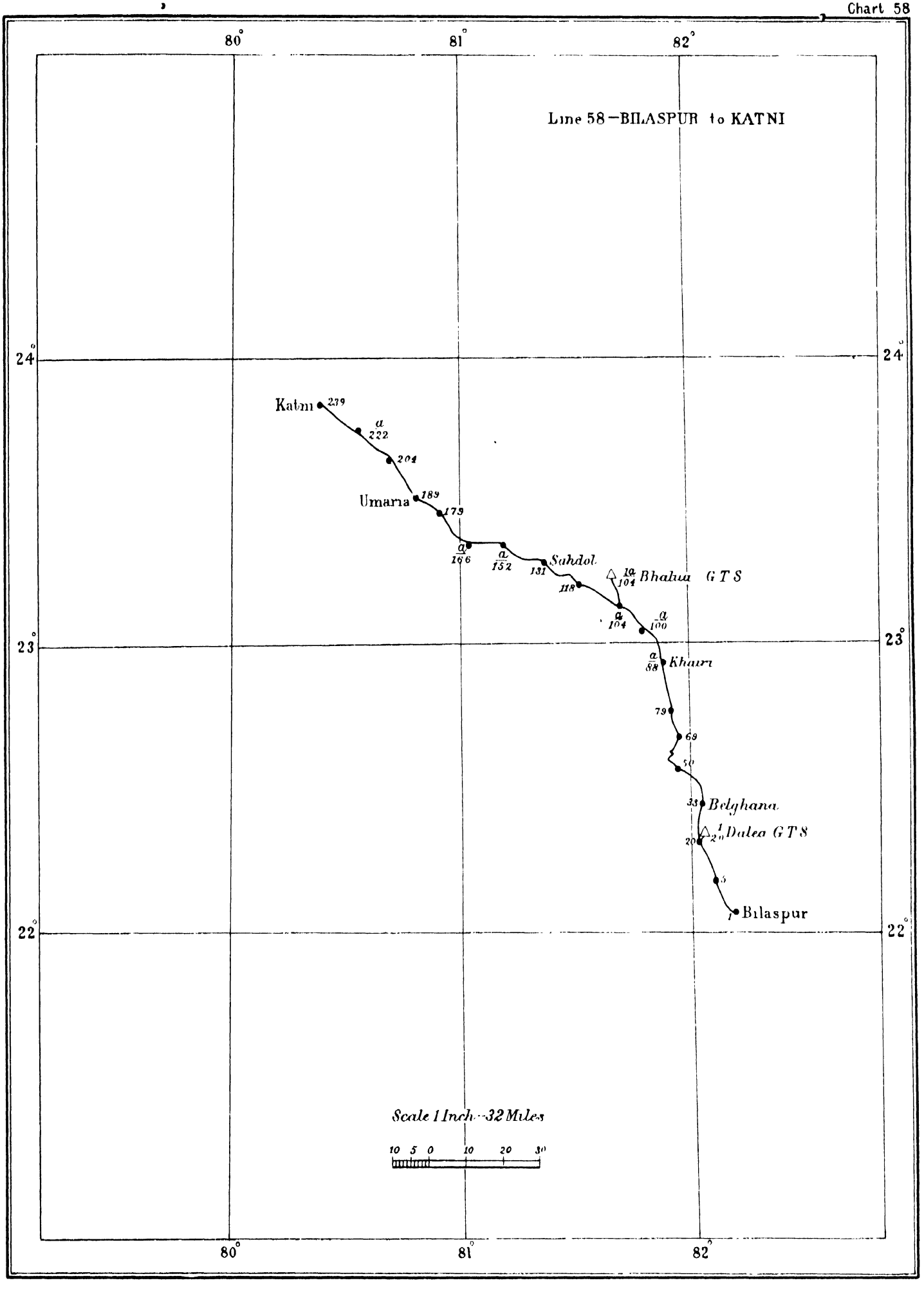


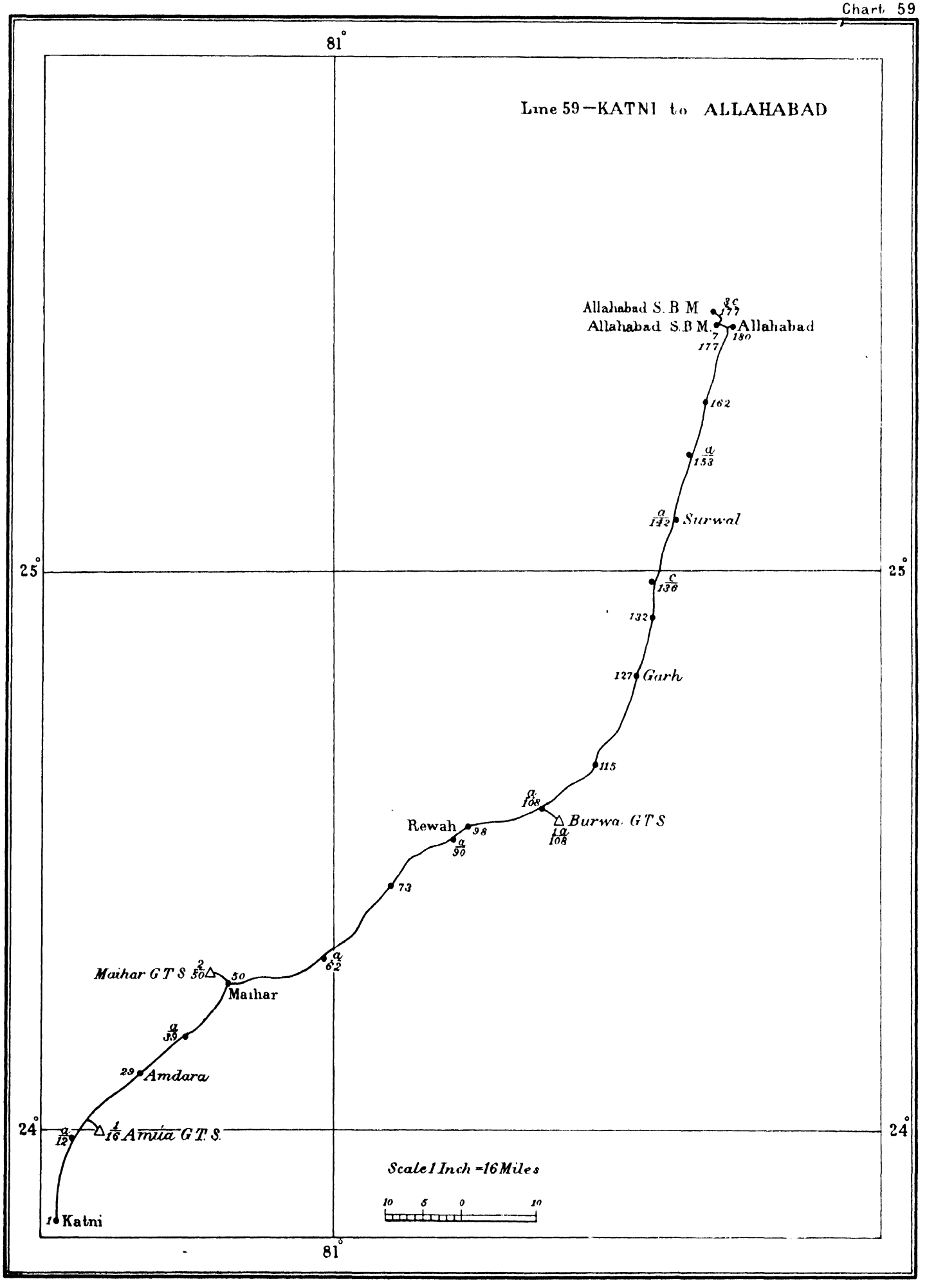
Line 57-MURGHAI to FEROZEPORE

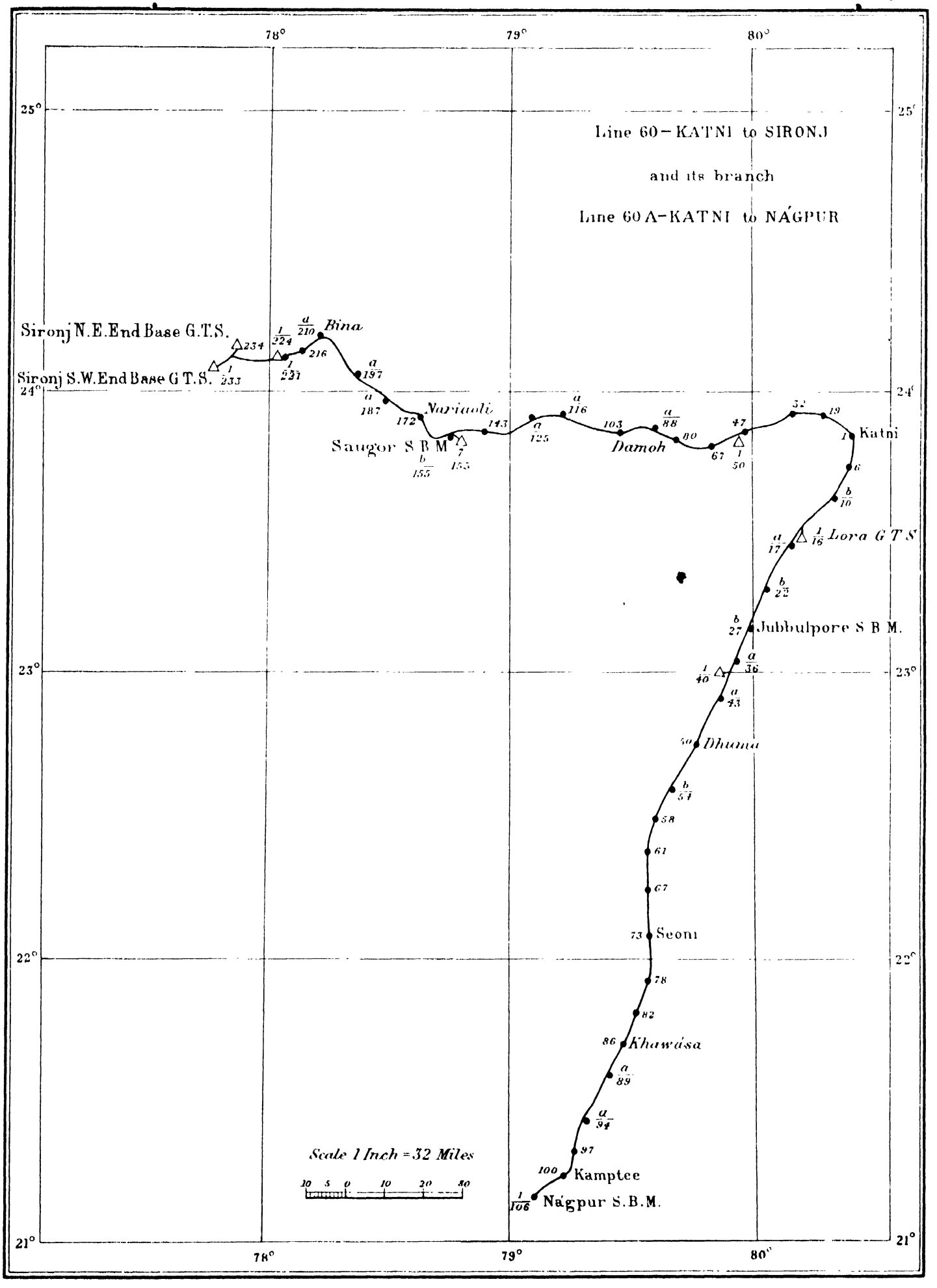
and its branches

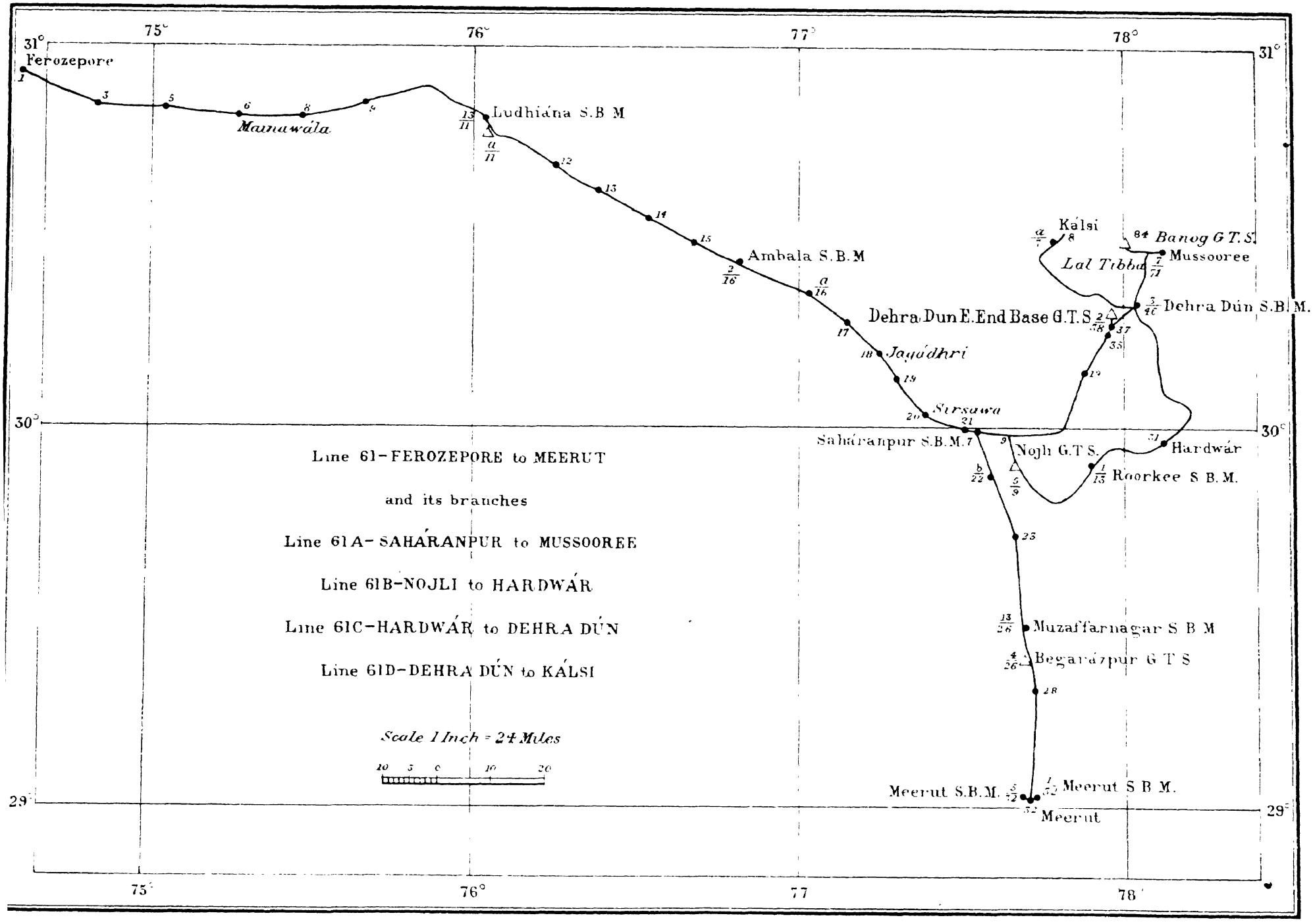
Line 57A-FEROZEPORE to AHMEDABAD

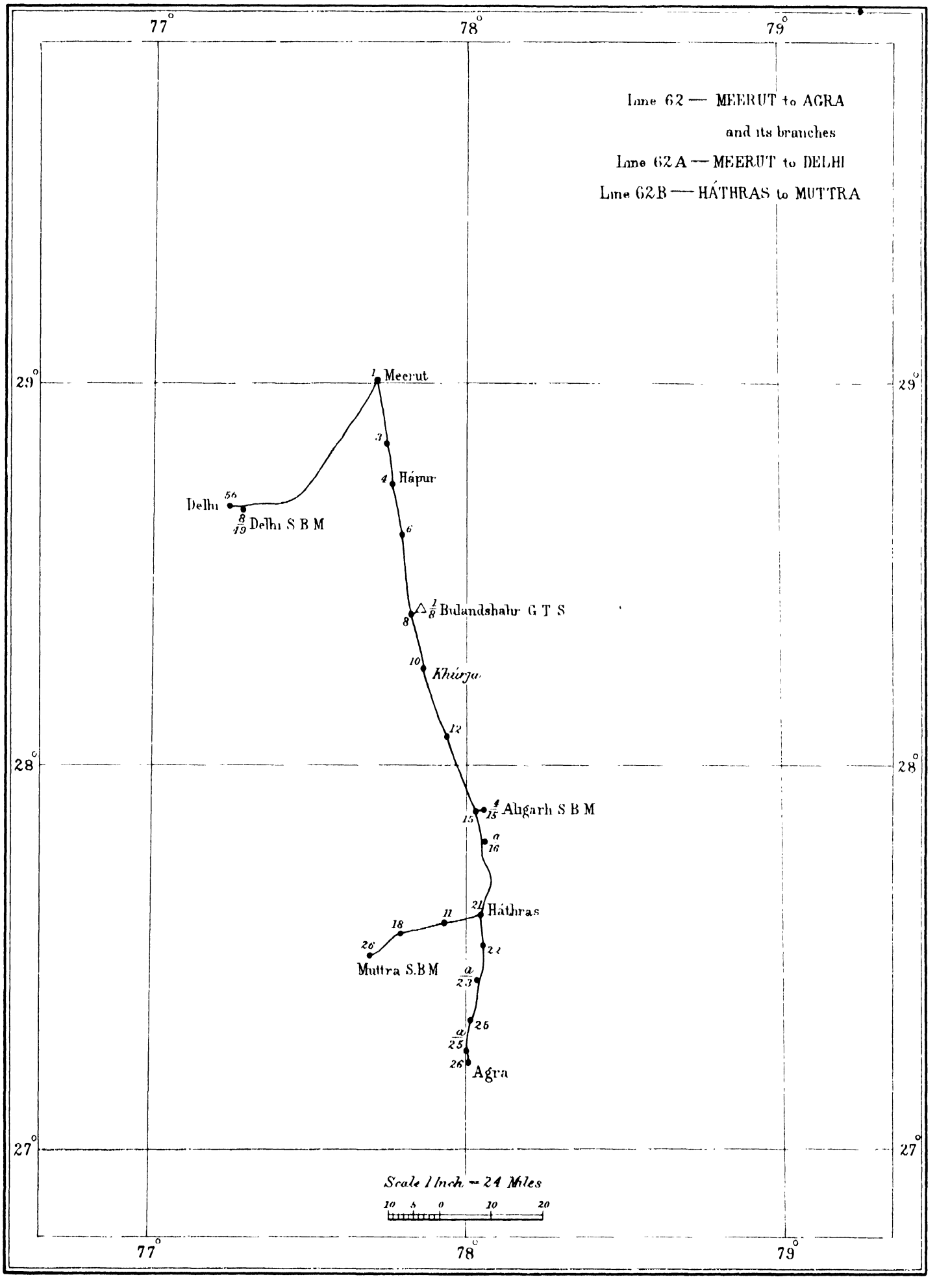
Line 57B-PÁLANPUR to DEESA

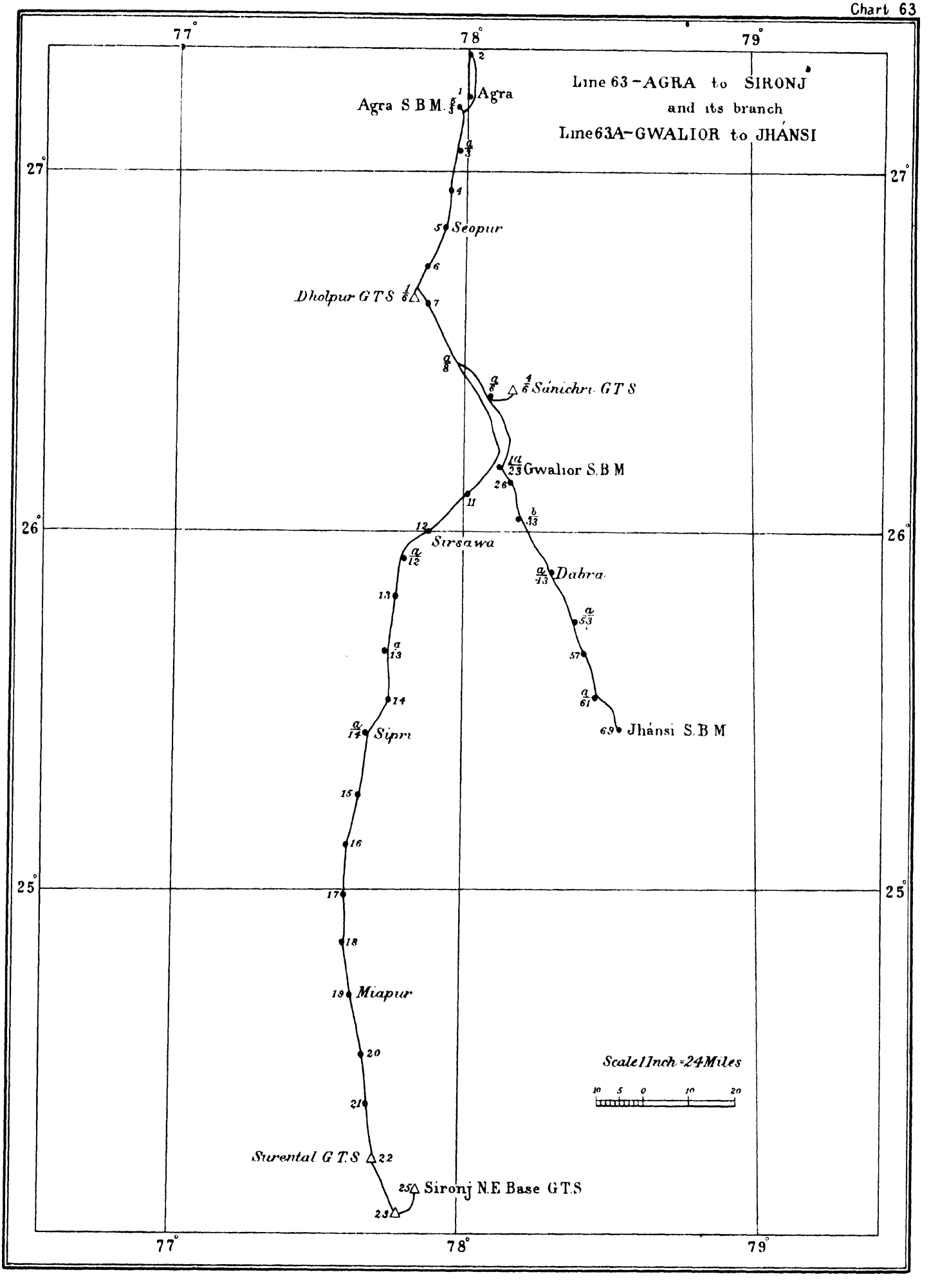

Line 58—BILASPUR to KATNI
80°
81°
82°
24°
23°
22°
Katni
239
a
222
204
Umaria
189
179
a
166
a
152
131
Sahdol
118
1a
104
Bhalua G T S
a
104
a
100
a
88
Khairi
79
69
50
35
Belghana
1
20
Dalea G T S
20
5
1
Bilaspur
Scale 1 Inch=32 Miles
10 5 0 10 20 30

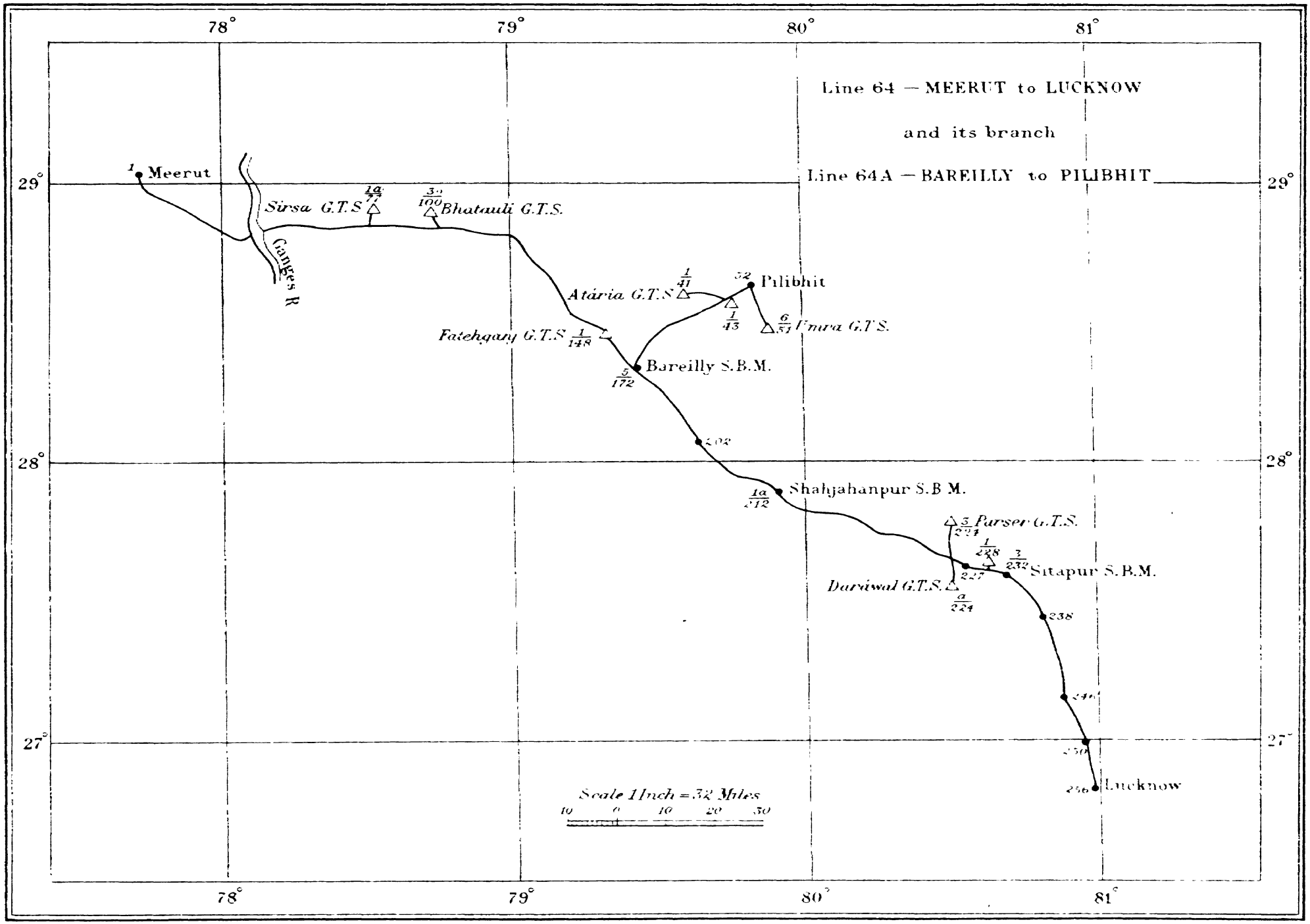

81°
Line 59—KATNI to ALLAHABAD
Allahabad S. B M
Allahabad S.B M.
Allahabad
177
180
162
153
Surwal
25°
136
132
127 Garh
115
108
Rewah
98
90
Burwa GTS
108
73
62
Maihar GTS 50
50
Maihar
39
29 Amdara
24°
12
16 Amila GTS
Scale 1 Inch =16 Miles
10 5 0 10
1 Katni
81°

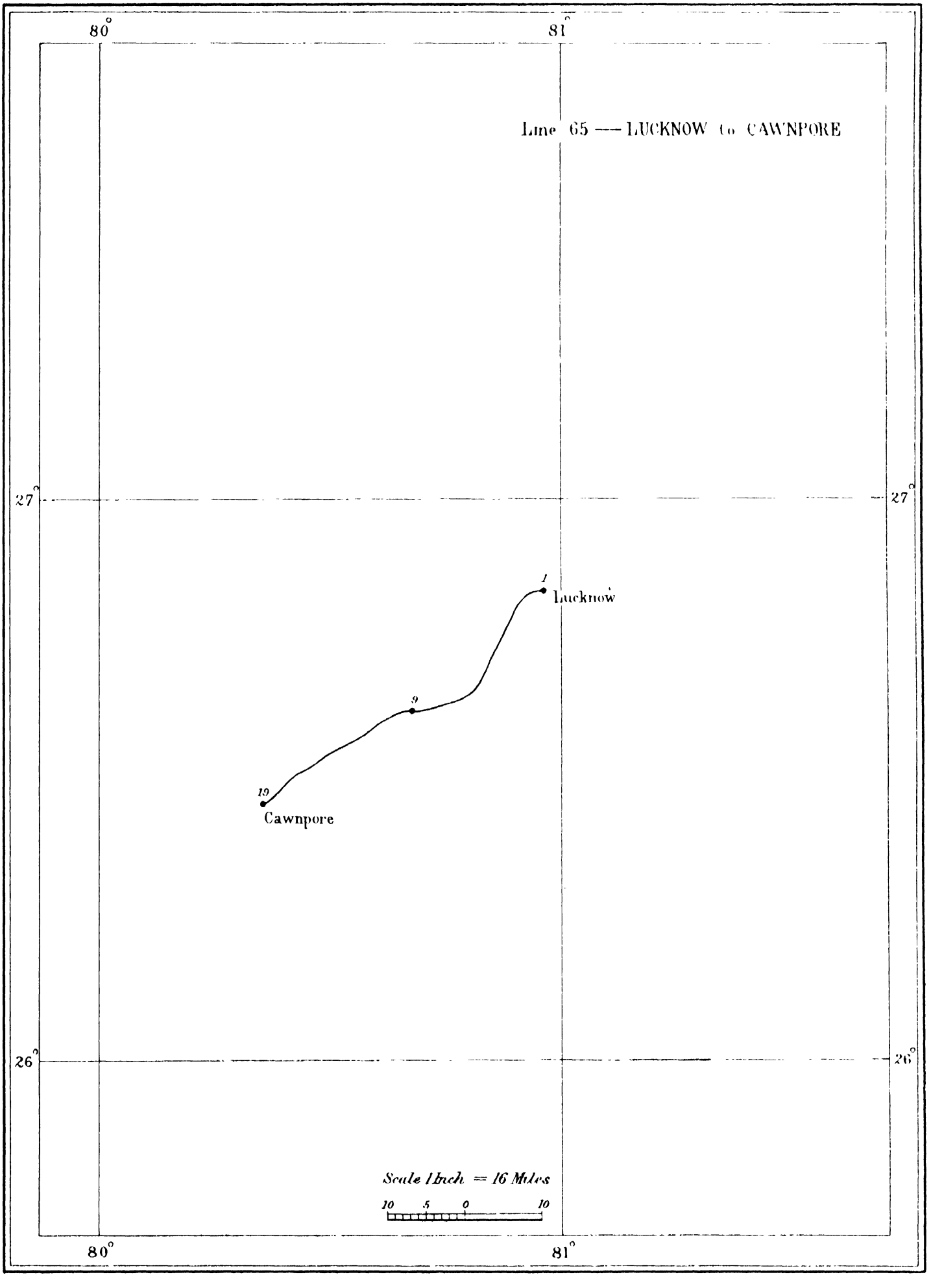

78°
79°
80°
25°
24°
23°
22°
21°
Line 60—KATNI to SIRONJ
and its branch
Line 60A—KATNI to NAGPUR
Sironj N.E. End Base G.T.S.
Sironj S.W. End Base G.T.S.
Bina
Narsaoli
Saugor S.B.M.
Damoh
Katni
Lora G.T.S.
Jubbulpore S.B.M.
Dhuma
Seoni
Khawasa
Kamptee
Nagpur S.B.M.
Scale 1 Inch = 32 Miles
10 5 0 10 20 30

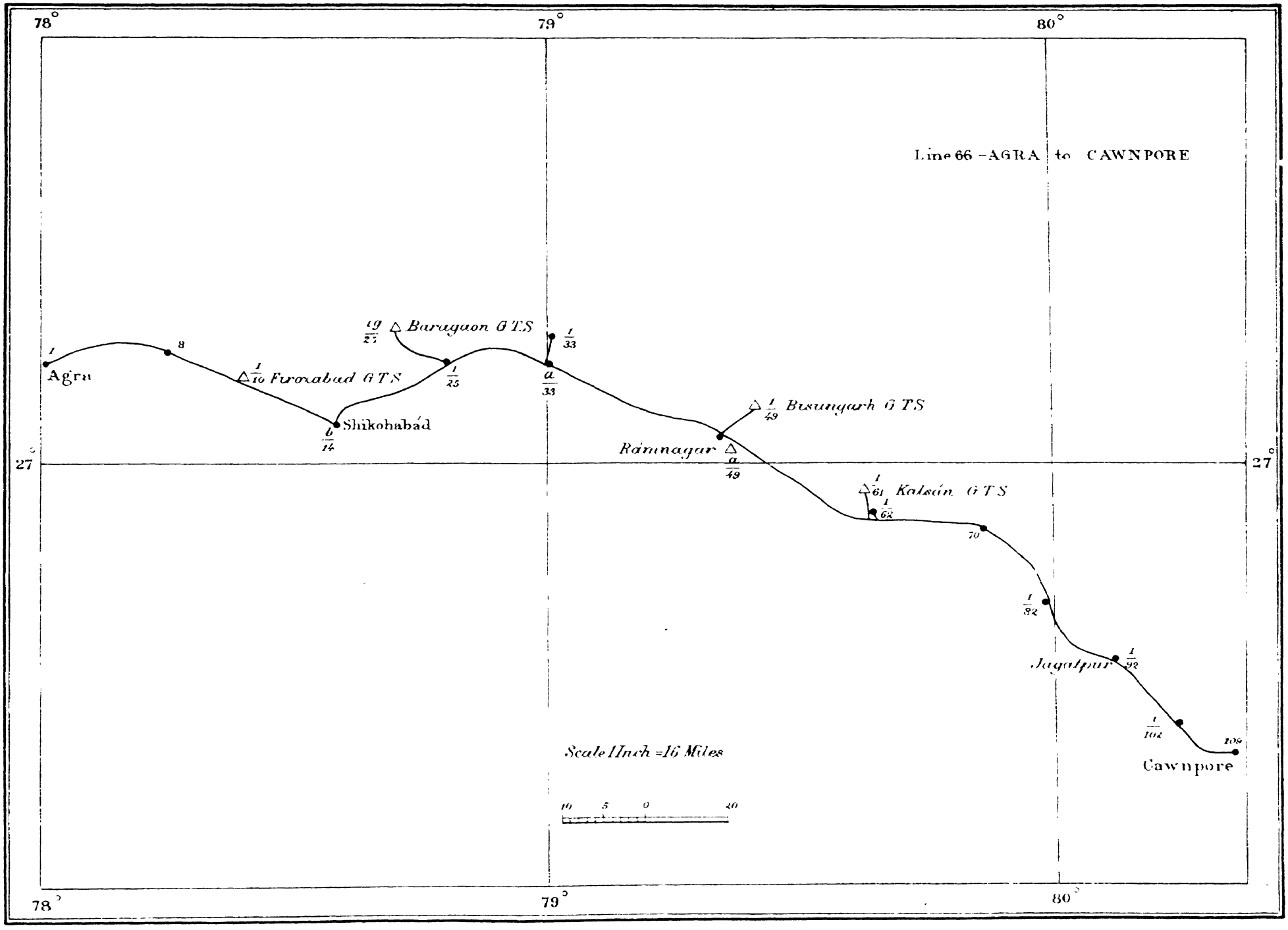

75°
76°
77°
78°
31°
30°
29°
Ferozepore
1
3
5
6
Manawala
8
9
13/11
Ludhiana S.B M
a/11
12
13
14
15
Ambala S.B.M
2/16
a/16
17
18
Jagadhri
19
20
Sirsawa
21
Saharanpur S.B.M.7
9
Nojli G.T.S.
31
Hardwar
b/22
5/9
1/13
Roorkee S B.M.
25
13/26
Muzaffarnagar S B M
4/26
Begarazpur G T S
28
Meerut S.B.M. 5/32
1/32
Meerut S B M.
32
Meerut
a/7
8
Kalsi
84
Banog G.T.S.
7/71
Mussooree
Lal Tibba
3/40
Dehra Dun S.B.M.
2/38
37
35
Dehra Dun E.End Base G.T.S.
19
Line 61-FEROZEPORE to MEERUT
and its branches
Line 61A- SAHARANPUR to MUSSOOREE
Line 61B-NOJLI to HARDWAR
Line 61C-HARDWAR to DEHRA DUN
Line 61D-DEHRA DUN to KALSI
Scale 1 Inch = 24 Miles
10 5 0 10 20

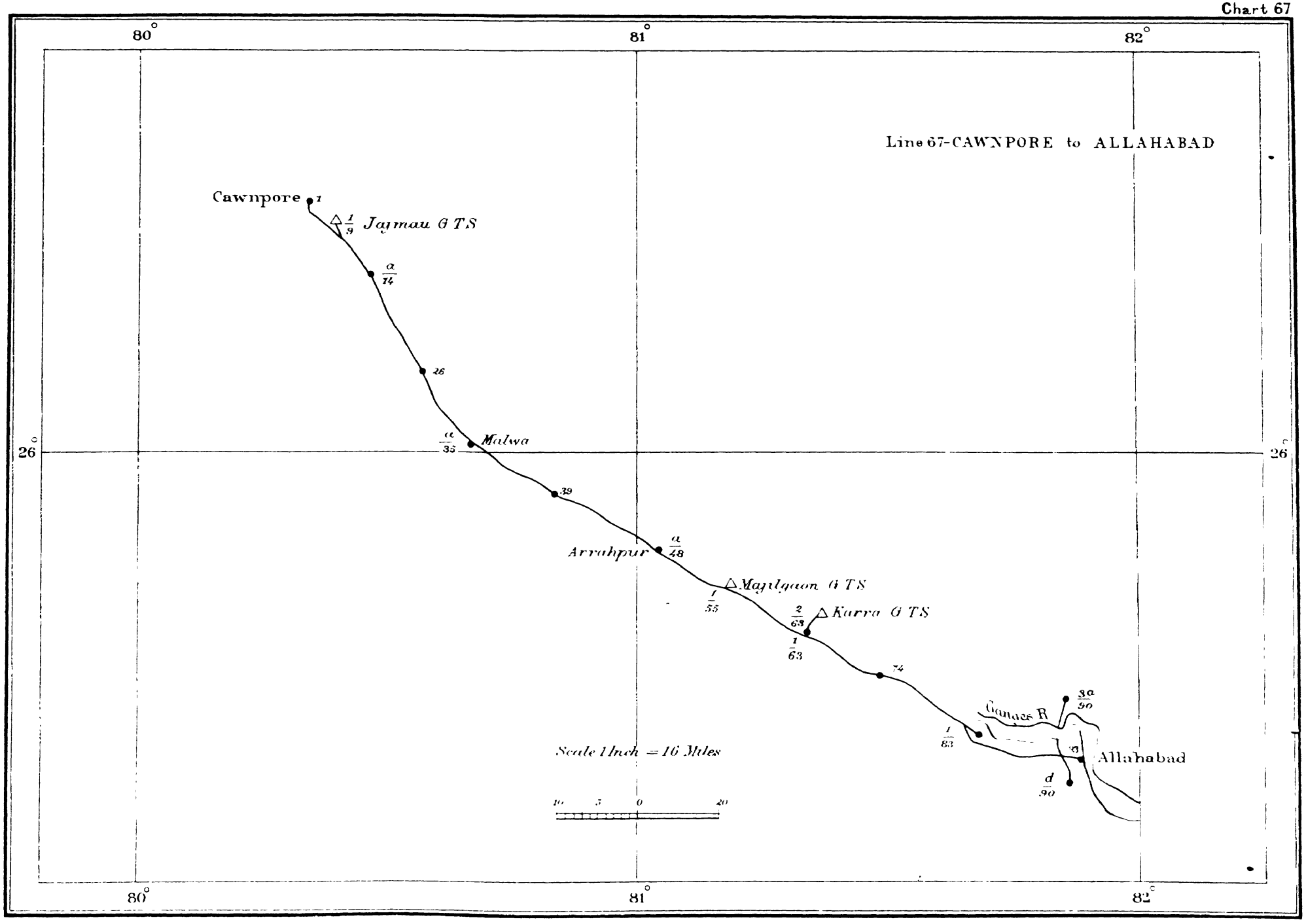

77°
78°
79°
29°
28°
27°
Line 62 — MEERUT to AGRA
and its branches
Line 62A — MEERUT to DELHI
Line 62B — HÁTHRAS to MUTTRA
1 Meerut
3
4 Hápur
Delhi 56
8/19 Delhi S B M
6
8 △ 1/8 Bulandshahr G T S
10 Khúrja
12
15 4/15 Aligarh S B M
15
a/16
21 Háthras
11
18
20 Muttra S.B M
22
a/23
25 a/25
26
Agra
Scale 1 Inch = 24 Miles
10 5 0 10 20

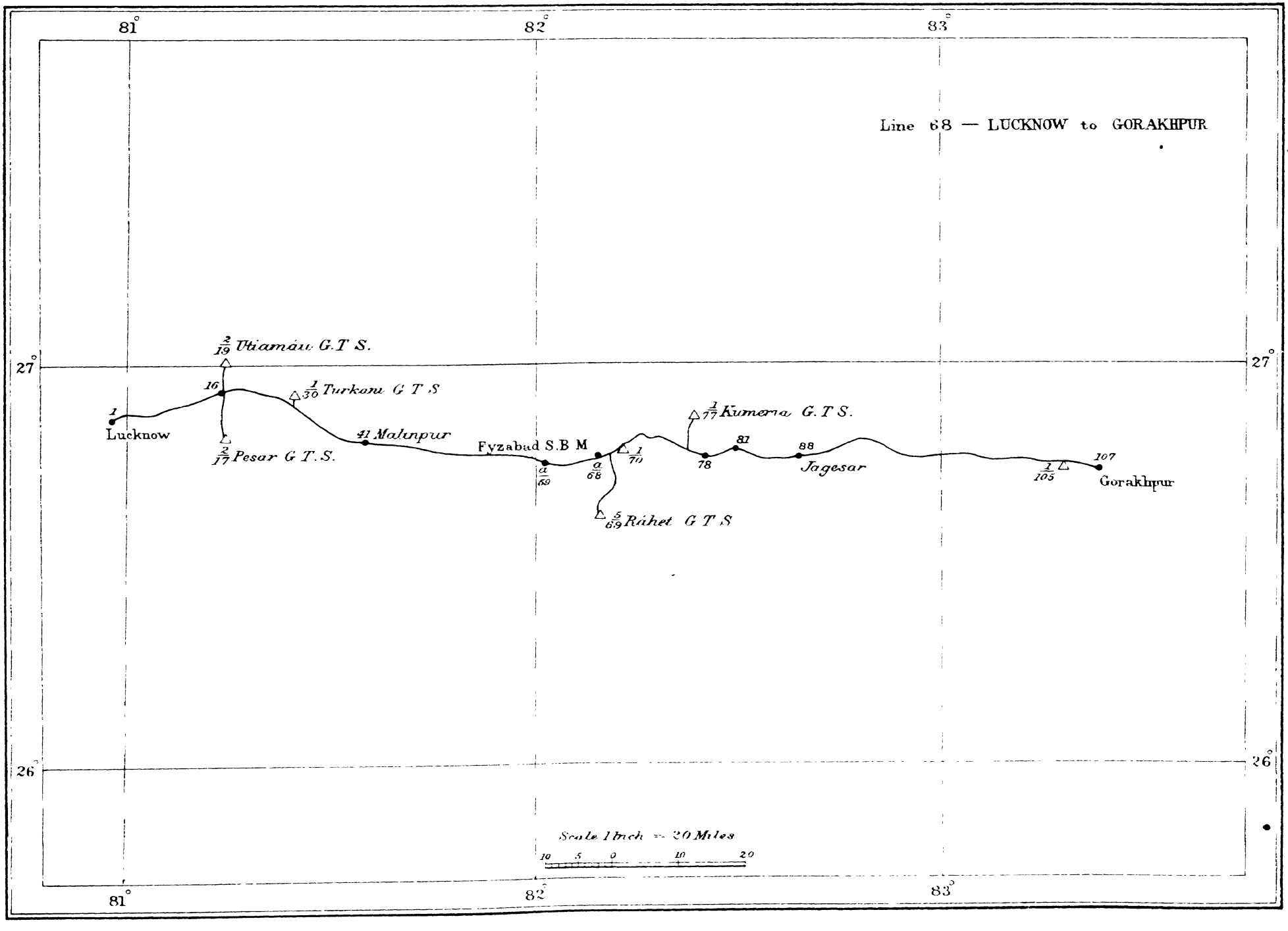

77°
78°
79°
27°
26°
25°
Line 63 – AGRA to SIRONJ
and its branch
Line 63A – GWALIOR to JHÁNSI
Agra S B M.
Agra
Seopur
Dholpur G T S
Sánichri G T S
Gwalior S.B M
Sirsawa
Dabra
Jhánsi S.B M
Sipri
Miapur
Surental G T S
Sironj N.E Base G.T.S
Scale 1 Inch = 24 Miles
10 5 0 10 20

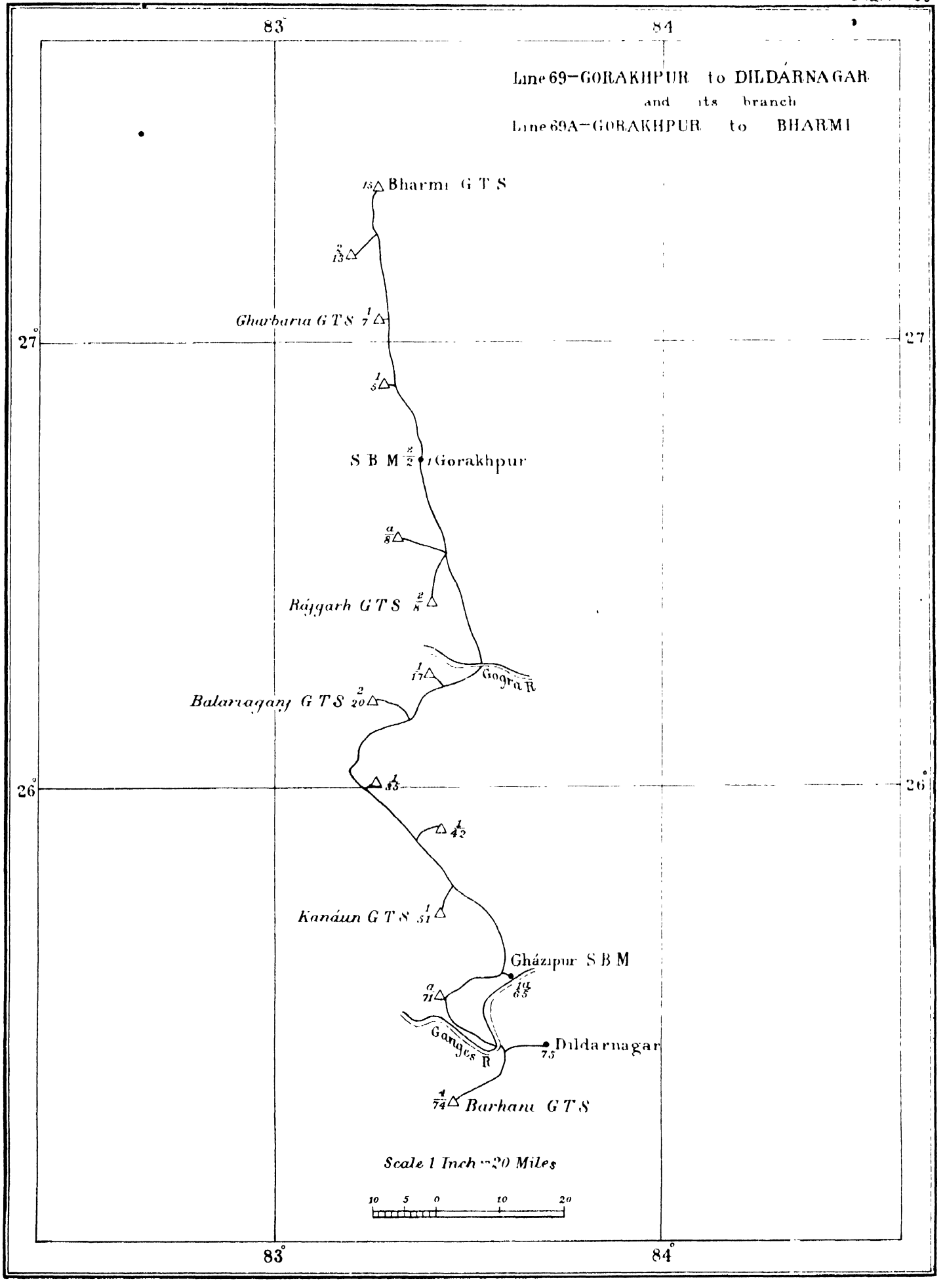

78°
79°
80°
81°
29°
28°
27°
Line 64 — MEERUT to LUCKNOW
and its branch
Line 64A — BAREILLY to PILIBHIT
1 Meerut
Sirsa G.T.S 1a/74
30/100 Bhatauli G.T.S.
Ganges R
1/41 Atária G.T.S
32 Pilibhit
1/43
6/51 Unra G.T.S.
Fatehganj G.T.S 1/148
Bareilly S.B.M.
5/172
Shahjahanpur S.B.M.
1a/212
5 Purser G.T.S.
1/238
3/232 Sitapur S.B.M.
Dariwal G.T.S.
a/224
238
256 Lucknow
Scale 1 Inch = 32 Miles
10 0 10 20 30

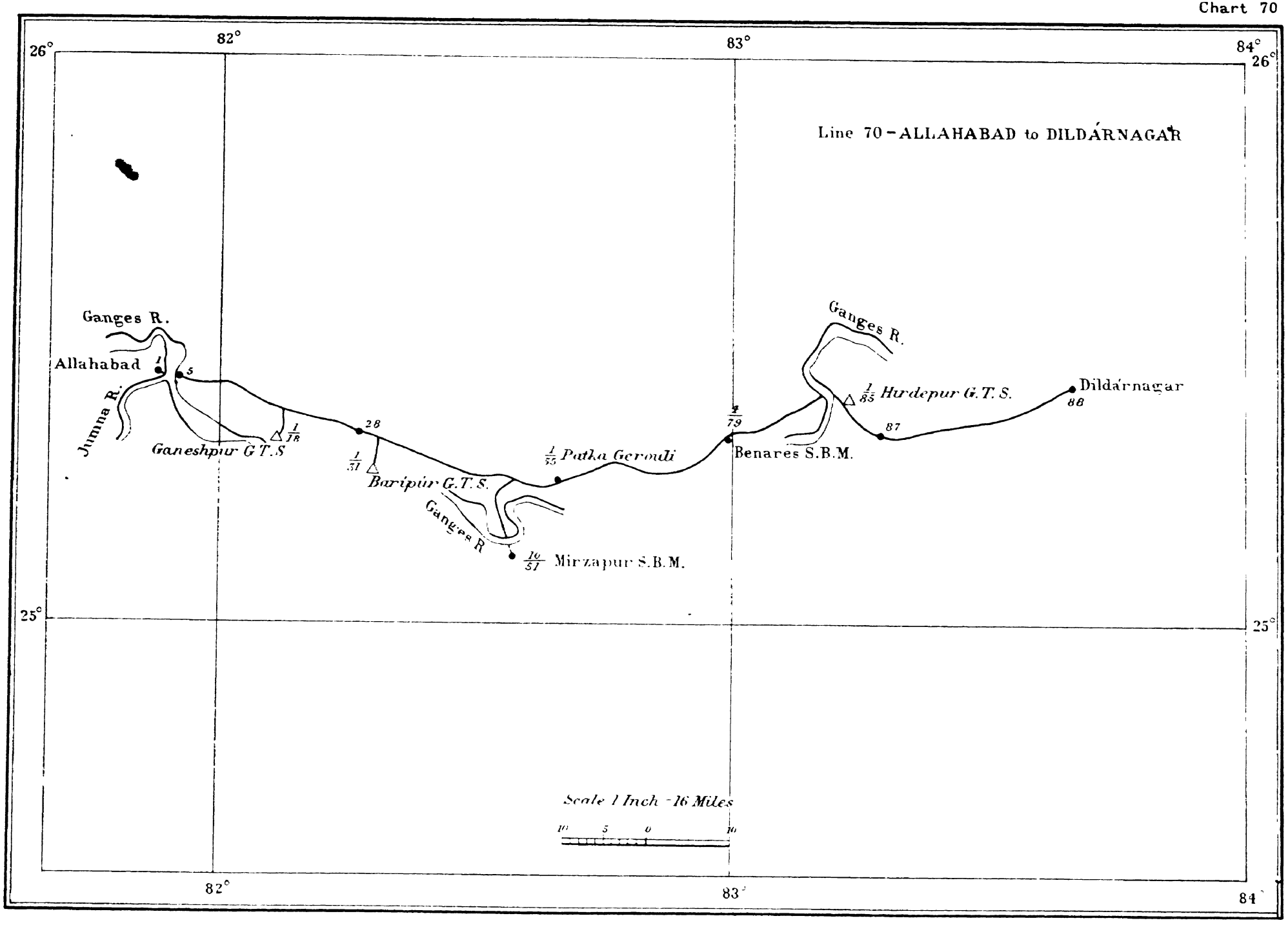

80°
81°
Line 65 — LUCKNOW to CAWNPORE
27°
26°
1
Lucknow
9
19
Cawnpore
Scale 1 Inch = 16 Miles
10 5 0 10

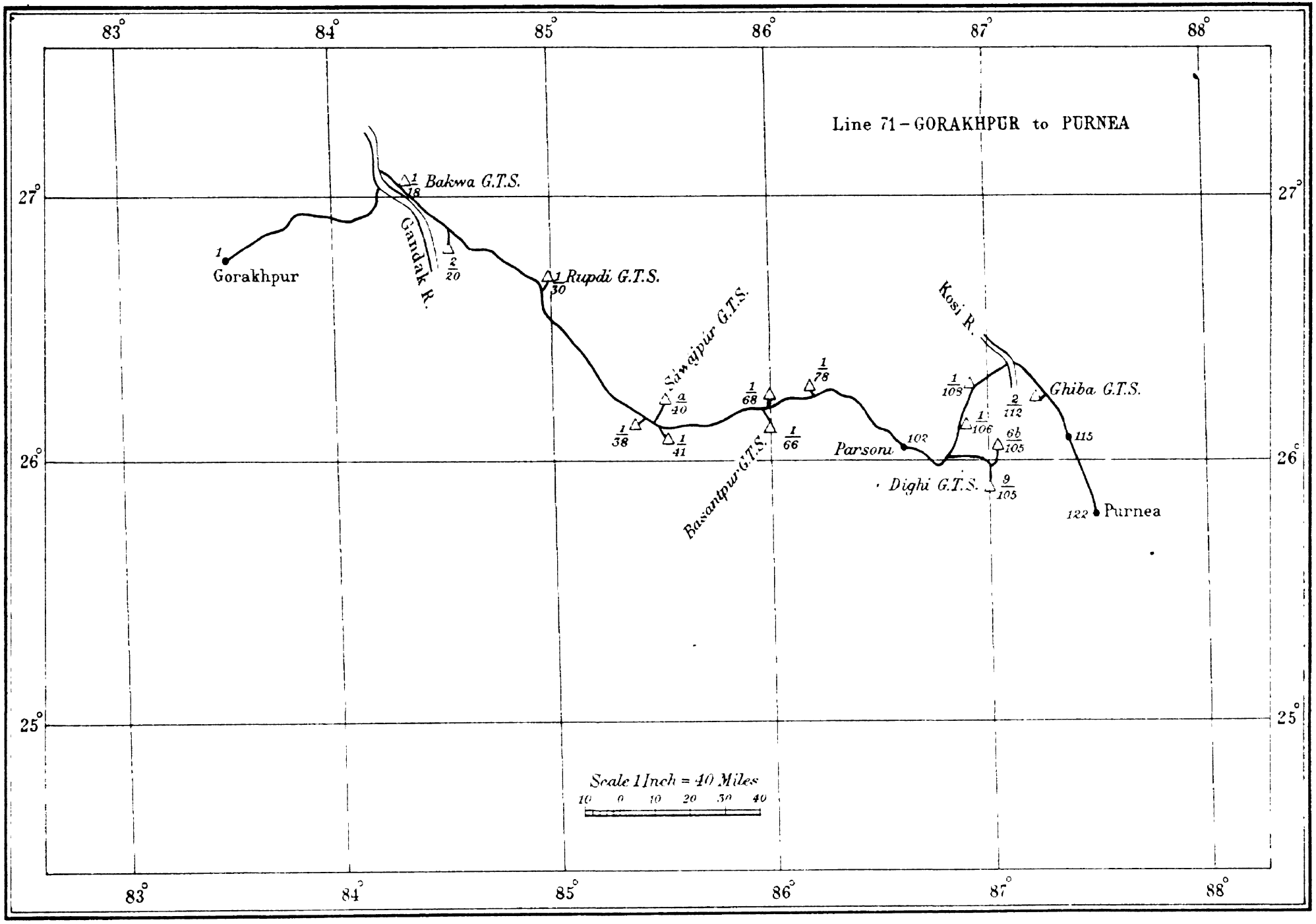

78°
79°
80°
27°
Line 66 – AGRA to CAWNPORE
Agra
1
8
1/10 Firozabad GTS
Shikohabad
6/14
19/27 Baragaon GTS
1/25
1/33
a/33
Ramnagar
a/49
1/49 Busungarh GTS
1/61 Kalsan GTS
1/62
70
1/82
Jagatpur
1/92
1/102
108
Cawnpore
Scale 1 Inch = 16 Miles
10 5 0 20

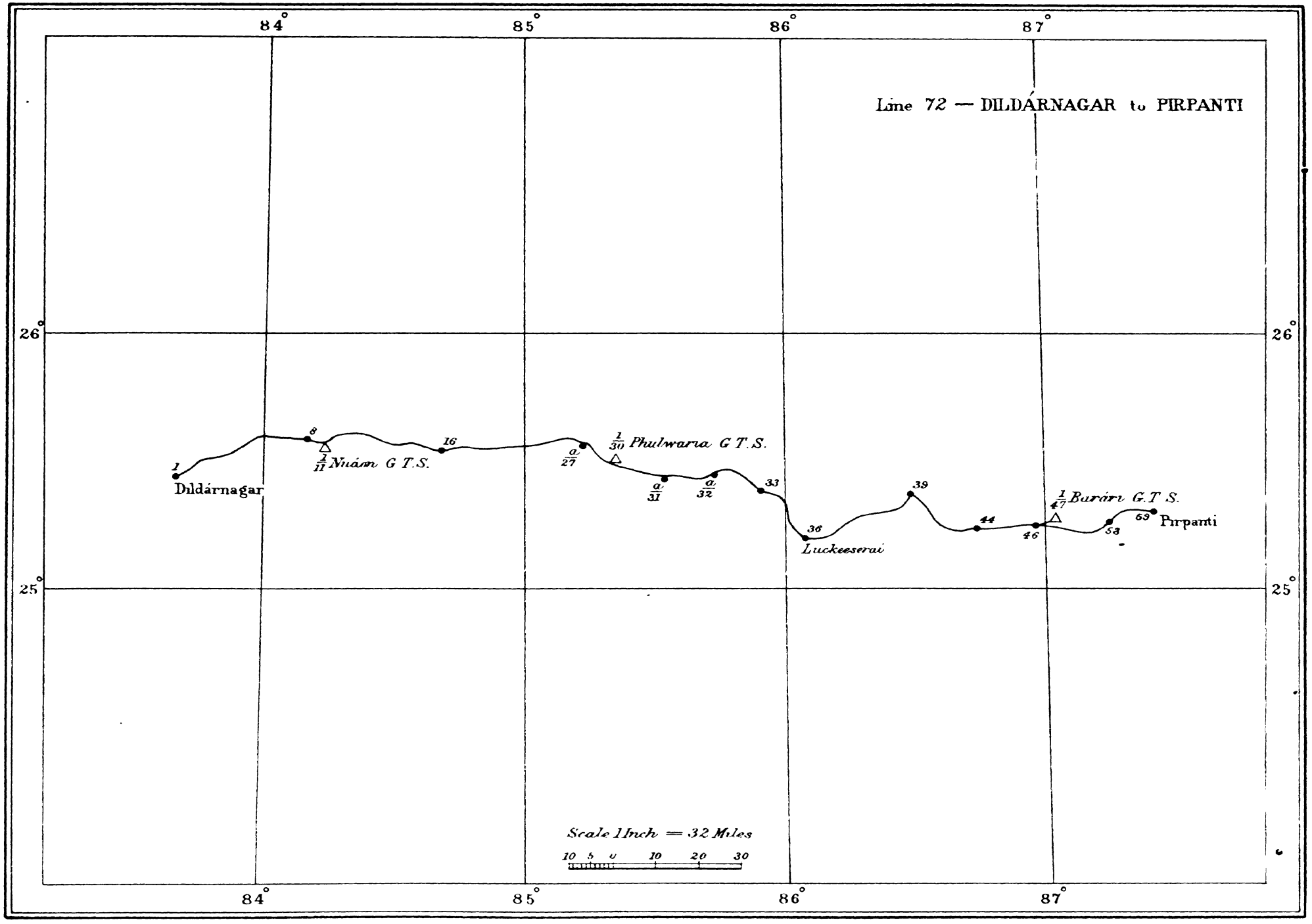

80°
81°
82°
26°
Line 67-CAWNPORE to ALLAHABAD
Cawnpore 1
1/9 Jajmau G TS
a/14
26
a/35 Malwa
39
Arrahpur a/48
Majhgaon G TS
1/55
2/63 Karra G TS
1/63
74
Ganges R
3a/90
1/83
3
Allahabad
d/90
Scale 1 Inch = 16 Miles
10 5 0 20


Line 68 — LUCKNOW to GORAKHPUR
81°
82°
83°
27°
26°
2/19 Utiamau G.T.S.
16
1/30 Turkaru G.T.S
1
Lucknow
2/77 Pesar G.T.S.
41 Malnpur
Fyzabad S.B.M
0/69
0/68
1/70
5/69 Rahet G.T.S
1/77 Kumeria G.T.S.
78
81
88
Jagesar
1/105
107
Gorakhpur
Scale 1 inch = 20 Miles
10 5 0 10 20


83°
84°
Line 69—GORAKHPUR to DILDARNAGAR
and its branch
Line 69A—GORAKHPUR to BHARMI
15 Bharmi G T S
5/13
Gharbaria G T S 1/7
27°
1/5
S B M 2/2 Gorakhpur
a/8
Rajgarh G T S 2/8
1/17
Gogra R
Balaragani G T S 2/20
26°
1/33
1/42
Kanaun G T S 1/51
Ghazipur S B M
a/71
14/85
Ganges R
Dildarnagar
75
1/74
Barhani G T S
Scale 1 Inch = 20 Miles
10 5 0 10 20


Line 70 - ALLAHABAD to DILDÁRNAGAR
26°
82°
83°
84°
25°
Ganges R.
Allahabad
1
5
Jumna R.
Ganeshpur G.T.S
1/18
28
1/31
Baripur G.T.S.
Ganges R
1/55 Patka Gerauli
Ganges R.
4/79
Benares S.B.M.
1/85 Hurdepur G.T.S.
87
Dildárnagar
88
10/51 Mirzapur S.B.M.
Scale 1 Inch - 16 Miles
10 5 0 10


Line 71 – GORAKHPUR to PURNEA
83°
84°
85°
86°
87°
88°
27°
26°
25°
1
Gorakhpur
1/78 Bakwa G.T.S.
Gandak R.
2/20
1/30 Rupdi G.T.S.
Sirnajpur G.T.S.
a/40
1/38
1/41
1/68
1/66
Basantpur G.T.S.
1/78
Parsoni
102
Kosi R.
1/108
1/106
2/112
6b/105
9/105
Dighi G.T.S.
Ghiba G.T.S.
115
122
Purnea
Scale 1 Inch = 40 Miles
10 0 10 20 30 40


Line 72 — DILDÁRNAGAR to PIRPANTI
84°
85°
86°
87°
26°
25°
1
Dildárnagar
8
1/11 Niám G.T.S.
16
0/27
1/30 Phulwaria G.T.S.
0/31
0/32
33
36
Luckeesarai
39
44
46
1/47 Burári G.T.S.
53
55
Pirpanti
Scale 1 Inch = 32 Miles
10 5 0 10 20 30

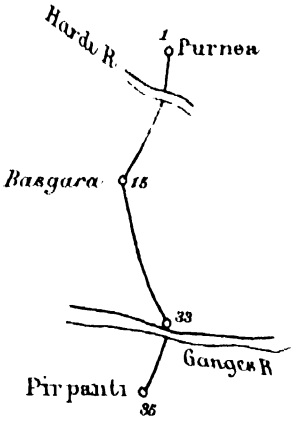
87° 88°

26° 26°

25° 25°

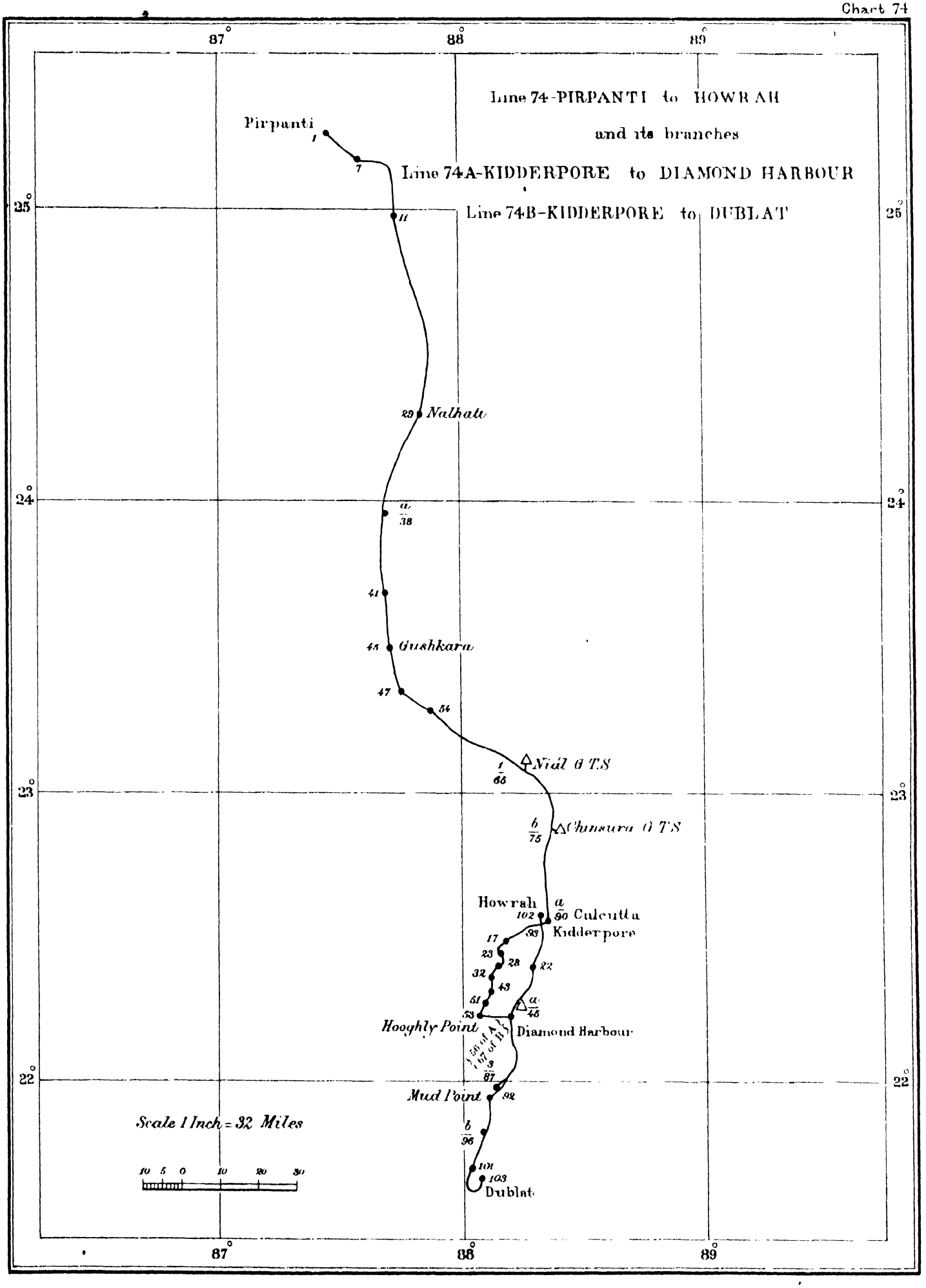
87° 88°

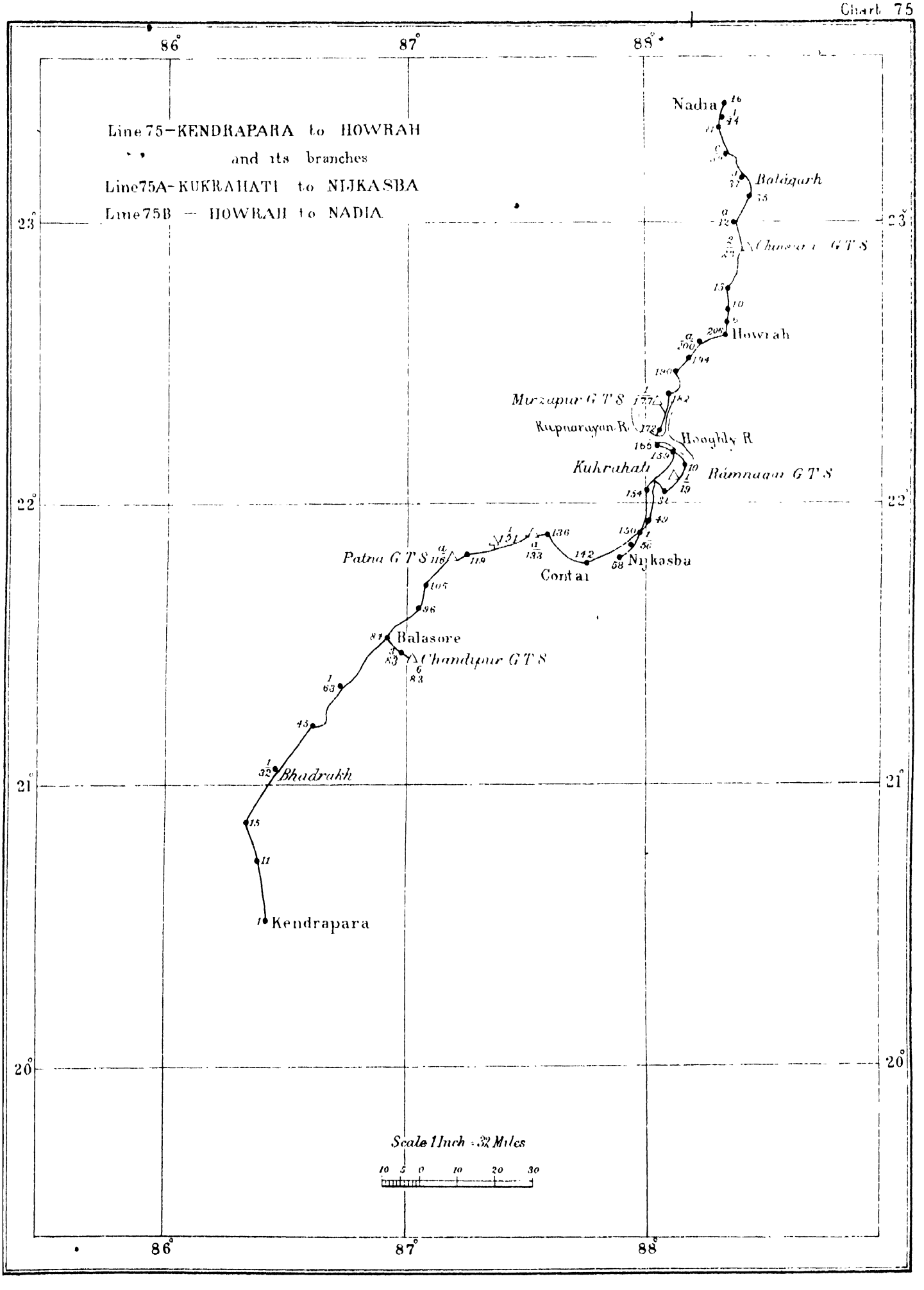
Line 73 PURNEA to PIRPANTI

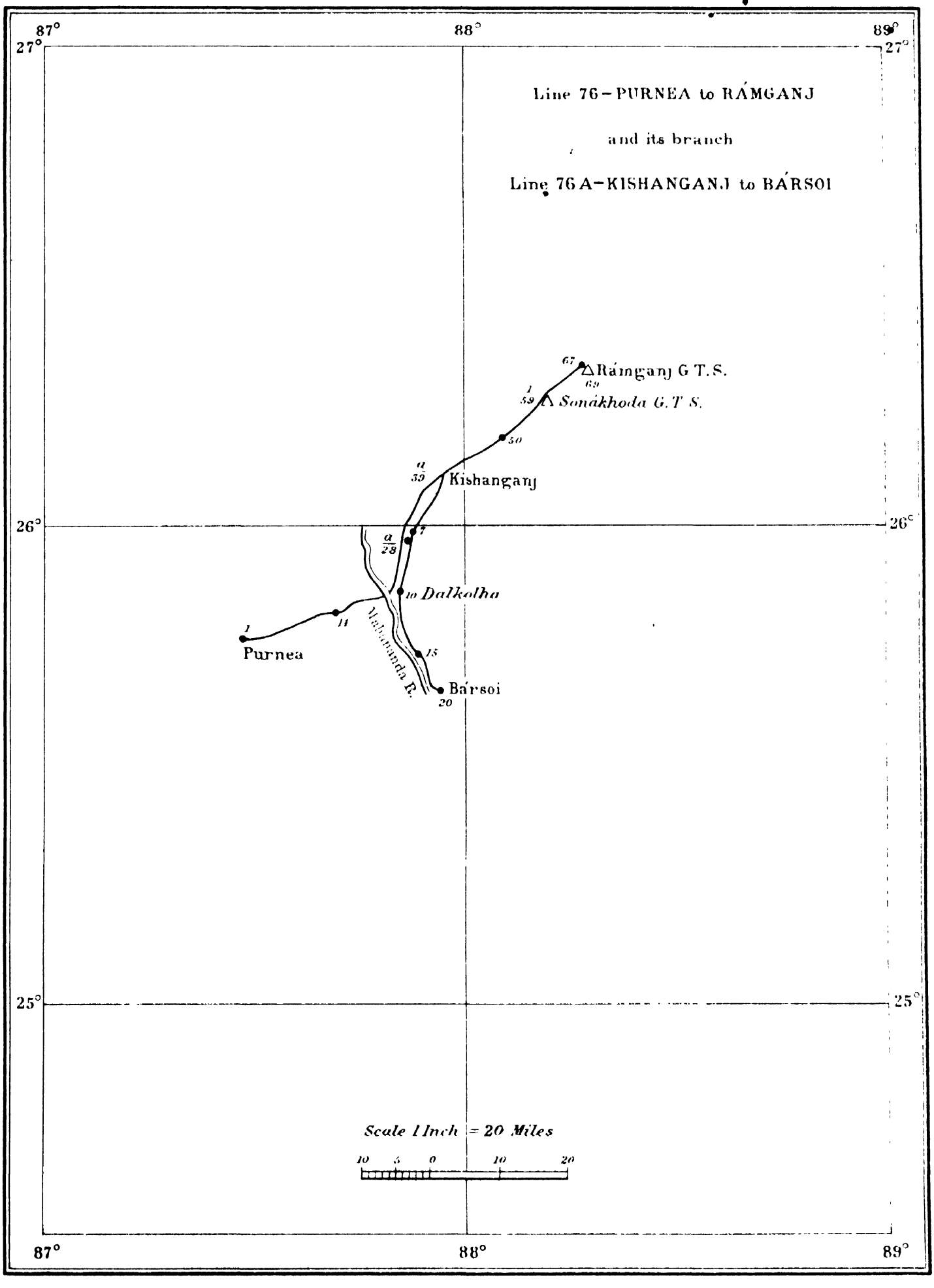


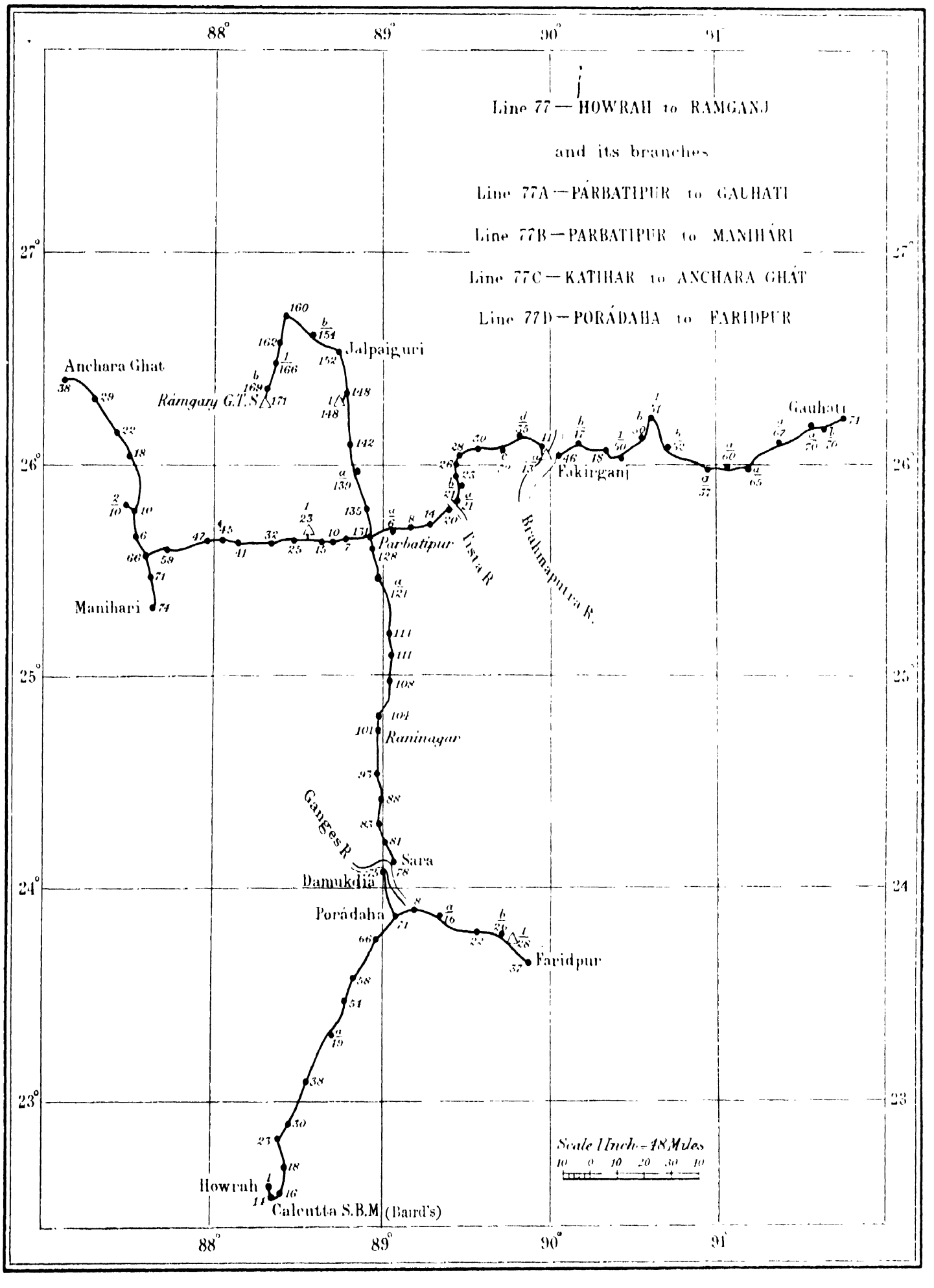
Scale 1 Inch 20 Miles

10 5 0 10 20


Line 74-PIRPANTI to HOWRAH
and its branches
Line 74A-KIDDERPORE to DIAMOND HARBOUR
Line 74B-KIDDERPORE to DUBLAT
87°
88°
89°
25°
24°
23°
22°
Pirpanti
1
7
11
29
Nalhati
a/38
41
45
Gushkara
47
54
1/66
Nial 0 TS
b/75
Chinsura 0 TS
Howrah
102
a/90
Calcutta
Kidderpore
97
17
23
28
22
32
43
51
53
a/45
Hooghly Point
Diamond Harbour
56 of A
57 of B
3
87
Mud Point
92
b/96
101
103
Dublat
Scale 1 Inch = 32 Miles
10 5 0 10 20 30


Line 75—KENDRAPARA to HOWRAH
" " and its branches
Line 75A—KUKRAHATI to NIJKASBA
Line 75B — HOWRAH to NADIA
86°
87°
88°
23°
22°
21°
20°
Nadia
Baligarh
Howrah
Hooghly R
Kukrahati
Nijkasba
Contai
Balasore
Bhadrakh
Kendrapara
Patna G T S
Chandipur G T S
Scale 1 Inch = 32 Miles
10 5 0 10 20 30


87°
88°
89°
27°
26°
25°
Line 76 – PURNEA to RÁMGANJ
and its branch
Line 76 A – KISHANGANJ to BÁRSOI
67
Ráiganj G.T.S.
69
1
59
Sonákhoda G.T.S.
50
a
39
Kishanganj
a
28
7
10 Dalkolha
1
11
Purnea
Mahánanda R.
15
Bársoi
20
Scale 1 Inch = 20 Miles
10
5
0
10
20


Line 77 — HOWRAH to RAMGANJ
and its branches
Line 77A — PÁRBATIPUR to GAUHATI
Line 77B — PARBATIPUR to MANIHÁRI
Line 77C — KATIHAR to ANCHARA GHÁT
Line 77D — PORÁDAHA to FARIDPUR
88°
89°
90°
91°
27°
26°
25°
24°
23°
Anchara Ghat
Rámgarj G.T.S.
Jalpaiguri
Manihari
Parbatipur
Fakirganj
Gauhati
Tista R.
Brahmapputra R.
Ganges R.
Raninagar
Sara
Damukdia
Porádaha
Faridpur
Howrah
Calcutta S.B.M. (Baird's)
Scale 1 Inch = 48 Miles
10 0 10 20 30 40