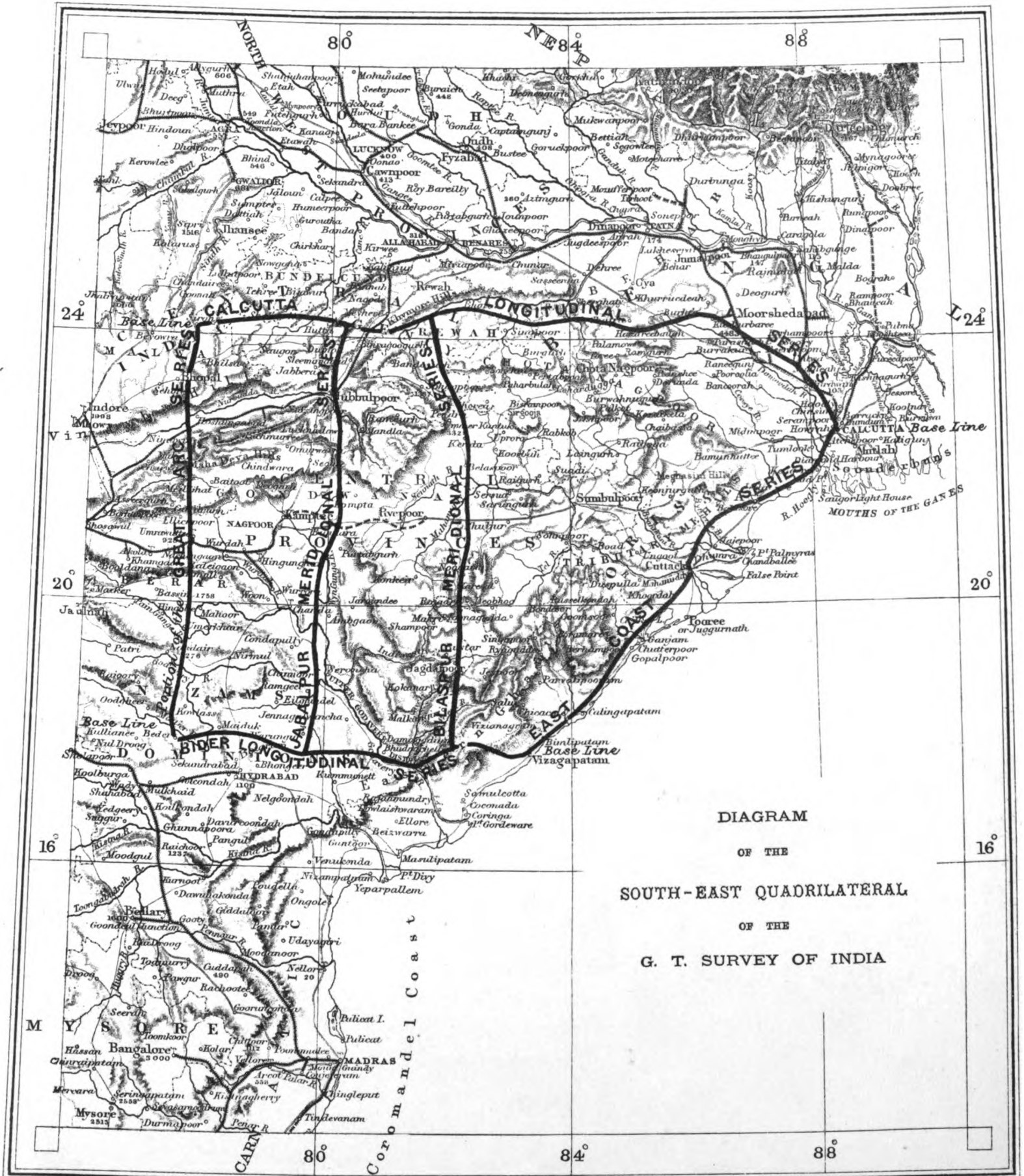


GREAT TRIGONOMETRICAL SURVEY OF INDIA



C. DYSON, PHOTO.

Photoincographed at the Office of the Trigonometrical Branch, Survey of India, Dehra Dún, August 1880.

C. G. OLLENBACH, KINGO.

SYNOPSIS OF THE RESULTS OF THE OPERATIONS OF
THE GREAT TRIGONOMETRICAL SURVEY OF INDIA

VOLUME X.

DESCRIPTIONS AND CO-ORDINATES
OF THE
PRINCIPAL AND SECONDARY STATIONS AND OTHER FIXED POINTS OF
THE BIDER LONGITUDINAL SERIES
OR SERIES D
OF THE
SOUTH-EAST QUADRILATERAL.

BY MAJOR-GENERAL J. T. WALKER, C.B., R.E., F.R.S., &c., &c.,
SURVEYOR GENERAL OF INDIA AND SUPERINTENDENT OF THE SURVEY
AND HIS ASSISTANTS.



Dehra Dun:

PRINTED AT THE OFFICE OF THE TRIGONOMETRICAL BRANCH, SURVEY OF INDIA.

M. J. O'CONNOR.

1880.

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- ~~~~~
- PAGE.
- IV—*D.* in margin *for* Season 1855-56 *read* Season 1859-60
- 7—*D.* Station XVII. Páñch Pandol H.S. NOTE.—It now appears that the old platform on the site of which this station was placed was that of Colonel Lambton's Chetupáli Hill Mark and not of his Páñch Pandol h.s. which is about 2 miles to the south.
- 31—*D.* in Triangle No. 363 *for* Pothkondá, LXIV *read* Pothkondá, XLIV
- 39—*D.* line 15 from top, col. 1 „ Mangalgaddá s. 288° 47' 36" „ Mangalgaddá s. 228° 47' 36"
- 51—*D.* Chetupáli Hill Mark. NOTE.—Since this Volume was passed through the press, it has been discovered that the site of this station is now occupied by Páñch Pandol H.S., and the data here given are therefore superseded by those of Páñch Pandol, page 60—*D.*
- 57—*D.* Since this Volume was passed through the press, it has been discovered that Kúknúr Hill Pagoda, fixed by Colonel Lambton's Triangulation, is identical with Maláná Hill Temple.

REFERENCES.

v

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The Principal Stations of this Survey are all situated on hills and consist of circular masonry pillars from 3 to 3½ feet in diameter for the large theodolites to rest on: each pillar is surrounded by a platform from 16 to 20 feet square for the observatory tent and observer: as these stations are invariably placed on the highest accessible points, the pillars rarely require to be more than 2 to 3 feet high.

The abbreviations employed in the text are as follows:—

h.s. denotes hill station (secondary)

s. „ station „

These abbreviations are placed only after stations where a theodolite has been set up and observations taken to surrounding points.

The name in italics in the alphabetical list, commencing on page 49—*D*, is that of the district in which the point is situated.

The latitudes and longitudes of all points shown on the charts at the end of this volume will be found in the text. This exhibits numerical values of triangles only to points of a superior class, to which alone lines are drawn: these lines are either continuous throughout, or dotted for half the length and continuous for the other half: the dots indicate that the bearing was not observed, and in such cases numerical values of azimuths are not given. For other points, difficult to identify or of comparatively less accuracy, numerical values of triangles or azimuths are not given.

The trigonometrical heights always refer to the upper mark-stone let into the pillar when the latter is solid; and to the upper surface of the pillar, on which the theodolite stood, when the pillar is perforated or the tower is hollow.

*November 1880.*

**J. B. N. HENNESSEY,**

*In charge of Computing Office.*



## PREFACE.

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The Bider Longitudinal Series constitutes the southern flank of that considerable portion of the Principal Triangulation of the Survey of India which is known as the South-East Quadrilateral, and embraces the area included between the Meridian of  $78^\circ$  on the west, the Coast line on the east and the Parallels of  $18^\circ$  and  $24^\circ$  on the south and north. With the exception of a comparatively short chain of triangles along the meridian of Sambalpur,  $84^\circ$ , the whole of the principal triangulation of this Quadrilateral was completed by the year 1873: the base-lines at its four corners, namely Sironj, Bider, Calcutta and Vizagapatam, on which the linear elements are dependent, had been completed several years previously. As it was known that many years would elapse before the remaining chain of triangles could be undertaken, and as the base-lines and the four external, and all the most important internal chains had been finished, the final reduction of this figure was commenced, without further delay, on the completion of that of the North-West Quadrilateral. The South Párasnáth and South Malúncha Meridional Series were purposely excluded from this reduction on account of their having been executed with inferior instruments, in the early days of the Survey; they were afterwards to be made consistent with the finally reduced triangulation; and this would also have to be done for the Sambalpur Meridional Series, after its completion, whenever that might be. The general principles of the reduction, and the procedure followed in carrying it out, will be explained in Volume II of the *Account of the Operations, &c.*, which is now in the press, and full details of the whole of the principal triangulation at present included in the Quadrilateral, will be found in a volume, to be published hereafter, which will probably be Volume VI of the *Account of the Operations, &c.*

As however the entire contents of the volumes of the principal triangulation will not be needed by geographers and surveyors, and moreover as they give no details of the secondary triangulation—which is of considerable value for local requirements—it is obviously desirable that Synopses of the final results of the whole of the operations, including the secondary as well as the principal triangulations, should be published for general use, in such a form as to be most suitable for convenience of reference. This has already been done for the series forming the North-West Quadrilateral, as follow:—

- |                                                                  |   |                    |
|------------------------------------------------------------------|---|--------------------|
| I. Great Indus Series.                                           | } | already published. |
| II. Great Arc, Section $24^\circ$ to $30^\circ$ .                |   |                    |
| III. Karáchi Longitudinal Series.                                |   |                    |
| IV. Gurhágárh Meridional Series.                                 |   |                    |
| V. Rahún Meridional Series.                                      |   |                    |
| VI. Jogi-Tíla and Sutelj Series.                                 |   |                    |
| VII. North-West Himalaya Series, nearly ready for publication.   |   |                    |
| And for two of the series of the South-East Quadrilateral, viz., |   |                    |
| VIII. Great Arc, Section $18^\circ$ to $24^\circ$ .              | } | already published. |
| IX. Jabalpur Meridional Series.                                  |   |                    |



The present is the 10th Synoptical Volume, and it gives the results of the whole of the triangulation, both the principal, which was executed with great theodolites having azimuthal circles of 24 to 36 inches in diameter, read by 5 micrometer microscopes,—and the secondary, which was executed chiefly with smaller theodolites, having circles of 7 to 14 inches in diameter, read by verniers.

By the process of reduction which has been followed the principal triangulation has been rendered perfectly consistent, both internally and externally; internally, so that if in any one of the several polygonal figures of which the chains may be composed, calculations are carried from one station to another in every possible direction, the same results will be inevitably deduced; and externally, so that the values of the co-ordinates of any station, when computed from the given co-ordinates of any other station, with the final linear and angular data, will be the same, whether the calculation is carried directly through the series, or circuitously through any of the other chains of triangles comprising the South-East Quadrilateral. All secondary triangulations which emanate from one side of the principal series and close on another side thereof, or on a contiguous series, have also been made consistent throughout.

As regards the general arrangement of this volume, it is necessary to point out that the several sections have been prepared and printed at different times, and that the work has extended over several years. The Introduction and the Names and Descriptions of the Principal Stations, were originally prepared for Volume VI of the *Account of the Operations, &c.*, and when a sufficient number of copies had been printed for that work, additional copies were struck off for the present synopsis. The Names and Descriptions of the Principal Stations, pages 1—*D.* to 12—*D.*, were printed first of all; this was done in the year 1875, after a general programme had been drawn up for the reduction of the South-East Quadrilateral: there was then a long pause in the printing, while the reduction of the principal triangulation was being completed. Finally the secondary triangulation had to be adjusted in accordance with the principal, and then the printing of this volume was resumed.

The data given in this volume are the following:—

*First* (page 1—*D.*), an alphabetical list of the names of the principal stations, showing the numbers assigned to them, which were employed in the reductions as being more convenient to use than names.

*Second* (page 2—*D.*), a numerical list giving the names corresponding to the numbers.

*Third* (page 3—*D.*), descriptions of the principal stations—of their structure and positions—as taken from the original records of the observations, and supplemented by recent information received from the civil authorities to whose charge the stations have been committed.

*Fourth* (page 13—*D.*), the angles and sides of the principal triangles, numbered and arranged in order from west to east.

*Fifth* (page 19—*D.*), the angles and sides of certain secondary triangles. The numbering is here made consecutive to that of the principal triangles, in order to facilitate references which are made in other sections to the place where the length of a side is to be found.

*Sixth* (page 37—*D.*), the azimuths of surrounding stations and points, at principal, principal-auxiliary† and secondary stations, the latter arranged in alphabetical order.

*Seventh* (page 49—*D.*), the co-ordinates and descriptions of all stations and points arranged in alphabetical order.

The heights depend on those of the stations of Bâchâpâli and Dúdâlâ, of the Great Arc, Section 18° to 24°, on the west,—and the stations of Márki and Gumrú, of the Coast Series, on the east. The former have been determined differentially between those of two stations at the northern extremity of the Great Arc, Section 18° to 24°, near the Sironj Base-line, viz., Kâmkhera 1,780·1 feet and Bhaorâsa 1,387·3 feet, which values rest on the line of Spirit Levels carried from the mean sea level at Karâchi to Sironj, and are given at pages 134 and 135 of the *Tables*

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† NOTE.—By a principal-auxiliary station is meant a station auxiliary to a principal station at which observations were taken to fix unvisited points.

of Heights in Sind, the Punjab, &c., Calcutta 1863, and the height of the West End of the Bider Base-line, at the southern extremity of the Series, deduced as follows:—

|                                                                                                                                |               |
|--------------------------------------------------------------------------------------------------------------------------------|---------------|
| (1). From Sironj, in terms of Karáchi sea level, through the Great Arc, ... ..                                                 | 1976·3 feet   |
| (2). From ditto ditto through the Calcutta Longitudinal, ... ..                                                                | 1983·7 „      |
| the Jabalpur Meridional and the Bider Longitudinal, ... ..                                                                     |               |
| (3). From the mean sea level at Vizagapatam, through the Madras Coast and Meridional Series and the Bider Longitudinal, ... .. | 1971·4 „      |
| (4). From the mean sea level at Bombay, through the Bombay Longitudinal Series, ... ..                                         | 1989·5 „      |
|                                                                                                                                | —————         |
|                                                                                                                                | Mean 1980·2 „ |
|                                                                                                                                | —————         |

The heights of Márkí and Gumrú were obtained differentially between those of Chandípúr and Nilgiri of the East Coast Series, on the north, and S. End of the Vizagapatam Base-line on the south. The two former were connected trigonometrically in 1854 with the mean sea level at Balarámgarhí Tide Point station and the latter, by a single line of Spirit Levels executed in 1863, with the Vizagapatam Tide Point station. The heights of these two Tide Point stations were determined to be 14·98 and 2·47 feet respectively above mean sea level.

All the heights of the Bider Longitudinal Series were determined differentially, by the method of reciprocal vertical angles, back and forward observations being taken at each of the principal stations, at the time of minimum refraction. The error generated in the triangulation by computing from the western to the eastern extremity, and which has now been dispersed, was 7·9 feet.

It has not been considered necessary to publish the whole of the details of the secondary triangulation. The sides and angles of 432 triangles, which were selected as most likely to be of general use, and the azimuths of all these sides, have been given; but for a number of other points the co-ordinates only have been given. With the aid of Nos. X, XI, and XII of the “*Auxiliary Tables to facilitate calculations of the Survey Department of India*”, Dehra Doon 1868, local surveyors, working on a system of rectangular co-ordinates, can readily transform the spheroidal co-ordinates here given to suit their own requirements.

The longitudes depend on an astronomically determined value of the longitude of the Madras Observatory, which was deduced, about the year 1815, as  $80^{\circ} 17' 21''$ . There has long been reason to believe that this value was about 3' too great; but, pending the final determination of the longitude of the Madras Observatory, it has not been considered desirable to alter it, and therefore it has been maintained up to the present time. An electro-telegraphic determination of the longitude of Madras from Greenwich, which was commenced by that of the difference between Suez and Greenwich in 1874, under the superintendence of the Astronomer Royal, was completed in 1877 by the determination of the difference between Suez and Madras, by Captains Campbell and Heaviside, as a part of the operations of this Survey. The combined result places the Observatory at Madras in long.  $5^{\text{h}} 20^{\text{m}} 59^{\text{s}} \cdot 42 = 80^{\circ} 14' 51'' \cdot 30$ . Thus the following precept may be accepted with considerable confidence,—

**All the values of longitude in this volume require a constant correction,  
probably of  $-2' 30''$ .**

As regards the orthography of Indian names in the present volume. In the early portion, consisting of Alphabetical and Numerical lists and Descriptions of Principal Stations, printed in 1875, the orthography of the Central Provinces Gazetteer was chiefly followed for such names as occur therein and all other names were spelt in keeping with the system adopted in it. Then there was a pause of about one and a half years in the printing, during which several of the provincial lists of spellings, constructed under the orders of the Government of India, were received. Although these lists have supplied very few names occurring in this volume yet in following their spirit some diversities of spelling have occurred, as in the terminals *pur* and *abad* which are printed both with and without their vowels accented. It is however obvious that, notwithstanding such departures from a standard spelling, all the

names should be recognizable. As a general rule the pronunciations of the vowels are as follow:—*a* has a variable sound as in *woman*, *rural*, *paltry*; *á* as in *tartan*; *i* as in *bit*; *í* as in *ravine*; *u* as in *bull*; *ú* as in *rural*; *o* as in *note*; *e* as *a* in *say*; *au* as *ou* in *cloud*; *ai* as *i* in *ride*.

The Charts accompanying this volume show the whole of the principal stations and triangulation, the positions of all the secondary points and the portions of the secondary triangulations of which full details of the angles, sides and azimuths are given. With the aid of these Charts it is hoped that little difficulty will be met with in finding out any of the data contained in the volume which may be required.

The general arrangement of this volume and the preparation of the data which it contains have been the work, at different times, of Mr. Hennessey, M. A., F.R.S., Major Herschel, R.E., F.R.S., and Mr. Cole, M. A. Mr. Cole moreover supervised the Simultaneous Reduction of the South-East Quadrilateral of which this Series forms a portion, and he also wrote the Introduction to this volume. Great pains have been taken to secure the utmost accuracy in preparing the data and passing them through the press.

CALCUTTA, }  
December 1878. }

J. T. WALKER, COLONEL, R.E.,  
*Surveyor General and Superintendent of the  
Great Trigonometrical Survey of India.*



**BIDER LONGITUDINAL SERIES.**



## BIDER LONGITUDINAL SERIES.

### INTRODUCTION.

The Bider Longitudinal Series as originally executed consisted of two sections, the first emanating from the side Báchápálí to Dúdálá at the southern end of that section of the Great Arc Meridional Series which lies between the parallels of  $18^{\circ}$  and  $24^{\circ}$ , and closing on the side Yarábalí to Vánákondá of the Katájpúr-Bolíkondá double polygon, which at the time was considered to form a part of the Jabalpur Meridional Series; the second section commencing from the side Yalápúram to Pánc̄h Pandol of the same double polygon and closing on the side Káp to Dhár of the Nalákondá-Pothkondá double polygon of the East Coast Series.

In the final reduction of the triangulation it became necessary, for the sake of symmetry and convenience, to include both these double polygons in the Bider Longitudinal Series: and as the latter now stands it forms an unbroken link between the two base-line figures of Bider and Vizagapatam.

The series, until it crosses the Godávári, lies wholly in the Nizám's dominions; it then enters the Upper Godávári district of the Central Provinces; after which it enters the Madras Presidency and falls partly in the Jaipur state and partly in the Godávári district, and terminates in the Vizagapatam district.

It traverses the triangulation executed under Lieutenant Colonel Lambton during the years 1814 to 1821 in the Nizám's dominions; and a few of his stations were identified and used: thus a connection was formed between his work and the modern operations. This has been taken advantage of, and such of Colonel Lambton's stations as fall in the neighbourhood of the Bider Longitudinal Series and are likely to be in existence, are now given among the secondary points of this series, their elements having been reduced to modern terms. The principal stations of the Bider Series, which have been recognised as identical with those of Colonel Lambton's survey, are Yarábalí, Bolíkondá, Kándágatlá, Katájpúr, Rámگیر, Partábgiri and Yalápúram. The station of Pánc̄h Pandol, which was at first supposed to be identical with Colonel Lambton's station of the same name, has since been found to be differently situated.

The portion of Colonel Lambton's triangulation through which the Bider Longitudinal Series passes was of that part of the Nizám's dominions which lay between the Kistna and the Godávári rivers, taking in the eastern boundary and extending westward as far as Ráichur, Bider and Nandair. The western part of the survey under Colonel Lambton's immediate direction was commenced in 1814 and 1815, the operations on the Great Arc being then extended from the Kistna river as far north as Dámargída in latitude  $18^{\circ} 3'$ , where a base-line was measured and a set of Astronomical observations made for determining the latitude of the northern extremity of the section of the Great Arc, between the station of Namthabad near Gooty and Dámargída.

Colonel Lambton writes :—“ In 1816 and 1817 a party was sent out and the survey in these two seasons was extended from Nandair to Nirmal, taking in the country to the south of the Godávári, nearly half way down to Hyderabad; and in the following year, 1818, I took the field myself and the operations were brought southerly to meet those which had been extended easterly in 1814 as far as Karnúl; so that the country between the Kistna and Godávári and as far east as Hyderabad was completed.

“ The districts to the eastward were begun in 1819 under the direction of Captain Everest, my Chief Assistant, and the operations were stretched out to the eastern boundary of the Nizám’s territories and southerly to the Kistna, and it was intended to continue them northerly to the Godávári and then follow the course of that river to the westward as far as Nirmal; but such was the dreadful sickness which visited the party that they were obliged to make the best of their way to Hyderabad before they had accomplished half of what was intended. In 1820 another attempt was made to commence where they had left off the preceding year; but Captain Everest was again taken ill, and eventually went to the Cape of Good Hope for his health. The two sub-assistants however continued with the party in the field till they extended the triangles as far north as Nirmal, so as to connect with the former points; and before the end of the season they were brought considerably to the southward.

“ There now remained a tract extending to the south of Hyderabad and to the eastward till joining with Captain Everest’s positions. In 1820 and 1821 a party was sent into the Guntur district in order to take up our old positions in that and the Ceded Districts as far as Karnúl. Thence returning to the northward the whole unfinished part lying south-east of Hyderabad was surveyed. These operations were conducted in a very masterly manner by my first Sub-Assistant, Mr. Joshua De Penning.”

In giving an account of the principal triangulation of the Bider Longitudinal Series in the order it was executed, it is necessary to notice in order

### (1.) *The Pothkondá-Nalákondá Double Polygon.*

This triangulation was laid out by Mr. W. C. Rossenrode in connection with the East Coast Series during the season 1855-56; but the principal work of the series progressed so slowly, chiefly from the unhealthiness of the country through which it lay, that it was not till the season 1859-60 that final observations could be made.

Major A. Strange was then in charge of the party. As he proceeded with the triangulation he found that some change was required in the position of two of Mr. Rossenrode’s stations. One of these called Pothbili had to be superseded by Márkí, and this necessitated substituting Jarákondá for Mariparvatam. Another station, Tantrakondá, had to give place to Pánchdarlá, because the ray between it and Nalákondá was obstructed.

Nothing particularly worthy of note occurred during the execution of this double polygon, except that the early setting in of the monsoon considerably retarded operations, although it was not preceded by the sickness which usually ushers it in. The double polygon was completed and the season’s work concluded at Sánjib H.S. on the 25th June.

Season 1855-56

#### PERSONNEL.

Major A. Strange, Astronomical Assistant.  
Mr. J. Ellison, 2nd Class Sub-Assistant.

(2.) *The Katájpúr-Bolíkondá Double Polygon.*

This triangulation was executed by Mr. Shelverton during the field season of 1867-68, when carrying on the Jabalpur Meridional Series.

Season 1867-68.

## PERSONNEL.

G. H. W. Shelverton, Esq., Assistant Surveyor, 1st Grade.

Mr. M. C. Hickie, Civil Assistant 4th Grade.

" F. Bell, Sub-Assistant 1st Grade.

" E. P. Wrixon, Probationary Sub-Assistant.

He commenced observations at Partábgiri on the 21st January 1868. This station is on the north bank of the Godávári and near the civil station of Sironcha. From Partábgiri he proceeded through dense forest *viá* Mantáni to Rámگیر. Mantáni is a settlement of Brahmans who hold their lands rent free from the Hyderabad Government, and who are reputed to possess great wealth, collected principally during begging tours: they are said to wander long distances from their homes, to fairs and places of pilgrimage, and to return with a good harvest. Leaving Rámگیر for Yarábalí the forest was found to cease and the country appeared open, dotted with palms, well cultivated and abundantly supplied with water. Some fine tanks were met with along the route.

The Yarábalí range contains an inexhaustible supply of iron. The hill on which the station is situated is called by the Tilingies "Inamparwat," and by the Muhammadans of the country "Lohe-ká-pahár", both meaning "the hill of iron." The ore is apparently rich in metal. The hill is said at times to have a luminous appearance: perhaps under certain electric conditions of the atmosphere this is possible. The rocks are of a rusty red color; but when chipped the fracture glistens like iron pyrites: the ore is only worked for local wants. The pillar that had been built at Yarábalí during the previous field season had been struck by lightning: the stones composing the cairn raised over it had been scattered and its upper surface had been destroyed, and the upper mark-stone was found some distance from the platform. The gross superstition of the people was demonstrated by their having begun to worship the pillar, and deck it with garlands of flowers. From Yarábalí to Katájpúr the country was open; but though water was plentiful, cultivation was scanty. Between Katájpúr and the Godávári river the country is densely wooded. At Meherla on the route to Yalápúram, there is a lake about four miles long, dammed by a low sand-stone range, through which it has a small outlet. A good cart track runs through the forest to the works on the Godávári river. At Muling there are remains of a fort, and traces of former prosperity. From Yalápúram to Pánc Pandol it was necessary to adopt a most circuitous route through a thinly inhabited country entirely destitute of cart tracks. The men of the establishment suffered a good deal from dysentery in this locality. "Banjás" graze their cattle in these forest lands as long as water is abundant. Later in the season they emigrate with their herds to the banks of the Godávári river. The Gonds who inhabit these forests are very shy of strangers; they deserted their villages when they heard of the approach of the party; but after a little intercourse they became very friendly. From Pánc Pandol the party marched to Inkúrtí, near the foot of Bolíkondá H.S., emerging from the forest at Gurur, a large village on the banks of a streamlet whose source is in the Pakal lake, an extensive piece of water. At Bolíkondá a fair is held annually in honor of the god Ramaswami, whose image carved in relief in stone, is to be seen in a rude enclosure open to the weather. The priests declare that the god will not abide under shelter, and he manifests this by destroying with fire a thatched roof that is placed over him during the fair. This miracle is performed without fail and is a great attraction. The top of the Bolíkondá hill is fortified, and the approaches to it are very steep. There are some caves within the walls, and plenty of good water, the accumulation of rain-falls, in a natural cistern.

The forts and fortifications to be met with in this portion of the Hyderabad territory are attributed by the inhabitants to the Tilingána Kings, who ruled the country prior to its conquest by the Muhammadans, and who had left behind them traces of a high state of civilization.



(8.) *The Western Section of the Bider Series.*

In July 1868 Colonel J. T. Walker, Superintendent of the Great Trigonometrical Survey, issued instructions for commencing the Bider Longitudinal Series in two sections, the western connecting the Great Arc with the Jabalpur Meridional Series and the eastern connecting the Jabalpur Series with the East Coast Series.

Mr Shelverton, who had just brought the triangulation on the meridian of Jubbulpore to a conclusion, was directed to undertake this new series. He was instructed, if possible, to originate the series from the stations of Báchápáli and Dúdálá of the Bider Base-line figure; but considerable difficulty was anticipated, because it was believed that the view to the east from Dúdálá was very limited, an idea which received confirmation from the fact that Colonel Lambton did not extend his triangulation eastwards from Dúdálá, but from a point called Maidkondá about  $1\frac{1}{2}$  miles southeast. It was possible, however, that Colonel Lambton's operations were influenced by the circumstance that line cutting was never attempted in his days, and consequently the triangulation was restricted to positions of sufficient elevation to overlook the mass of forest and jungle with which the surface of the country is covered; and this may be the reason why a belt of country about 30 miles broad, extending on the meridian of  $78\frac{1}{4}^{\circ}$  for about half a degree on both sides of the parallel of  $18^{\circ}$ , was not triangulated by Colonel Lambton.

On receiving his instructions Mr. Shelverton at once put himself in communication with the Resident at the Court of His Highness the Nizám of Hyderabad, within whose territory the whole of the western section of the triangulation was situated, in order that the authorities might be informed where his work lay. His Highness obligingly directed that one of the Court Officials, "Mansabdár" Ghafúr Beg, with a suitable escort, should await his arrival at Ashwaraupetta, on the borders of the Hyderabad State, about 36 miles to the west by north of Rájámandri. Indeed throughout the whole season's operations Mr. Shelverton expresses himself as being much indebted to the Government of His Highness for the valuable help afforded him.

Season 1868-69.

## PERSONNEL.

G. H. W. Shelverton, Esq., Depy. Supdt. 3d Grade.  
Mr. M. C. Hickie, Surveyor 3rd Grade.  
" F. Bell, Surveyor 4th Grade.  
" E. P. Wrixon, Prob. Asst. Surveyor.

In marching to their ground from their recess quarters at Waltair, the party adopted the shortest route, keeping along the Deccan road for 11 days and then striking across country for Ashwaraupetta. From this place Mr. Hickie was detached to proceed to Báchápáli H.S. to examine that station and Dúdálá, and to commence the selection of stations eastwards. From Ashwaraupetta the rest of the party marched to Kallúr, a distance of 50 miles. The road, a good cart track, lay through dense forest; the villages here were small and the cultivation scanty. From Kallúr to Súbler, 60 miles, there was extensive cultivation, the villages were large and water was abundantly stored up in fine tanks. From Súbler to Itúr, 40 miles, the country was barren; the tanks and wells were very nearly dry in December, and the people had begun migrating: this is a portion of the Nalgondá táluk of which the chronic condition borders on famine. They have a saying in the country that when Nalgondá grows crops the Deccan rejoices. From Itúr onwards the country, excepting the hilly portion, was free from jungle, had yielded an average harvest, and the laboring classes looked well fed, and were well clad. From Itúr the party reached Jídkal in two marches. Jídkal is a place where a great fair is held on the full of the moon in the month "Kártik" and which lasts for 15 days. The attraction is a temple sacred to "Mahádeo," built on a granite rock outside the village and ministered to by a small colony of Brahmans. These

priests knew there was to be a partial eclipse of the moon on the 28th January 1869, but did not assume great learning: their source of information was a Telegu Almanac, published in Madras by one Siriram "Siddanti," which they produced.

From Jídkal Mr. Shelverton marched to Kúlpák, a large village, which must have been of some importance once, as it is styled "Dakhin Kási" or the Kási of the south, in contradistinction to Benares, the holy city of the north, of which the ancient name is Kási. There are 18 "mats" or temples of "Someswar," (Brahm Mahádeo) in the village itself, and tradition runs that ten million "Lings" are to be found in the neighbourhood within a radius of ten miles. There are still many temples and monoliths to be seen about the village lands. From Kúlpák he proceeded to Chinchalkot and began his reconnaissance of the country.

In the meantime Mr. Hickie had visited Báchápálí H.S. where he rebuilt the pillar over the lower mark and placed a mark-stone in its surface at the same height as that of 1838 had been, which had disappeared. He had then examined Dúdálá H.S. which he found intact. After which he reconnoitered the country eastwards for stations. At Dúdálá he met with no difficulties: but from Báchápálí only two hills, which were suited for extending the triangulation eastwards, were visible, *viz.*, Botmilí and Narsulá; and his next two stations, Maláná and Pirmulo, were the only hills visible from Chinchalkot, which Mr. Shelverton had selected as the central station of a polygon. From Pirmulo and Maláná, the only part of the Chinchalkot range which can be seen is a rock 28 feet high, and this was selected for the station.

Mr. Shelverton and Mr. Hickie met at Pirmulo; after which Mr. Shelverton himself selected the station of Borá Gattú, as he found Mr. Hickie's four new stations were not all mutually visible. He now detached Mr. Hickie to select the flank stations of the Chinchalkot polygon, which he was soon able to do, the country being favourable, and to build the stations of that figure and prepare them for observations while he himself commenced the building of the stations towards the Great Arc.

Final observations were commenced in January, and during that month observations were completed at the five principal stations of Dúdálá, Báchápálí, Botmilí, Narsulá and Borá Gattú. The next month saw the completion of the observations at Maláná, Pirmulo, Maisamá, Chinchalkot, Anáságar and Yarábalí, leaving only the station of Vánáková to be observed at in March, and a set of circumpolar star observations to be taken.

While Mr. Shelverton was occupied with the principal observations, Mr. Hickie was employed on minor triangulation along the principal sides and in fixing the position of villages near principal stations.

Mr. Bell was engaged on some minor details connected with the Jabalpur Meridional Series during the greater part of the field season.

The country traversed by the series this season seems to have been chiefly remarkable for its number of forts. The most formidable were Khammammet, Bhonágir, Ailgandal Mallángur, Warangal and Medak. The first of these is built on an isolated granite hillock that rises about 80 feet above the level of the country, and the town of the same name surrounds the hillock. The latter looks like one entire block of stone and is steep on all sides save at the entrance to the fort. There was water within the walls in a deep cleft of the rock. No guns were in position; but some that were lying on the ramparts would appear to have been cast in the year 1180 of the Hegira, about 112 years ago, by order of the Nawábs Rukan-ud-Daulah, and Zaffar-ud-Daulah, in the foundry of Muhammad Kásim. The walls on the hill top shewed signs of decay; but the works at the entrance were in excellent preservation, very massive and strong.

Bhonágir fort is situated on a rather high granite hill; the western face only, which is the weakest, is strongly fortified. Mr. Hickie wished to visit the hill but the garrison refused to admit him. On his representing the matter to the Government of His Highness the Nizám, permission was given him to enter the fort conditionally on his building no trigonometrical station on the hill or setting up any kind of signal.

Warangal fort is situated in the plain; it has an inner wall of solid masonry, and an outer one of earth of great thickness, both surrounded by broad ditches. There were several breaches in the inner wall. Within the fort is a watch-tower built on a small hillock to overlook the walls.

Mallángur fort is built on a steep granite hill at the foot of which the city of the same name has sprung up. The side of the hill facing the town is strongly fortified, and the hill top is crowned with an inner and outer wall: the neighbouring heights are also fortified, and cover the approaches to the fort.

Ailgandal fort is on an isolated hill at the northern foot of which is the town of the same name. The hill is said to be girdled from top to bottom by eight walls. The garrison would not permit Mr. Bell to enter the fort. The hill is crowned by a mosque.

Medak fort is on an isolated granite hill which also appears to be girdled with walls and bastions from foot to summit, and is surmounted by a mosque with four tall minarets. All these forts are said to be amply supplied with water.

No valuable timber was seen, though the hill ranges were covered with forest dense enough to afford cover for tigers, which were numerous at all the hill stations.

In the Táluks of Bider and Medak sugar-cane was rather extensively cultivated, and crystallized sugar of good quality manufactured. Iron ore was plentiful at Botmílí, Yarábálí and Anáságar: at the first two stations it lay near the surface, and the excavations seldom exceeded a depth of six feet; but at Anáságar they attained a greater depth. Mr. Shelverton was there shewn a shaft which had tumbled in, killing all the diggers variously reported as from 16 to 100 in number.

Great blocks of stone laid bare by the washing away of the soil are to be found on most of the hill tops of the granite ranges of the country: some of these blocks are 30 feet high and a few, of great size also, seem perilously balanced on the top of others.

#### (4.) *The Eastern Section of the Bider Series.*

Before entering the field next season the party was deprived of the services of Mr.

*Season 1869-70.*

##### PERSONNEL

G. H. W. Shelverton, Esq., Deputy Supt. 3rd Grade.  
Mr. F. Bell, Surveyor 4th Grade.  
„ E. P. Wrixon, Assistant Surveyor 3rd Grade.

Hickie. His health completely broke down, and it became necessary for him to seek another and a healthier climate; but the disease from which he was suffering had taken too great a hold on him to be arrested, and he died at Mussooree in July 1870. Thus the party was reduced to two Assistants, Messrs. Bell and Wrixon.

The party did not leave Waltair until the 18th December 1869, as the monsoon had been protracted till the end of November and the country was notoriously unhealthy; but this precaution proved of little avail. Mr. Shelverton in a letter to the Superintendent, dated Camp, Pálunchá, 6th February 1870, says “I had been getting on sometime without any sickness in camp, and was congratulating myself that the country was not so unhealthy as had been reported; but after a fall of rain that lasted for

“three days, the whole camp, myself included, suffered from jungle fever. I could not leave my bed for ten days and the classies are suffering still. On one occasion I could not muster more than three men to accompany me; and even now I seldom can get half a dozen of them fit for duty. They are looking very wretched; the climate is very depressing; the forest is very dense for the most part, and in the Rampa district there is absolute shade at noon. \* \* \* I am very much troubled about the work. Mr. Wrixon's health has been bad but he has been of good assistance to me; he selected one station during my illness and has again left my camp to select another. Mr. Bell I have not heard of since the 9th ultimo; if he is suffering from fever, he is not likely to help me at all during the remainder of the season as he takes a long time to rally. I am doing all I can to expedite the work and will stop out late unless my health fails me entirely.”

Under such trying circumstances as these was Mr. Shelverton obliged to work on to the end of February in laying out the approximate series. He suffered daily from fever during the whole of this time, and had barely selected his last station where he fell dangerously ill. The constant exposure and hardship brought on an attack of brain fever from the effects of which he nearly died. For three days he was quite unconscious and raved violently, on the fourth he regained consciousness for a moment and then relapsed into delirium again, and so on for a week. One of the flagmen was similarly attacked and died raving in the Dumagudem hospital, the second day after admission.

The country through which the party worked was densely wooded and very little known: it had not yet been mapped. Mr. Shelverton on reaching his ground set up a plane table and fixed the position of several villages. Cultivation is confined principally to the banks of the Godávári river. In the wilds the Gonds, or hill tribes, have small temporary settlements consisting of from two to ten huts. Bhadráchallam is the only large town in those parts, and Dumagudem, a small civil station, is the head quarters of the Godávári Navigation Works.

The out-turn of work for the season was the Maláwáram-Singáwáram double polygon, embracing an area of 1,970 square miles, which was not completed till the 8th May. Mr. Shelverton had intended observing an azimuth at Singáwáram this season; but the weather was so adverse during his stay that he was unable to do so.

Mr. Bell was employed at first in reconnoitring the ground towards the East Coast Series and next in building stations and cutting roads to principal stations. Latterly he took up minor triangulation and observed at 21 stations, and fixed by intersection the positions of about 30 points, villages and hill tops. He also determined the height above sea level of Bhadráchallam and Dumagudem. Mr. Wrixon was chiefly employed in assisting Mr. Shelverton.

Mr. Shelverton states how much indebted he was to the Government of H. H. the Nizám for the assistance he received during the field season. The Court Official, “Mansabdár” Mír Haidar Alli Khán, who had been appointed to attend on him, fell a victim to malarious fever while awaiting Mr. Shelverton's arrival at Ashwaraupetta and was succeeded by “Mansabdár” Ghafúr Beg.

The tract of country in which the party had been working was so notoriously unhealthy

Season 1870-71.

PERSONNEL

G. H. W. Shelverton, Esq., Depy. Supdt. 3rd Grade.  
Mr. H. Beverley, Surveyor 2nd Grade.  
" F. Bell, " 4th "  
" E. P. Wrixon, Asst. Surveyor 3rd Grade.

that most of the men of the native establishment who were from the North-West Provinces took their discharge on return to quarters; and many of those who obtained leave to visit their homes did not return to duty. Thus about the middle of November, Mr. Shelverton found himself without either carriers for the instruments or men for the guards.

He at once applied to the Collector of Ganjam, through whom he succeeded towards the end of December in enlisting 80 men of that district, and by the 2nd of January he had also obtained a police guard. No delay was occasioned by these difficulties for Mr. Shelverton had decided, owing to the unhealthiness of the country for some time after the cessation of the rains, not to leave Waltair till late in the season. He did so with the main camp on the 7th January, having despatched Messrs. Beverley and Bell with the signal parties in advance a few days before. Mr. Beverley had been attached to the party with the view of assisting Mr. Shelverton with the principal observations should necessity require it.

On reaching his ground Mr. Shelverton first undertook in person the selection of stations towards the East Coast Series, with which a satisfactory junction had been reported impracticable the year before. After considerable trouble he succeeded in his object and then marched to Singáwaram to take the azimuth observations which he had been unable to do the previous season. Here he completed circumpolar observations on Polaris and the British Association Catalogue Star No. 4165. After which he began the principal observations for the season at Nárakondá. On the completion of work at this station, on the 18th February 1871, he marched to Arkur village below Rápák, his next station. Here he was taken dangerously ill and died on the 26th February a martyr to his devotion to duty.

It has already been mentioned that he suffered from a violent attack of jungle fever during the preceding field season, which was accompanied by brain fever from which he nearly died. He does not seem to have shaken off this illness during the recess, although the favourable climate of Waltair no doubt helped to keep it in subjection; for he several times mentioned his suffering from attacks of fever. It needed only that he should return to malarious country to fan into flame the smouldering sparks of his former illness. He had only been in camp seventeen days when he was attacked with fever: this attack lasted four days. Ten days afterwards the fever returned for another period of four days; and again on the 19th February a third attack seized him from which he died. He was always very reticent in speaking of his ailments; so that, until the last, no one surmised how dangerously ill he was; and when Mr. Wrixon, who was with him, discovered it, it was too late to remove him to the nearest civil station for medical aid, this station, Dumagudem, being 40 miles distant. The last entry in his diary was on the 24th February "Unable to go up to Rápák, as I was laid up with fever till mid-day; very much weakened by this lengthened attack of illness". The next day he was too ill to make further entries and the day following was his last. His remains were carried to Dumagudem and interred in the cemetery there.

Mr. Shelverton, though he died at the age of 39, was an old servant of Government, whose employ he had entered at the early age of 15 years, having been posted to the Survey Department on the 16th July 1847 as 3rd class Sub-Assistant. On the 15th August of the year following he was attached to the Calcutta Meridional Series, then in progress under Mr. Peyton. In 1850 he was promoted to the grade of 2nd class Sub-Assistant and transferred to the North-West Himalaya Series, where he was chiefly employed on topographical surveying. He distinguished himself so much by his ability and aptitude that he was very soon promoted to the grade of Junior 1st class Sub-Assistant. He continued with the North-West Himalaya Series until in 1854-55 he was transferred to the Jhelum and Rawul Pindí Survey and assisted at the measurement of the Chach Base-line. He was then promoted to the rank of Civil 2nd Assistant and transferred to the Jogí-Tíla Meridional Series under Lieutenant (now Colonel) J. T. Walker with which series he continued one season and conducted the approximate operations. He then joined the Kashmir Survey, and remained with it till he received charge of the Gurbágarh Meridional Series in September 1859. He brought this series to a successful conclusion in the field season of 1861-62 and then took over charge of the Sutlej Series from Lieutenant Herschel and completed it the next season. He then undertook

the Jabalpur Meridional Series; and on its completion, as has been already said, he commenced this series. By his talents and energy he had won his way through all the grades of the Subordinate Department, and at the time of his death was a Deputy Superintendent of the 3rd Grade.

Major T. G. Montgomerie, R.E., who was officiating as Superintendent of the Great Trigonometrical Survey, during Colonel Walker's absence on furlough, writes of him in his Administration Report to Government as follows:—

“Mr. Shelverton after serving in various parts of India was promoted to the Senior Department in 1866: he held charge of the operations of the Gurhágárh Meridional Series and carried the triangulation across the Bickaneer, Shaikhawáti and Marwar deserts, a direct distance of 414 miles, which he executed in the very short period of 2½ seasons. Subsequently, he took up the Jabalpur Meridional Series which he executed as well as the revision of part of the Calcutta Longitudinal Series. In 1868 he commenced the Bider Longitudinal Series upon which he was engaged at the time of his death. In all these operations Mr. Shelverton was most successful; and the progress made by him in such difficult and latterly in such unhealthy ground, was highly creditable to him. His untiring devotion to his work may indeed be said to have been the cause of his untimely death, by which the Great Trigonometrical Survey has suffered a very serious loss.”

The following extract from a despatch by His Grace the Secretary of State to the Government of India, on receipt of the report of Mr. Shelverton's death, may be here quoted in proof of the high estimation in which his services were held by Government.

“Mr. Shelverton with a noble devotion to duty, remained too long at his post, in spite of the fever which had once already prostrated him and killed several of his men. I am concerned to hear that this accomplished surveyor, whose name is connected with several important operations in the previous history of the Survey, has since the date of Colonel Walker's report fallen a victim to his zeal for the public service.”

The news of Mr. Shelverton's death did not reach Mr. Beverley, his senior assistant, till thirteen days after its occurrence. He had been detached by Mr. Shelverton to select the centre station of the pentagon connecting the Bider Series with the stations Káp and Dhár of the East Coast Series, and then to lay out the approximate series on the meridian of 82°, which was to be carried north to meet the Biláspur Meridional Series then in progress under Mr. Keelan. He had selected stations for a double polygon on this meridian and was on his way to another station when the melancholy news reached him at Jagdalpúr in the Bastar district. He at once closed work and proceeded to join the Head Quarters' Camp which he reached on the 20th March. He then assumed charge of the party, and telegraphed to the Officiating Superintendent for permission to proceed with the final observations, so as to get through the unhealthy tract of country they were in with as little delay as possible. Fortunately Mr. Beverley was quite competent to carry on the operations and permission to do so was at once accorded him; but so much time had already been lost that he was only able to complete observations at the five remaining stations of the Kaler polygon—Mr. Shelverton had completed observations at one station—by the 30th April, when the rainy season commenced, and he was obliged by the increasing unhealthiness of the country to close work and proceed to recess quarters at Waltair, which were reached on the 18th May.

Mr. Bell was chiefly employed this season in selecting and building stations, cutting roads for the great theodolite and in making secondary observations and putting up marks on hills for intersection. He suffered considerably from repeated attacks of fever throughout the season.

Mr. Wrixon was principally with the Head Quarters' Camp and was with Mr. Shelverton at the time of his death. He also repeatedly suffered from attacks of fever during the season, as did the party generally. Of the four stations of the Kaler figure finally determined this year, Singánámá is in the Jaipur State, Kaler in the Upper Godávári district and Párikondá and Pedákondá in Rájámandrí. The country throughout this tract is wild, more especially round Párikondá and Pedákondá which are on the Eastern Gháts. The last named station is situated in a block of hills about 4,000 feet high, and was first visited by Captain Glasfurd, the Deputy Commissioner of Sironcha, in 1866. There are several villages round this station, but Párikondá has no habitation within a radius of several miles. The other two stations have a few small hamlets or collections of huts near them, the inhabitants of which desert them and retire to the recesses of the jungle so soon as they hear of the approach of strangers and no inducement will bring them back. This was the case throughout the southwest portion of the Jaipur district. About the parallel of  $18^{\circ} 15'$  the change of language is very striking, the villagers to the north speaking different dialects of Uriah and to the south Telegu.

The party next season was placed under the charge of Mr. W. C. Rossenrode, who joined it on the 6th November and took the field on the 20th December: the country was too unhealthy to venture into earlier.

Season 1871-72.

PERSONNEL.

W. C. Rossenrode, Esq., Dy. Supdt. 3rd Grade.  
Mr. H. Beverley, Surveyor 1st Grade.  
" E. P. Wrixon, Assistant Surveyor 3rd Grade.

The party was deprived of Mr. Bell's services who had obtained a year's furlough to enable him to recruit his health which had been much injured by constant attacks of fever, thus it was very short-handed.

The country through which the operations were carried was hilly throughout and very wild, difficult to traverse and unhealthy. The jungle was dense and the passes both long and steep and very rough. In ascending and descending them, the pack bullocks (the only available carriage) were mostly disabled early in the season: from sore feet and sore backs many died and others had to be abandoned as useless. Difficulties were greatly enhanced by previous scarcity of rain and consequent failure of crops; for it was necessary to carry supplies of every description with the camp, and provisions had to be collected and brought in from long distances. Final observations were commenced at Dhár towards the end of December and proceeded satisfactorily so long as the weather remained favourable. By the end of January observations at all the stations of the Kálingkondá pentagon had been completed as well as a set of circumpolar star observations at that station. Marching now became tedious and much time was consumed in crossing passes. It occupied the camp eight days to travel from Kaurálbiding to Pánchá hill station, by stages varying from 12 to 16 and even more miles, over steep paths rough with rocks and stones, the actual distance in a direct line between the two stations being only 29 miles. The difficulty of carrying the great theodolite over such ground was very considerable, especially as the paths had to be widened in many places to get it past. On two occasions the carriers of the theodolite had to bivouac in the jungles for the night. More time would have been lost in marching but for the forethought of Mr. Beverley, who having already become acquainted with the country while selecting stations, had drawn up a programme for Mr. Rossenrode's use, shewing the order in which the stations should be visited and the routes to be taken.

About the middle of February, the jungle was set fire to in all directions—this is done to remove the old and dry vegetation and to make way for a fresh growth on which to graze cattle—and the air soon began to thicken with smoke and haze and in a short time it became impossible to see any signals, either by night or day. From the 23rd February to the 24th

March, Mr. Rossenrode was detained at Munás hill station, taking observations which under favourable circumstances would have been completed in two or three days. From Munás he proceeded to Báli where he was again detained nearly a month, and was only enabled to complete his observations by a few storms of rain clearing the atmosphere a little. This was the last station of the Bider Longitudinal Series to be observed at. The remainder of the season was occupied in carrying the triangulation, which forms the southern section of the Biláspur Meridional Series, north from the side Munás-Báli.

There was considerable sickness in the camp during the field season: not a single individual of the party escaped fever. The strength of the native establishment became so reduced, that the great theodolite and most of the Government property had to be carried by coolies. Some of the men did not recover sufficiently to be able to return to duty during the field season, and many of those who did recover suffered from relapses when they returned to recess quarters where five of them died. No deaths occurred in the field.

Wild animals were very numerous in the tract of country triangulated, of which tigers were the most destructive. Villages were deserted and some of the passes closed owing to their depredations. A considerable portion of the camp while *en route* from Kaurálbiding to Pánchá was delayed for some hours owing to a tiger having taken possession of the road, and refusing to be dislodged by the shouts and noise made to frighten him away. On several occasions the villagers warned the party against proceeding along certain paths which were known to be frequented by man-eating tigers.

The country was very sparsely populated and very few large villages were met with. On many occasions a large solitary hut formed the home of a family of three and sometimes four generations; and a spring of water, a few lime, orange, jack or mango trees and a small patch of ground for growing grain, were sufficient for their wants. The inhabitants of the country seemed steeped in ignorance and vice; men, women and children drink to excess of spirits made from the sago-palm and Mhowa flowers, the latter they also dry and preserve for food. Their only article of clothing is a strip of cloth about four inches wide and two feet long: among some of the hill tribes even this is often wanting, nudity being the rule rather than the exception. The gratuitous distribution of cloth by the civil authorities has not even induced them to cloth themselves.

Owing to the party being so short handed and so crippled by sickness, very little secondary work was executed.

Mr. Beverley assisted Mr. Rossenrode with the principal observations until the 17th January, when he was detached to continue the laying out of the southern section of the Biláspur Meridional Series, and he succeeded in effecting a junction with the northern section. Mr. Wrixon was chiefly employed as recorder.

The Bider Longitudinal Series forms one of the bounding chains of the section of the triangulation of India, denominated the South-East Quadrilateral. The longitudinal distance between its extreme east and west stations, *viz.*, Gumru and Dúdálá, is 353 miles, and the closing errors at Gumru in latitude, longitude, azimuth and sides, as calculated from Sironj, *viá* the Great Arc Meridional and Bider Longitudinal Series, and *viá* the Calcutta Longitudinal and East Coast Series were

|             |                                                      |
|-------------|------------------------------------------------------|
| in Latitude | ... 0"·308 = 31 feet                                 |
| „ Longitude | ... 0'·228 = 22 „                                    |
| „ Azimuth   | ... 8'·644                                           |
| „ Side      | ... 1'·06 inches per mile in the side of comparison. |



XIV—D.

INTRODUCTION.

These discrepancies have now been dispersed by the simultaneous reduction of the South-East Quadrilateral, and the portions of the corrections which have fallen to the Bider Series are

in Latitude ...  $0''\cdot038=4$  feet  
„ Longitude ...  $0\cdot057=6$  „  
„ Azimuth ...  $2\cdot115$   
„ Side ...  $0\cdot45$  inches per mile.

*Mussoorie, October 1878.*

W. H. COLE, M. A.

BIDER LONGITUDINAL SERIES.

|                                                          |          |                            |         |
|----------------------------------------------------------|----------|----------------------------|---------|
| Adáligat . . . . .                                       | XV.      | Munás . . . . .            | XXXII.  |
| Anáságar . . . . .                                       | VIII.    | Nalákondá . . . . .        | XL.     |
| Báchápálí . . . . .                                      | XLI.     | Nárakondá . . . . .        | XXV.    |
| (Of the Great Arc Meridional Series—Section 18° to 24°). |          | Narsulá . . . . .          | II.     |
| Báílí . . . . .                                          | XXXIII.  | Pálunchá . . . . .         | XXI.    |
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| Bolíkkondá . . . . .                                     | XI.      | Pánochdarlá . . . . .      | XLIII.  |
| Borá Gattú . . . . .                                     | III.     | Pánoch Pandol. . . . .     | XVII.   |
| Botmilí . . . . .                                        | I.       | Pándáwálá . . . . .        | XXXVII. |
| Cherú . . . . .                                          | XXXIV.   | Pápkondá . . . . .         | XXVIII. |
| Chinchalkot . . . . .                                    | VI.      | Partábgírí . . . . .       | XVI.    |
| Dhár . . . . .                                           | XXXIX.   | Pedákondá . . . . .        | XXX.    |
| Dúdálá . . . . .                                         | XLIV.    | Pirmulo . . . . .          | V.      |
| (Of the Great Arc Meridional Series—Section 18° to 24°). |          | Pothkondá . . . . .        | XLIV.   |
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| (Of the East Coast Series).                              |          | Rámgír . . . . .           | XIV.    |
| Jarákkondá . . . . .                                     | XLII.    | Rápák . . . . .            | XXVI.   |
| Kaler . . . . .                                          | XXVII.   | Sánjib . . . . .           | XLI.    |
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| Káp . . . . .                                            | XXXVIII. | Somán Devarguttá . . . . . | XX.     |
| Katájpúr . . . . .                                       | XIII.    | Vánákkondá . . . . .       | IX.     |
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| Maisamá . . . . .                                        | VII.     | Yarábalí . . . . .         | X.      |
| Maláná . . . . .                                         | IV.      | Yarádá . . . . .           | XLV.    |
| Maláwáram . . . . .                                      | XIX.     |                            |         |
| Márkí . . . . .                                          | LXVI.    |                            |         |
| (Of the East Coast Series).                              |          |                            |         |

## BIDER LONGITUDINAL SERIES.

|                                                          |                   |                             |               |
|----------------------------------------------------------|-------------------|-----------------------------|---------------|
| XLII                                                     | Báchápáli.        | XXIV                        | Rájáguттá.    |
| (Of the Great Arc Meridional Series—Section 18° to 24°). |                   |                             |               |
| XLIV                                                     | Dúdálá.           | XXV                         | Nárakondá.    |
| (Of the Great Arc Meridional Series—Section 18° to 24°). |                   |                             |               |
| I                                                        | Botmilí.          | XXVI                        | Rápák.        |
| II                                                       | Narsulá.          | XXVII                       | Kaler.        |
| III                                                      | Borá Gattú.       | XXVIII                      | Pápi Kondá.   |
| IV                                                       | Maláná.           | XXIX                        | Singánámá.    |
| V                                                        | Pirmulo.          | XXX                         | Pedákondá.    |
| VI                                                       | Chinchalkot.      | XXXI                        | Pánchá.       |
| VII                                                      | Maisamá.          | XXXII                       | Munás.        |
| VIII                                                     | Anáságar.         | XXXIII                      | Báli.         |
| IX                                                       | Vánákondá.        | XXXIV                       | Cherú.        |
| X                                                        | Yarábalí.         | XXXV                        | Kaurálbiding. |
| XI                                                       | Bolí Kondá.       | XXXVI                       | Kálingkondá.  |
| XII                                                      | Kándágtlá.        | XXXVII                      | Pándáwálá.    |
| XIII                                                     | Katájpúr.         | XXXVIII                     | Káp.          |
| XIV                                                      | Rámgír.           | XXXIX                       | Dhár.         |
| XV                                                       | Adáligat.         | XL                          | Nalákondá.    |
| XVI                                                      | Partábgirí.       | XLI                         | Sánjib.       |
| XVII                                                     | Pánch Pandol.     | XLII                        | Jarákondá.    |
| XVIII                                                    | Yalápúram.        | XLIII                       | Pánchdarlá.   |
| XIX                                                      | Maláwáram.        | XLIV                        | Pothkondá.    |
| XX                                                       | Somán Devarguttá. | XLV                         | Yarádá.       |
| XXI                                                      | Pálunchá.         | LXVI                        | Márki.        |
| XXII                                                     | Bodánalí.         | (Of the East Coast Series.) |               |
| XXIII                                                    | Singáwáram.       | LXIX                        | Gumrú.        |
|                                                          |                   | (Of the East Coast Series.) |               |

PRINCIPAL TRIANGULATION—DESCRIPTION OF STATIONS.

BIDER LONGITUDINAL SERIES.



The Principal Stations of this Series are all situated on hills, and consist of circular masonry pillars from 3 to 3½ feet in diameter for the large theodolites to rest on, surrounded by a platform of stones and earth-work from 16 to 20 feet square on which the observatory tent was pitched. Being almost invariably on the highest accessible points they rarely required to be raised more than 2 or 3 feet. The pillars contain mark-stones placed vertically over one another, the uppermost being generally flush with the surface: over this a rectangular protecting pillar, bearing a sufficiently accurate mark for Topographical and Revenue Survey purposes, as shown at page 74 of Vol. II. of the "*Account of the Operations &c.*," was erected after the completion of the observations. No protecting pillars have been built over the 8 principal stations forming the eastern extremity of the Series.

The following descriptions have been compiled from those given by the Officers who executed the Series. A few details, such as the name of a village or pargana within which a station is situated, have been obtained from the returns furnished by the civil authorities to whose charge the stations have been committed.

XLI.—(*Of the Great Arc Meridional Series—Section 18° to 24°*). Báchápáli Hill Station, lat. 18° 10', long. 77° 55'—observed at in 1817, 1838 and 1869—is upon a small granite hill, about 300 feet high, covered with thick jungle; village Masanpáli, pargana Náráin Kherá, district Haidarábád. The hill is locally named Dewan Guttá.

The pillar of 1838 was solid and contained two marks, the upper 1·38 feet above the lower which was engraved on the rock *in situ* and was identical with that established in 1817; a dry stone wall 14 feet square and 2 feet thick was built round the central pillar from which it was isolated by a vacant space, floored with poles, &c., for the observer to tread upon. When the station was visited in 1869, for the purpose of originating the Bider Longitudinal Series, the upper mark of 1838 having disappeared, the pillar was entirely rebuilt, and a new mark placed exactly 1·38 feet above and in the normal of the lower mark.

**XLIV.**—(*Of the Great Arc Meridional Series—Section 18° to 24°*). Dúdálá Hill Station, lat. 17° 56', long. 77° 55'—observed at in 1814, 1815, 1838, 1840 and 1869—is on the range of highlands which extend in an east and west direction along the north bank of the Mánjrá river; pargana Tekmahál, district Haidarábád.

The pillar is solid, built of masonry and contains two marks, the upper 2·74 feet above the lower. A platform surrounds the central pillar from which it is isolated by an annulus. The station of 1815 was found in 1838 marked by a granite stone measuring 16 × 12 × 12 inches. The station was then rebuilt, the lower mark being placed 6 inches below its former position, with an upper mark 32·9 inches above it: this upper mark was employed in 1869. The only change made in 1869 was the rebuilding of the platform. The village of Dúdálá lies about 1 mile S., Aladurgán 3 miles E. and Udatpúr 2 miles S.E.

**I.** Botmilí Hill Station, lat. 18° 16', long. 78° 14'—observed at in 1869—is on the highest part of a range of hills about 0·25 of a mile south of the pass between the villages Lingampet and Nandíwádá. It is in the lands of the village of Nandíwádá, pargana Adlúr, zilla Medak of the Nizám's territories. A road has been made to the station from Pothaipallí village, but it may be approached from all sides. The country from the northwest to the east is well cultivated and a great deal of water is stored in tanks.

The pillar is solid and contains three marks, the lowest of which is on a stone imbedded in the foundation and the two others respectively 1·63 and 3·96 feet above it. The estimated bearings and distances of the circumjacent villages are:—Mustápúr W. by N., miles 3·3; Pothaipallí S. by W., miles 2·2; Adlúr (Kasbá) N. E., miles 11.

**II.** Narsulá Hill Station (Narsimhulú Guttá), lat. 17° 58', long. 78° 18'—observed at in 1869—is on a hill so named from a god whose shrine is under the cliffs facing the village of Kongor. The hill is crowned by an immense rock, 19 feet in height, on which a circle and dot were found deeply cut. This mark was adopted for the station and a pillar with an upper mark was erected over it. It is in the lands of the village of Naian Jalálpúr, pargana and zilla Medak of the Nizám's territories. A road was made to the station from the village of Kongor.

The pillar is solid and contains two marks, the upper 1·08 feet above the lower which is engraved on the rock *in situ*. The estimated bearings and distances of the circumjacent villages are:—Tekmál (Kasbá) W., miles 13·5; "Haveli" Medak N., miles 5; Chittial N. by E., miles 2·7.

**III.** Borá Gattú Hill Station, lat. 18° 3', long. 78° 31'—observed at in 1869—is situated on a low range, or narrow plateau trending from northeast to southwest (the watershed of the rivers Maner and Mánjrá). It is in the lands of the village of Darmáwáram, pargana Ibráhímpatam, zilla Medak of the Nizám's territories. A road was made to the station from the fields of the village of Narsampallí.

The pillar is solid and contains three marks, the lowest of which is on a stone imbedded in the foundation and the two others respectively 3·17 and 5·75 feet above it. The bearings and estimated distances of the circumjacent villages are:—Ibráhímpatam S. E., miles 4; Narsingpet W. by S., miles 3; Narsampallí W. by N., mile 1.

**IV.** Maláná Hill Station, lat. 18° 13', long. 78° 43'—observed at in 1869—so named from a divinity whose shrine is about half a mile to the northwest of the station, is near the southeastern extremity and on the highest part of a small range of hills and within the lands of the village of Chelálpúr, pargana Gajvel, zilla Medak of the Nizám's territories. A road was made to the station from the small village of Malaipallí.

The pillar is solid and contains two marks, the upper 3·58 feet above the lower which is engraved on the rock *in situ*. The latter—a circle and dot—was found deeply cut on the rock and was adopted for the station of 1869. The bearings and estimated distances of the circumjacent villages are:—Chikod W. by S., miles 3; Madíkuntá N. E. by N., miles 2·2; Chelálpúr S. S. E., miles 1·8.

V. Pirmulo Hill Station, lat.  $17^{\circ} 53'$ , long.  $78^{\circ} 38'$ —observed at in 1869—is on a rock 10 feet high on a hill within the lands of the village of Wadapailí, pargana Tupren, zilla Medak of the Nizám's territories. A road from Wadapailí village leads to the station.

The pillar is solid and contains two marks, the upper 1.13 feet above the lower, which was found deeply engraved on the rock *in situ* and adopted for the station. The bearings and estimated distances of the circumjacent villages are:—Wadapailí W. S. W., miles 1.3; Rámaram N. by W., miles 2; Girpailí E. S. E., miles 2.3.

VI. Chinchalkot Hill Station, lat.  $17^{\circ} 53'$ , long.  $78^{\circ} 59'$ —observed at in 1869—is on one of a small range of low hills enclosing, with a similar range to the north, a little valley a few hundred feet in width; pargana Sidípet, zilla Bhonágír of the Nizám's territories. A circle and dot were found engraved on the highest rock on the hill, but as there was no space to build a pillar the mark was obliterated and a neighbouring rock, 22 feet high, was selected for the station. The azimuth of the mark obliterated was  $175^{\circ} 26' 45''$  and the distance 37.42 feet.

The pillar is solid and contains two marks, the upper 4.83 feet above the lower which is engraved on the rock *in situ*. The estimated bearings and distances of the circumjacent villages are:—Chinchalkot E. by S., miles 1.3; Cheral (Kashá) N. E., miles 3.5; Keswápúr S. by W., miles 3.

VII. Maisamá Hill Station, lat.  $17^{\circ} 39'$ , long.  $78^{\circ} 54'$ —observed at in 1869—is on an immense block of granite on the highest part of a range of hills and about a quarter of a mile N.W. of a hill called Narsímulá, from the divinity of that name. The station is situated in the lands of the village of Yenkatápúr in the jágír of Tippú Sáhib, a household servant of the ruler of the country, pargana "Haveli" Bhonágír, zilla Bhonágír of the Nizám's territories. The range of hills is composed principally of granite, and all the peaks are surmounted either by single rocks or by three or four great blocks resting one on the top of the other.

The pillar is solid and contains two marks, the upper 2.25 feet above the lower which is engraved on the rock *in situ*. The bearings and distances of the circumjacent villages are:—Yenkatápúr S. E., mile 1; Dátápaillí E. by N., miles 2.5; Túrkapailí W., miles 1.6.

VIII. Anáságar Hill Station (Mamparwat), lat.  $18^{\circ} 12'$ , long.  $79^{\circ} 1'$ —observed at in 1869—is on a conspicuous range of hills and about half a mile S.E. of the highest peak. The station is in the lands of the village of Anáságar, pargana Sanígáram, zilla Ailgandal of the Nizám's territories. A road to the station has been made from the village of Anáságar.

The pillar is solid and contains two marks, the upper 1.42 feet above the lower which is engraved on the rock *in situ*. The estimated bearings and distances of the circumjacent villages are:—Anáságar E. S.E., miles 2; Sanígáram E. by S., miles 2.6; Kudur S.W. by W., miles 5.6.

IX. Vánákonká Hill Station, lat.  $17^{\circ} 36'$ , long.  $79^{\circ} 25'$ —observed at in 1868 and 1869—is on a conspicuous hill surrounded by isolated hillocks distant from it about 6 miles; táluk Warangal, sar-táluk Kham-mam-met of the Nizám's territories. The pillar was built close by a former site supposed to have been a secondary point of the old Haidarábád Topographical Survey.

The pillar is solid and contains two marks, the upper 2.46 feet above the lower which is engraved on the rock *in situ*. The azimuths and distances of the circumjacent villages are:—Mádápúr  $165^{\circ} 47'$ , miles 1.13; Isnúr  $231^{\circ} 18'$ , miles 3.21; Darmápúr  $330^{\circ} 21'$ , miles 1.58.

X. Yarabalí Hill Station (also named Inamparwat and Lohá-ká-pahár, both meaning the hill of iron), lat.  $18^{\circ} 3'$ , long.  $79^{\circ} 25'$ —observed at in 1868 and 1869—is on a hill, which,

as its alternative names denote, is rich in iron ore; *táluk* Ailgandal of the Nizám's territories. The station was built on the site of an old platform supposed to be Colonel Lambton's "Innaparatee."

The pillar is solid and contains two marks, the upper 2·00 feet above the lower. The bearings and distances of the circumjacent villages are:—Yarábalí S.W., miles 2·04; Malkánúr N. by W., miles 2·52; Damira E.N.E., miles 3·7.

XI. Bolí Kondá Hill Station, lat.  $17^{\circ} 43'$ , long.  $79^{\circ} 50'$ —observed at in 1868—is on the highest of a group of detached hillocks in *táluk* Warangal, sar-*táluk* Kham-mam-met of the Nizám's territories. The hill is sacred to Rámáswámí, a Hindú deity whose image is carved in relief in stone and placed with its stone attendants in a rude enclosure. The top of the hill is fortified and would afford a safe refuge to small bands of robbers: rain water in sufficient quantity to form a plentiful supply accumulates in a natural cistern in the rock within the walls. An annual fair is held on the hill top in honor of the god.

The pillar is solid and contains two marks, the upper 6·00 feet above the lower. The azimuths and distances of the circumjacent villages are:—Inkúrtí  $353^{\circ} 56'$ , miles 2·70; Bolí Kondá (deserted)  $278^{\circ} 13'$ , miles 1·21; Tumapóilí  $235^{\circ} 36'$ , miles 2·10.

XII. Kándá gatlá Hill Station, lat.  $17^{\circ} 18'$ , long.  $79^{\circ} 40'$ —observed at in 1868—is on a very conspicuous hill about 1·79 miles N.N.W. of the village of Kándá gatlá in *táluk* Nalgondá of the Nizám's territories. The station was placed on the site of an old platform probably Colonel Lambton's "Kandagutt."

The pillar is solid and contains two marks, the upper 2·00 feet above the lower. The azimuths and distances of the circumjacent villages are:—Singáwáram  $245^{\circ} 44'$ , miles 2·34; Komalo  $136^{\circ} 9'$ , miles 2·8.

XIII. Katájpúr Hill Station, lat.  $18^{\circ} 7'$ , long.  $79^{\circ} 52'$ —observed at in 1868—is on an isolated hill in *táluk* Warangal, sar-*táluk* Kham-mam-met of the Nizám's territories. A circle and dot found engraved on the rock, probably denoting the site of Colonel Lambton's "Kotajpoor," was adopted for the station.

The pillar is solid and contains two marks, the upper 1·08 feet above the lower which is engraved on the rock *in situ*. The azimuths and distances of the circumjacent villages are:—Katájpúr  $57^{\circ} 14'$ , miles 2·43; Katrápailí  $169^{\circ} 8'$ , miles 1·81; Singáwáram  $115^{\circ} 34'$ , miles 3·04.

XIV. Rámgrí Hill Station, lat.  $18^{\circ} 35'$ , long.  $79^{\circ} 34'$ —observed at in 1867 and 1868—is in the middle of a flat-topped, conspicuous range with very precipitous approaches. From about half a mile to the east of the station the hill is extensively fortified and the works are on a most stupendous scale. The station is situated in the *jágír* of Fakírán Múlk (son-in-law of the Nawáb Salár Jang) in the Haidarábád States, and has been built on the site of an old platform supposed to be Colonel Lambton's "Ramgeer."

The pillar is solid and contains at least two marks, the distance between which is not known; the height of the pillar is 8·25 feet. The village of Rámgrí lies about 5 miles E.

XV. Adáligat Hill Station (also named Idáligattú), lat.  $17^{\circ} 22'$ , long.  $79^{\circ} 58'$ —observed at in 1868—is on a hill in *tahsíl* Súbler, *táluk* Kham-mam-met of the Nizám's territories. The station was placed on the site of an old platform supposed to be a secondary station of the old Haidarábád Topographical Survey.

The pillar is solid and contains two marks, the upper 4·00 feet above the lower which is engraved on the rock *in situ*. The azimuths and distances of the circumjacent villages are:—Abiápalam 144° 8', miles 1·32; Mamudápúram 34° 8', miles 1·30.

XVI. Partábgirí Hill Station, lat. 18° 38', long. 80° 3'—observed at in 1867 and 1868—is on the highest part of a conspicuous hill in thánah Mádhápúr, tahsíl Chinúr of the Haidarábád States. The pillar was built on the site of a Topographical Survey station of the same name, and probably also corresponds with Colonel Lambton's "Purtaubgeeree".

The pillar is solid and contains at least two marks, the distance between which is not known; the height of the pillar is 7·58 feet. The village of Bopáram lies about 3 miles S.W. and the town of Mádhápúr about 7 miles N.

XVII. Pánc Pandol Hill Station, lat. 17° 47', long. 80° 18'—observed at in 1868 and 1870—is situated on a high range in táluk Warangal, sar-táluk Kham-mam-met of the Nizám's territories. The station was placed on the site of an old platform supposed to be Colonel Lambton's "Panch-Pandol". A good road from Chatpailí village leads to the top of the hill.

The pillar is solid, 1·33 feet high and has its upper mark-stone flush with its surface. The azimuths and distances of the circumjacent villages are:—Chatpailí 257° 54', miles 2·04; Konápúram 209° 35', miles 1·75; Pendiam 42° 1', miles 4·2.

XVIII. Yalápúram Hill Station, lat. 18° 13', long. 80° 23'—observed at in 1868 and 1870—is situated on the watershed of the Godávarí and Kistná rivers, near its northeastern termination; tahsíl Chinúr, táluk Ailgandal of the Nizám's territories. The station was placed on the site of the Haidarábád Topographical Survey station "Yelapuram".

The pillar is solid, 2·00 feet high and has its upper mark-stone flush with its surface. The bearings and estimated distances of the circumjacent villages are:—Kristápúr S. by E., miles 2·5; Chanápúr W., miles 1·9; Kamáram N.W., miles 2·5.

XIX. Maláwáram Hill Station (Parkál Gattú), lat. 17° 52', long. 80° 43'—observed at in 1870—is on the highest point of a rather extensive mass of hills and is within the lands of the village of Rangápúram, sub-division Markúr, táluk Bhadráchallam, zilla Kham-mam-met of the Nizám's territories.

The pillar is solid and contains two marks, the upper 1·92 feet above the lower which is engraved on the rock *in situ*. The bearings and approximate distances of the circumjacent villages are:—Rangápúram N.W. by W., miles 3; Mavidgúram W. by S., miles 1·3; Maláwáram S. by W., miles 4.

XX. Somán Devarguttá Hill Station, lat. 18° 8', long. 80° 50'—observed at in 1870—is near the southwestern termination of a high plateau in pargana Charlá, district Upper Godávarí of the Central Provinces. It is probably identical with a secondary station of the Haidarábád Topographical Survey.

The pillar is solid and contains two marks, the upper 2·02 feet above the lower which was found engraved on the rock *in situ*. The bearings and approximate distances of the circumjacent villages are:—Regúntá, a small hamlet inhabited by Gonds, S.S.E., miles 2; Singáreddípailí S. by W., miles 5; Yadraí W., miles 3·5.

XXI. Pálunchá Hill Station, lat. 17° 35', long. 80° 46'—observed at in 1870—is on the highest part of a range of hills about 2·5 miles E. by S. of the village of Pálunchá, within the lands of which it is situated, táluk Pálunchá, zilla Kham-mam-met of the Nizám's territories. The western and southern faces of the hill are very steep. A road to the station was made from the village of Nágáram.



The pillar is solid and contains two marks, the upper 1·95 feet above the lower which is engraved on the rock *in situ*. The bearings and estimated distances of the circumjacent villages are:—Rámchandrapet W. by S., miles 1·8; Chintalpár S.W. by W., miles 1·4; Sítárámpúr S.E. by S., mile 1.

XXII. Bodánalí Hill Station, lat.  $17^{\circ} 59'$ , long.  $81^{\circ} 0'$ —observed at in 1870—is on a hill a little more than 2 miles S.E. by S. from the village from which it takes its name in pargana Charlá, district Upper Godávarí of the Central Provinces. The hill is also named Inam, or Iniam-guttá owing to iron ore being found in some places. A good road was made from the deserted village of Chelwel.

The pillar is solid and contains two marks, the upper 2·65 feet above the lower which is engraved on the rock *in situ*. The bearings and estimated distances of the circumjacent villages are:—Kurnápalí N. by W., miles 4; Singámpalí E.N.E., miles 3·5; De-a-varpalí W.S.W., miles 3·8; Mulkalápalí S. by E., miles 2·4.

XXIII. Singáwáram Hill Station, lat.  $17^{\circ} 45'$ , long.  $80^{\circ} 59'$ —observed at in 1870 and 1871—is on an isolated hill about 1 mile N.E. of the village of Gattúgúram, within the lands of which it is situated; táluk Bhadráchallam, district Upper Godávarí of the Central Provinces. A road to the station was made from the village of Gattúgúram.

The pillar is solid and contains two marks, the upper 3·88 feet above the lower which is engraved on a stone built into the foundation. The bearings and distances of the circumjacent villages are:—Bhándargúram W., miles 1·5; Singáwáram N., miles 2; Bhadráchallam (city) S.W. by S., miles 6·9.

XXIV. Rájáguttá Hill Station, lat.  $17^{\circ} 30'$ , long.  $81^{\circ} 3'$ —observed at in 1870—is within the lands of the village of Reddígúram; táluk Pálunchá, zilla Kham-mam-met of the Nizám's territories. A road was made from the village of Reddígúram.

The pillar is solid and contains two marks, the upper 1·92 feet above the lower which is engraved on the rock *in situ*. The bearings and estimated distances of the circumjacent villages are:—Katkúr S.W. by W., miles 3·2; Reddígúram N.E. by N., miles 4·5; Thongúram S. by E., miles 3.

XXV. Nárakondá Hill Station, lat.  $17^{\circ} 51'$ , long.  $81^{\circ} 14'$ —observed at in 1870 and 1871—is within the lands of the Gond hamlet from which it derives its name; táluk Bhadráchallam, district Godávarí. The road skirts the northern foot of the hill and ascends by tedious zig-zags to the station. The station is believed to be identical with that employed by Colonel Saxton and also by the Haidarábád Topographical Survey.

The pillar is solid and contains two marks, the upper 2·08 feet above the lower which was found engraved on a stone firmly imbedded in a cleft of the rock and adopted for the station. The bearings and estimated distances of the circumjacent villages are:—Nárakondá S.W., miles 1·2; Alígúram S.W. by S., miles 2·7; Arágorálpilí S., miles 7.

XXVI. Rápák (Manchá-námá Guttá) Hill Station, lat.  $17^{\circ} 39'$ , long.  $81^{\circ} 17'$ —observed at in 1870 and 1871—is on a conspicuous hill and within the lands of the village of Pedárkár, táluk Bhadráchallam, district Upper Godávarí of the Central Provinces. The station is believed to be identical with that employed by the Haidarábád Topographical Survey. A good road to the station leads from Pedárkár.

The pillar is solid and contains two marks, the upper 2·14 feet above the lower which was found imbedded in the soil and protected by a cairn of stones, but was now re-set in paká masonry in its old position. The bearings and estimated distances of the circumjacent villages are:—Palepaka S.E., miles 3·3; Rápák E. by N., miles 1·9; Kothagúram N.N.W., miles 2·3.

XXVII. Kaler Hill Station, lat.  $17^{\circ} 48'$ , long.  $81^{\circ} 28'$ —observed at in 1871—is situated

on an isolated hill, known by the villagers as Dándikondá; it is within the lands of the village of Mádгур, thánah Rákápilí, táluk Bhadráchallam, district Upper Godávarí of the Central Provinces. The station is identical with that of the Haidarábád Topographical Survey of the same name.

The pillar is solid and contains two marks, the upper 1·28 feet above the lower which was found engraved on the rock *in situ*. The bearings and estimated distances of the circumjacent villages are:—Mádгур N.E., miles 2·3; Moat, at the junction of the rivers Seleru and Sevári, N. W., miles 2·3; Kaler W. by S., miles 2.

XXVIII. Pápikondá Hill Station, lat. 17° 35', long. 81° 36'—observed at in 1871—is on the hills known as the Eastern Gháts, and in a wild and uninhabited tract of country to the north of the Godávarí from which it is distant about 8 miles. It is in thánah Soráram, táluk Rájámandrí, district Godávarí, Madras Presidency. A good and well frequented road from Rájámandrí *via* Soráram conducts to Wálmúr at the foot of the Gháts on the eastern side and thence crosses over the Gurrupgirí Pass to the plains on the other side. From the centre or highest part of the Gháts a very circuitous road was cut to the station, about 20 miles in length. On either side of the Pass are the villages of Wálmúr and Lakháwarám, the former some 6 miles N.E. and the latter about 10 miles due north.

The pillar is solid and contains two marks, the upper 2·00 feet above the lower which is engraved on the rock *in situ*.

XXIX. Singánámá, Hill Station, known also as Udágirí Singánámá, lat. 18° 4', long. 81° 35'—observed at in 1871 and 1872—is on a conspicuous, isolated hill lying N.E. and S.W. between the rivers Sevári and Poteru and about 9 miles above their junction. The old deserted village of Udágirí, from which the hill derives its name is at its foot to the north, and the road to the station was taken from that place. The station is in the zemíndarí of the Rání of Malkangirí, in the Jaipúr State, Madras Presidency. The station of the Central Provinces and Vizagapatam Agency Survey (a stump of a tree) is within the platform of the G. T. S. station and 7·5 feet west of the mark of the latter.

The pillar is solid and contains two marks, the upper 2·50 feet above the lower which is engraved on a stone imbedded in the foundation. The bearings and estimated distances of the circumjacent villages are:—Udágirí (new) N.N.E., miles 1·5; two villages named Kurti, on either bank of the Sevári, N.W. by W., miles 1·6 and 2·5 respectively; Poreh N. by W., miles 5; Wolampilí S., miles 1·7.

XXX. Pedákondá, or Polangí Hill Station, lat. 17° 50', long. 81° 49'—observed at in 1871—is on the highest part of a long, elevated ridge on the western face of the Eastern Gháts in the lands of the village of Polangí, thánah Soráram, táluk Rájámandrí, district Godávarí, Madras Presidency. The station is identical with that of the Central Provinces and Vizagapatam Agency Survey.

The pillar is solid and contains two marks, the upper 2·63 feet above the lower which was found engraved on the rock *in situ*. The bearings and estimated distances of the circumjacent villages are:—Polangí (round which are several smaller villages) S., miles 5; a cairn of stones erected by Captain (now Colonel) Glasford stands on a lower eminence S.W., mile 0·3; Potáswálsá W. by S., miles 3·7.

XXXI. Pánchá Hill Station, lat. 18° 4', long. 81° 58'—observed at in 1872—is on one of the highest swells of an extensive range on the north bank of the Seleru river in táluk Malkangirí of the Jaipúr State, Madras Presidency. A road to station was made from the well known village of Bijikwára.

The pillar is solid and contains two marks, the upper 2·13 feet above the lower which is engraved on the rock *in situ*. The bearings and estimated distances of the circumjacent villages are:—Bijikwára N.W., miles 5, at the foot of the hill; Daspáreo E., miles 4·5; Gongrai S., mile 0·5.

**XXXII.** Munás Hill Station, lat.  $18^{\circ} 20'$ , long.  $82^{\circ} 0'$ —observed at in 1872—is on a well known detached hill of that name in táluk Malkangirí, Jaipur State, Madras Presidency. The lower mark is identical with Colonel Saxton's Topographical Station of the Central Provinces and Vizagapatam Agency Survey.

The pillar is solid and contains two marks, the upper 2.42 feet above the lower which is engraved on the rock *in situ*. The bearings and estimated distances of the circumjacent villages are:—Chanchigúram S.W., miles 1.75; Dánigúram and Kánkiringúram W., miles 1.5; Malkangirí N.W., miles 5.

**XXXIII.** Bálí, or Bálídongor, Hill Station, lat.  $18^{\circ} 25'$ , long.  $82^{\circ} 20'$ —observed at in 1872—is at the northwestern extremity of an extensive table land which rises rather abruptly from the plains to a height of about 3,000 feet above the sea level; táluk Nandpúr, Jaipur State, Madras Presidency.

The pillar is solid and contains two marks, the upper 2.00 feet above the lower which is engraved on the rock *in situ*. The bearings and estimated distances of the circumjacent villages are:—Pinájongor at the foot of the hill to the E.; Gokúrpáriá N.N.E., miles 2; Kirsánipará N.E., miles 2.5; Múndlípára a little further in the same direction.

**XXXIV.** Cherú Hill Station, lat.  $17^{\circ} 52'$ , long.  $82^{\circ} 11'$ —observed at in 1872—is on a high table-topped range, and derives its name from a small lake about half a mile distant to the N.W. It is in pargana Gudam, táluk Narsipatam, district Vizagapatam. A road to the station was made from the village of Gudam.

The pillar is solid and contains two marks, the upper 1.89 feet above the lower which is engraved on the rock *in situ*. The bearings and estimated distances of the circumjacent villages are:—Gudam S.E., miles 4; Sumra E., miles 2; Sankapakalu N.E., mile 1.

**XXXV.** Kaurálbiding, or Kairabiding Hill Station, lat.  $18^{\circ} 8'$ , long.  $82^{\circ} 24'$ —observed at in 1872—is in the midst of a block of hills on the boundary line between the two tálukas of Kondákamberu (Malkangirí) and Madagul, both in the Jaipur State. The station is on the site of Colonel Saxton's station of the Central Provinces and Vizagapatam Agency Topographical Survey, which was marked by a pole and cairn; on removing these rock was laid bare which appeared to have been cut just beneath where the pole was erected, but a defined mark could not be discovered. A mark was then placed on the apparently cut portion of the rock and is therefore probably nearly identical with Colonel Saxton's station. A road to the station was cut from the village of Nádingwádá.

The pillar is solid and contains two marks, the upper 2.01 feet above the lower which is engraved on the rock *in situ*. The bearings and estimated distances of the circumjacent villages are:—Tolal, or Tolalu, S.W., miles 5; Nádingwádá N.E., miles 5; Budámamáru N.E., miles 4.

**XXXVI.** Kálingkondá Hill Station, lat.  $17^{\circ} 50'$ , long.  $82^{\circ} 21'$ —observed at in 1872—is in pargana Gudam, táluk Narsipatam, district Vizagapatam. A road to the station was made from the hamlet of Gussai.

The pillar is solid and contains two marks, the upper 1.96 feet above the lower which is engraved on the rock *in situ*. The bearings and estimated distances of the circumjacent villages are:—Gussai N., miles 1.5, at the foot of the hill; Rintahra N.W., miles 3; Assiredda N.W. by W., miles 1.5; Singanapilí S., miles 1.5; Sunkadá W., mile 1.

**XXXVII.** Pándawálá Hill Station, lat.  $17^{\circ} 41'$ , long.  $82^{\circ} 16'$ —observed at in 1872—is one of a mass of hills in táluk Koiúr, Narsipatam Agency of the Vizagapatam district. A road to the station was made from the village of Gudapilí.

The pillar is solid and contains two marks, the upper 2.00 feet above the lower which is engraved on the

rock *in situ*. The bearings and estimated distances of the circumjacent villages are :—Bodlúr N.E. miles 4; Mariwára E., miles 1·5; Gurdapilí N.E. by E, miles 1·5; Dudára S.E., mile 1.

XXXVIII. Káp, or Kápkondá Hill Station, lat.  $17^{\circ} 57'$ , long.  $82^{\circ} 40'$ —observed at in 1860 and 1872—is on one of the highest points of the main range of hills, towards its southern flank. It springs from wide valleys and is a very conspicuous object. The station is approached from the village of Kotápilí. The hill of Kápkondá is in táluk Viravili of the estate of the Rájá of Mádágúl in the Vizagapatam district.

The pillar is solid and contains two marks, the upper 1·00 foot above the lower. The upper mark of the station of 1860 was found undisturbed and is identical with that employed in 1872. The circumjacent villages are :—Malipadu on the road to the station at the foot of the ascent; Rámpallí on the same road 1·75 miles from the station; and in the valley beyond the station three small villages—Salbum N.W., Loselli N. by W., and Anthal N., all about 2 or 2·5 miles distant.

XXXIX. Dhár, or Dhárparvatam Hill Station, lat.  $17^{\circ} 44'$ , long.  $82^{\circ} 31'$ —observed at in 1860, 1861 and 1871—is on a high hill forming a portion of the main range and known to the European residents of the district, as a sporting resort, under the name of the “Golconda Hill” owing to its vicinity to Golconda, formerly the Head Quarters of the Golconda Sebundy Corps. It is in táluk Golágondá, district Vizagapatam. A road to the station leads from the village of Paspúshettipalam.

The pillar is solid and contains two marks, the upper 2·00 feet above the lower. The upper mark of the station of 1861 was found undisturbed and is identical with that employed in 1871. The bearings and estimated distances of the circumjacent places are :—Golconda S. by W., miles 3·5; Narsipatam E.S.E., about miles 11; Paspúshettipalam E., miles 7, at the foot of the hill.

XL. Nalákondá Hill Station, lat.  $17^{\circ} 44'$ , long.  $82^{\circ} 48'$ —observed at in 1860—is nearly on the eastern extremity of a long, narrow, isolated hill of that name lying nearly east and west in táluk Golágondá, district Vizagapatam.

The pillar is solid and contains marks. The bearings and distances of the circumjacent places are :—Gandávadá S.W., miles 1·5; Polipalam, near which the ascent to the hill begins, S., mile 1; Fort of Kotákotá W. by N., miles 4·3.

XLI. Sánjib Hill Station, lat.  $17^{\circ} 31'$ , long.  $82^{\circ} 44'$ —observed at in 1860—is on the summit of a high and conspicuous hill so named, the most elevated of the group or range running parallel with the coast, of which it forms a part. The sea is about 10 miles from the station which is in the estate of the Rájá of Uratla, táluk Golágondá, district Vizagapatam.

The pillar is solid and contains two marks, the upper 1·50 feet above the lower. The large village of Uratla, the residence of the Rájá, lies about 3 miles N. and Gotiára, near which the ascent commences, 2 miles E.N.E.

XLII. Jarákondá Hill Station, lat.  $18^{\circ} 2'$ , long.  $82^{\circ} 52'$ —observed at in 1860—is on the summit of the highest rock on an elevated peak, which rising out of well wooded hills is itself bare and rocky. The hill is in the lands of the village of Jarákondá of the estate of the Rájá of Mádágúl, district Vizagapatam. The ascent to the station commences from the small village of Konam.

The rock on which the station is fixed is of sufficient extent to admit of the entire platform being built on it. No actual pillar was erected, two of the feet of the theodolite stand resting on the rock and the third on a stone cemented to the rock with lime mortar, the intervening irregularities being filled up with stone and mortar so as to form in appearance a pillar. Mádágúl or Mádágula lies about 6 miles S.W. and Jarákondá, a small village about 2 miles E.

**XLIII.** Pánchdarlá Hill Station, lat.  $17^{\circ} 35'$ , long.  $83^{\circ} 0'$ —observed at in 1860—is on the highest part of the northeastern extremity of a well known hill of that name, which signifies five springs: these formerly existed on the hill but one only, near the village of Pánchdarlá, now remains. It is a long hill running generally N.E. and S.W. in táluk Sarvásedhi, district Vizagapatam. There is also a secondary station on the same hill, on the higher ground at its southwestern extremity. This is denoted by a circle and dot engraved on the rock *in situ*, over which is erected a pole and brush supported by a pile of stones.

The pillar is solid and contains two marks, the upper 2.16 feet above the lower which is on a stone imbedded in the foundation. The large village of Pánchdarlá lies at the southern extremity of the hill on its eastern side. Kondákirlá lies N.E., 8 miles, Melupaka W., 3.5 miles, and Dupiduru S., 4 miles.

**XLIV.** Pothkondá Hill Station, lat.  $17^{\circ} 48'$ , long.  $83^{\circ} 5'$ —observed at in 1860—is on a conspicuous and well known hill of that name, the highest in the vicinity and remarkable for its double peak: these peaks are nearly of equal altitudes and but a short distance apart. The station is on the eastern peak and is in thánah Pedgari, district Vizagapatam.

The pillar is solid and contains two marks. The town of Ankápilí lies about 8 miles S. and Arípaka village about 3 miles E.

**XLV.** Yarádá Hill Station, lat.  $17^{\circ} 40'$ , long.  $83^{\circ} 18'$ —observed at in 1860—is on the continuation of the range, the eastern extremity of which projects boldly into the sea, forming the roadsted of Vizagapatam, and bears the well known name of the “Dolphin’s Nose.” The station is on the highest part of the range in táluk and district of Vizagapatam. The ascent commences from near the village of Malkápúr.

The pillar is solid and contains two marks, the upper 2.00 feet above the lower which is on a stone imbedded in the foundation. The azimuth and distance of Dolphin’s Nose flag-staff are  $255^{\circ} 26'$ , miles 2.688.

**LXVI.—(Of the East Coast Series).** Márkí Hill Station, lat.  $18^{\circ} 3'$ , long.  $83^{\circ} 7'$ —observed at in 1860 and 1863—is on a long, straight and elevated hill or range of that name, nearly, if not quite, detached from the great main range on the southwestern flank of which it is situated. The hill is 4 or 5 miles in length with a general direction E.N.E. and W.S.W. The station is not on the highest part, and is nearer the eastern than the western extremity of the hill. There is a secondary station of the same name on the hill, distinguished from the principal station by the absence of a platform. The principal station is in thánah Lakavarapukota, district Vizagapatam. The ascent is on the southern side of the hill and commences opposite the small hamlet of Pothbundpilí.

There is but one mark engraved on a projecting piece of rock *in situ* forming the nucleus of the pillar. The azimuth and distance of Wailpada village are  $38^{\circ} 59'$ , 4.977 miles. The station mark of 1860 is identical with that employed in 1863.

**LXIX.—(Of the East Coast Series).** Gumrú Hill Station, lat.  $17^{\circ} 56'$ , long.  $83^{\circ} 17'$ —observed at in 1860 and 1863—is on the summit of the highest of one of the numerous groups of comparatively low hills lying between the great range and the sea. The hill is in táluk Vizianagram, district Vizagapatam, and is locally well known as “Gumrúkondá.” The ascent, which is easy, commences from near the village of Sonkarapalam.

The pillar is solid and contains two marks, the upper 1.88 feet above the lower which is on a stone imbedded in the foundation. The small village of Sankarapala is about 1 mile W. The cantonment of Vizianagram is visible from the station. The upper mark of the station of 1860 is identical with that employed in 1863.

June 1875.

W. H. COLE.

## PRINCIPAL TRIANGULATION—ADDENDUM TO DESCRIPTION OF STATIONS.

## BIDER LONGITUDINAL SERIES.

NOTE.—Consequent on modern alterations of district and other boundaries, the sites occupied by the stations are now included in civil divisions of territory which differ sometimes from the district, pargana or village, recorded in the preceding descriptions of stations: a suitably modified statement of the sub-divisions in question is accordingly given in the following table and is derived chiefly from the annual reports, up to 1879, made by the Civil Officials to whose care the stations have been committed.

The spelling of names is in accordance with that given in the lists of more important places published under the orders of Government whenever such names occur in the lists.

It has become customary in modern times to erect a *square* protecting pillar at each Principal Station over the circular pillar on which the large theodolite stood and which carries the true mark-stone; the square pillar bears a sufficiently accurate mark for Topographical and Revenue Survey purposes, so that it is generally unnecessary to refer to the true mark-stone which thus remains concealed and protected. The stations which are not protected in the manner described are indicated thus †.

| No.  | Local name | District | Pargana, &c. | Village | Remarks |
|------|------------|----------|--------------|---------|---------|
| XLI  | *          | ...      | ...          | ...     |         |
| XLIV | *          | ...      | ...          | ...     |         |
| I    | *          | ...      | ...          | ...     |         |
| II   | *          | ...      | ...          | ...     |         |
| III  | *          | ...      | ...          | ...     |         |
| IV   | *          | ...      | ...          | ...     |         |
| V    | *          | ...      | ...          | ...     |         |
| VI   | *          | ...      | ...          | ...     |         |
| VII  | *          | ...      | ...          | ...     |         |
| VIII | *          | ...      | ...          | ...     |         |
| IX   | *          | ...      | ...          | ...     |         |

NOTE.—XLI and XLIV appertain to the Great Arc Meridional Series—Section 18° to 24°.

\* No reports received from the Civil Officials in whose districts these stations lie.

14\*—D. PRINCIPAL TRIANGULATION—ADDENDUM TO DESCRIPTION OF STATIONS.

| No.    | Local name              | District                                | Pargana, &c.                  | Village              | Remarks |
|--------|-------------------------|-----------------------------------------|-------------------------------|----------------------|---------|
| X      | *                       | ...                                     | ...                           | ...                  |         |
| XI     | *                       | ...                                     | ...                           | ...                  |         |
| XII    | *                       | ...                                     | ...                           | ...                  |         |
| XIII   | *                       | ...                                     | ...                           | ...                  |         |
| XIV    | *                       | ...                                     | ...                           | ...                  |         |
| XV     | *                       | ...                                     | ...                           | ...                  |         |
| XVI    | *                       | ...                                     | ...                           | ...                  |         |
| XVII   | *                       | ...                                     | ...                           | ...                  |         |
| XVIII  | *                       | ...                                     | ...                           | ...                  |         |
| XIX    | *                       | ...                                     | ...                           | ...                  |         |
| XX     | Somán De-<br>vargutta   | Chanda (Siron-<br>cha Sub-Divi-<br>son) | Tá. and Tahsíl<br>Cherla      | Government<br>Forest |         |
| XXI    | *                       | ...                                     | ...                           | ...                  |         |
| XXII   | Budanali                | „                                       | „                             | „                    |         |
| XXIII  | *                       | ...                                     | ...                           | ...                  |         |
| XXIV   | *                       | ...                                     | ...                           | ...                  |         |
| XXV    | Narakonda               | Godávari                                | Tá. Bhadráchal-<br>lam        | Narakonda            |         |
| XXVI   | Manchánáma<br>Ghatta    | „                                       | „ „                           | Peddárkar            |         |
| XXVII  | Dandikonda              | „                                       | „ „                           | Mudgur               |         |
| XXVIII | Pápi-konda              | „                                       | „ Rájmandri                   | Rampa                |         |
| XXIX   | Udágiri Sin-<br>gánáma  | Vizagapatam                             | „ Malkangiri,<br>State Jaipur | ...                  |         |
| XXX    | Polengi, Pe-<br>dákonda | Godávari                                | „ Rájmandri                   | Polengi              |         |
| XXXI   | Páncha                  | Vizagapatam                             | ...                           | Bijikwára            |         |

\* No reports received from the Civil Officials in whose districts these stations lie. Tá. stands for Táluk.

| No.     | Local name  | District    | Pargana, &c.       | Village                          | Remarks |
|---------|-------------|-------------|--------------------|----------------------------------|---------|
| XXXII   | Munás       | Vizagapatam | ...                | Chinchigura                      |         |
| XXXIII  | Bálidongar  | "           | Duswalpur          | Gokarpária                       |         |
| XXXIV   | ...         | "           | Gudam, Narsipatam  | Gudam                            |         |
| XXXV    | ...         | "           | Madgul, Narsipatam | Nádingwáda                       |         |
| XXXVI   | ...         | "           | Narsipatam         | Rentara, Gassi and Chingánábelli |         |
| XXXVII  | ...         | "           | Koiúr, Narsipatam  | Murri Godápilli                  |         |
| XXXVIII | Kápakonda   | "           | Tá. Virávilli      | ...                              |         |
| XXXIX   | Dhár        | "           | " Golugonda        | ...                              |         |
| XL†     | Nalákonda   | "           | Tá. Golugonda      | ...                              |         |
| XLI†    | Sánjib      | "           | " "                | ...                              |         |
| XLII†   | Jerákonda   | "           | " Virávilli        | Jerákonda                        |         |
| XLIII†  | Pánchadarla | "           | " Sarvasiddhi      | Pánchadarla                      |         |
| XLIV†   | Pothkonda   | "           | " Anakáalli        | ...                              |         |
| XLV†    | Yaráda      | "           | " Vizagapatam      | ...                              |         |
| LXVI†   | Máriki      | "           | Srungavarapukota   | ...                              |         |
| LXIX†   | Gumara      | "           | Tá. Vizianagrám    | ...                              |         |

NOTE.—Stations LXVI and LXIX appertain to the East Coast Series. Tá. stands for Táluk.

May 1880.

J. B. N. HENNESSEY,  
In charge of Computing Office.





## PRINCIPAL TRIANGULATION. TRIANGLES.

## BIDER LONGITUDINAL SERIES.

| No. of triangle | Station         | Spherical excess | Corrected plane angle |    |       | Distance  |          |         |
|-----------------|-----------------|------------------|-----------------------|----|-------|-----------|----------|---------|
|                 |                 |                  |                       |    |       | Log. feet | Feet     | Miles   |
| 1               | Báchápálí, XLI  | "                | °                     | '  | "     |           |          |         |
|                 | Dúdálá, XLIV    | .84              | 63                    | 26 | 46'32 | 5'1189412 | 131504'7 | 24'906  |
|                 | Narsulá, II     | .84              | 83                    | 2  | 35'98 | 5'1641444 | 145929'9 | 27'638  |
| 2               | Báchápálí, XLI  | .83              | 33                    | 30 | 37'70 | 4'9093630 | 81163'9  | 15'372  |
|                 | Narsulá, II     | .95              | 45                    | 57 | 16'10 | 5'0242725 | 105748'1 | 20'028  |
|                 | Botmilí, I      | .95              | 51                    | 20 | 17'80 | 5'0602384 | 114878'4 | 21'757  |
| 3               | Báchápálí, XLI  | .95              | 82                    | 42 | 26'10 | 5'1641444 | 145929'9 | 27'638  |
|                 | Dúdálá, XLIV    | .70              | 109                   | 24 | 3'51  | 5'2073117 | 161180'2 | 30'527* |
|                 | Botmilí, I      | .69              | 42                    | 14 | 30'69 | 5'0602384 | 114878'4 | 21'757  |
| 4               | Botmilí, I      | .69              | 28                    | 21 | 25'80 | 4'9093630 | 81163'9  | 15'372  |
|                 | Narsulá, II     | .67              | 42                    | 0  | 53'75 | 4'9166309 | 82533'6  | 15'631  |
|                 | Borá Gattú, III | .68              | 78                    | 56 | 18'04 | 5'0828499 | 121018'0 | 22'920  |
| 5               | Narsulá, II     | .68              | 59                    | 2  | 48'21 | 5'0242725 | 105748'1 | 20'028  |
|                 | Borá Gattú, III | .48              | 36                    | 45 | 52'03 | 4'8813037 | 76085'8  | 14'410  |
|                 | Pirmulo, V      | .49              | 102                   | 45 | 2'23  | 5'0933762 | 123987'0 | 23'482  |
|                 |                 | .48              | 40                    | 29 | 5'74  | 4'9166309 | 82533'6  | 15'631  |

NOTES.—1. The values of the sides are given in the same lines with the opposite angles.

2. Báchápálí, XLI, and Dúdálá, XLIV, appertain to the Great Arc Meridional Series, Section 18° to 24°.

## PRINCIPAL TRIANGULATION—TRIANGLES.

| No. of triangle | Station           | Spherical excess | Corrected plane angle |    |       | Distance  |          |        |
|-----------------|-------------------|------------------|-----------------------|----|-------|-----------|----------|--------|
|                 |                   |                  |                       |    |       | Log. feet | Feet     | Miles  |
| 6               | Borá Gattú, III   | 56               | 94                    | 31 | 16.46 | 5.0965482 | 124895.9 | 23.655 |
|                 | Pirmulo, V        | 56               | 48                    | 5  | 3.69  | 4.9695500 | 93228.8  | 17.657 |
|                 | Malána, IV        | 56               | 37                    | 23 | 39.85 | 4.8813037 | 76085.8  | 14.410 |
| 7               | Botmilí, I        | 86               | 32                    | 20 | 24.36 | 4.9695500 | 93228.8  | 17.657 |
|                 | Borá Gattú, III   | 87               | 103                   | 40 | 50.50 | 5.2287423 | 109333.3 | 32.071 |
|                 | Malána, IV        | 87               | 43                    | 58 | 45.14 | 5.0828499 | 121018.0 | 22.920 |
| 8               | Malána, IV        | 1.17             | 50                    | 22 | 20.38 | 5.0846477 | 121520.0 | 23.015 |
|                 | Pirmulo, V        | 1.17             | 77                    | 17 | 31.86 | 5.1872705 | 153911.3 | 29.150 |
|                 | Chinchalkot, VI   | 1.17             | 52                    | 20 | 7.76  | 5.0965482 | 124895.9 | 23.655 |
| 9               | Malána, IV        | .94              | 48                    | 44 | 41.36 | 5.0633802 | 115712.5 | 21.915 |
|                 | Chinchalkot, VI   | .93              | 41                    | 47 | 19.93 | 5.0110163 | 102569.0 | 19.426 |
|                 | Anáságar, VIII    | .94              | 89                    | 27 | 58.71 | 5.1872705 | 153911.3 | 29.150 |
| 10              | Chinchalkot, VI   | 1.30             | 62                    | 20 | 48.13 | 5.1696864 | 147804.1 | 27.993 |
|                 | Anáságar, VIII    | 1.30             | 73                    | 44 | 57.75 | 5.2046568 | 160197.9 | 30.341 |
|                 | Yarábalí, X       | 1.29             | 43                    | 54 | 14.12 | 5.0633802 | 115712.5 | 21.915 |
| 11              | Chinchalkot, VI   | 1.89             | 56                    | 39 | 29.80 | 5.2088686 | 161759.1 | 30.636 |
|                 | Yarábalí, X       | 1.89             | 67                    | 30 | 53.20 | 5.2526320 | 178908.9 | 33.884 |
|                 | Vánáková, IX      | 1.89             | 55                    | 49 | 37.00 | 5.2046568 | 160197.9 | 30.341 |
| 12              | Pirmulo, V        | .79              | 42                    | 29 | 3.62  | 4.9462650 | 88361.9  | 16.735 |
|                 | Chinchalkot, VI   | .80              | 69                    | 15 | 44.83 | 5.0876214 | 122354.9 | 23.173 |
|                 | Maisamá, VII      | .79              | 68                    | 15 | 11.55 | 5.0846477 | 121520.0 | 23.015 |
| 13              | Chinchalkot, VI   | 1.22             | 77                    | 36 | 22.24 | 5.2594554 | 181742.0 | 34.421 |
|                 | Maisamá, VII      | 1.22             | 74                    | 2  | 36.11 | 5.2526320 | 178908.9 | 33.884 |
|                 | Vánáková, IX      | 1.22             | 28                    | 21 | 1.65  | 4.9462650 | 88361.9  | 16.735 |
| 14              | Vánáková, IX      | 1.90             | 75                    | 4  | 44.69 | 5.2840549 | 192333.5 | 36.427 |
|                 | Yarábalí, X       | 1.89             | 50                    | 33 | 45.62 | 5.1867482 | 153726.3 | 29.115 |
|                 | Bolíková, XI      | 1.90             | 54                    | 21 | 29.69 | 5.2088686 | 161759.1 | 30.636 |
| 15              | Yarábalí, X       | 1.78             | 48                    | 9  | 18.79 | 5.1649590 | 146203.9 | 27.690 |
|                 | Bolíková, XI      | 1.78             | 53                    | 19 | 23.87 | 5.1970135 | 157403.2 | 29.811 |
|                 | Katájpur, XIII    | 1.78             | 78                    | 31 | 17.34 | 5.2840549 | 192333.5 | 36.427 |
| 16              | Bolíková, XI      | 1.81             | 76                    | 51 | 53.92 | 5.2819459 | 191401.8 | 36.250 |
|                 | Katájpur, XIII    | 1.81             | 55                    | 4  | 21.11 | 5.2072085 | 161141.9 | 30.519 |
|                 | Pánc Pandol, XVII | 1.81             | 48                    | 3  | 44.97 | 5.1649590 | 146203.9 | 27.690 |
| 17              | Katájpur, XIII    | 2.40             | 48                    | 43 | 46.14 | 5.2206507 | 166207.6 | 31.479 |
|                 | Partábgirí, XVI   | 2.41             | 65                    | 30 | 10.56 | 5.3036949 | 201231.0 | 38.112 |
|                 | Rámگیر, XIV       | 2.41             | 65                    | 46 | 3.30  | 5.3046034 | 201652.4 | 38.192 |
| 18              | Katájpur, XIII    | 2.54             | 59                    | 2  | 20.88 | 5.2820373 | 191442.0 | 36.258 |
|                 | Yalápúram, XVIII  | 2.54             | 64                    | 35 | 20.69 | 5.3046034 | 201652.4 | 38.192 |
|                 | Partábgirí, XVI   | 2.53             | 56                    | 22 | 18.43 | 5.2692555 | 185889.8 | 35.206 |

BIDER LONGITUDINAL SERIES.

| No. of triangle | Station              | Spherical excess | Corrected plane angle |    |       | Distance  |          |        |
|-----------------|----------------------|------------------|-----------------------|----|-------|-----------|----------|--------|
|                 |                      |                  |                       |    |       | Log. feet | Feet     | Miles  |
| 19              | Katájpur, XIII       | 2'16             | 50                    | 22 | 27'65 | 5'2058643 | 160643'9 | 30'425 |
|                 | Páñch Pandol, XVII   | 2'16             | 63                    | 2  | 0'75  | 5'2692555 | 185889'8 | 35'206 |
|                 | Yalápúram, XVIII     | 2'17             | 66                    | 35 | 31'60 | 5'2819459 | 191401'8 | 36'250 |
| 20              | Vánákondá, IX        | 1'59             | 67                    | 10 | 50'74 | 5'2146686 | 163933'9 | 31'048 |
|                 | Bolíkondá, XI        | 1'59             | 53                    | 0  | 42'44 | 5'1524794 | 142062'5 | 26'906 |
|                 | Kándágatlá, XII      | 1'59             | 59                    | 48 | 26'82 | 5'1867482 | 153726'3 | 29'115 |
| 21              | Bolíkondá, XI        | 1'13             | 42                    | 8  | 9'38  | 5'0427993 | 110356'9 | 20'901 |
|                 | Kándágatlá, XII      | 1'13             | 52                    | 35 | 18'63 | 5'1161273 | 130655'4 | 24'745 |
|                 | Adáligat, XV         | 1'14             | 85                    | 16 | 31'99 | 5'2146686 | 163933'9 | 31'048 |
| 22              | Bolíkondá, XI        | 1'64             | 80                    | 18 | 10'85 | 5'2778190 | 189591'6 | 35'907 |
|                 | Adáligat, XV         | 1'64             | 56                    | 54 | 30'22 | 5'2072085 | 161141'9 | 30'519 |
|                 | Páñch Pandol, XVII   | 1'64             | 42                    | 47 | 18'93 | 5'1161273 | 130655'4 | 24'745 |
| 23              | Yarábalí, X          | 2'32             | 66                    | 5  | 27'01 | 5'3036949 | 201231'0 | 38'112 |
|                 | Katájpur, XIII       | 2'33             | 68                    | 15 | 33'86 | 5'3106139 | 204462'6 | 38'724 |
|                 | Rámگیر, XIV          | 2'32             | 45                    | 38 | 59'13 | 5'1970135 | 157403'2 | 29'811 |
| 24              | Yalápúram, XVIII     | 1'77             | 53                    | 46 | 1'89  | 5'1804012 | 151496'0 | 28'692 |
|                 | Páñch Pandol, XVII   | 1'78             | 67                    | 26 | 12'17 | 5'2391476 | 173439'3 | 32'848 |
|                 | Maláwáram, XIX       | 1'77             | 58                    | 47 | 45'94 | 5'2058643 | 160643'9 | 30'425 |
| 25              | Yalápúram, XVIII     | 1'24             | 35                    | 6  | 5'88  | 5'0041778 | 100966'6 | 19'122 |
|                 | Maláwáram, XIX       | 1'24             | 63                    | 51 | 55'96 | 5'1976500 | 157634'0 | 29'855 |
|                 | Somán Devarguttá, XX | 1'24             | 81                    | 1  | 58'16 | 5'2391476 | 173439'3 | 32'848 |
| 26              | Maláwáram, XIX       | '58              | 44                    | 0  | 52'63 | 4'8887412 | 77400'0  | 14'659 |
|                 | Somán Devarguttá, XX | '59              | 70                    | 58 | 19'64 | 5'0224525 | 105305'8 | 19'944 |
|                 | Bodánalí, XXII       | '58              | 65                    | 0  | 47'73 | 5'0041778 | 100966'6 | 19'122 |
| 27              | Maláwáram, XIX       | '63              | 50                    | 30 | 25'21 | 4'9393211 | 86960'3  | 16'470 |
|                 | Bodánalí, XXII       | '63              | 60                    | 20 | 41'52 | 4'9909008 | 97926'6  | 18'547 |
|                 | Singáwáram, XXIII    | '63              | 69                    | 8  | 53'27 | 5'0224525 | 105305'8 | 19'944 |
| 28              | Bodánalí, XXII       | '57              | 60                    | 51 | 49'32 | 4'9665287 | 92582'5  | 17'535 |
|                 | Singáwáram, XXIII    | '57              | 64                    | 0  | 33'23 | 4'9789781 | 95274'8  | 18'044 |
|                 | Nárákondá, XXV       | '57              | 55                    | 7  | 37'45 | 4'9393211 | 86960'3  | 16'470 |
| 29              | Singáwáram, XXIII    | '52              | 39                    | 10 | 22'32 | 4'8559914 | 71778'0  | 13'594 |
|                 | Nárákondá, XXV       | '53              | 86                    | 15 | 53'57 | 5'0545830 | 113392'1 | 21'476 |
|                 | Rápák, XXVI          | '52              | 54                    | 33 | 44'11 | 4'9665287 | 92582'5  | 17'535 |
| 30              | Páñch Pandol, XVII   | 1'29             | 36                    | 34 | 9'96  | 5'0346794 | 108312'7 | 20'514 |
|                 | Maláwáram, XIX       | 1'30             | 86                    | 59 | 15'62 | 5'2580809 | 181543'6 | 34'383 |
|                 | Pálunchá, XXI        | 1'29             | 56                    | 26 | 34'42 | 5'1804012 | 151496'0 | 28'692 |
| 31              | Maláwáram, XIX       | '69              | 55                    | 49 | 38'43 | 4'9867012 | 96984'2  | 18'368 |
|                 | Pálunchá, XXI        | '69              | 56                    | 39 | 22'51 | 4'9909008 | 97926'6  | 18'547 |
|                 | Singáwáram, XXIII    | '70              | 67                    | 30 | 59'06 | 5'0346794 | 108312'7 | 20'514 |

## PRINCIPAL TRIANGULATION—TRIANGLES.

| No. of triangle | Station            | Spherical excess | Corrected plane angle |    |       | Distance  |          |        |
|-----------------|--------------------|------------------|-----------------------|----|-------|-----------|----------|--------|
|                 |                    |                  |                       |    |       | Log. feet | Feet     | Miles  |
| 32              | Pálunchá, XXI      | 66               | 57                    | 33 | 40.80 | 4.9831523 | 96195.0  | 18.219 |
|                 | Singáwáram, XXIII  | 67               | 64                    | 7  | 47.91 | 5.0109666 | 102557.3 | 19.424 |
|                 | Rájácuttá, XXIV    | 66               | 58                    | 18 | 31.29 | 4.9867012 | 96984.2  | 18.368 |
| 33              | Singáwáram, XXIII  | 71               | 56                    | 1  | 20.41 | 4.9982389 | 99595.3  | 18.863 |
|                 | Rájácuttá, XXIV    | 72               | 70                    | 45 | 26.58 | 5.0545830 | 113392.1 | 21.476 |
|                 | Rápák, XXVI        | 71               | 53                    | 13 | 13.01 | 4.9831523 | 96195.0  | 18.219 |
| 34              | Nárakondá, XXV     | 44               | 63                    | 19 | 34.52 | 4.9232819 | 83807.3  | 15.873 |
|                 | Rápák, XXVI        | 44               | 66                    | 44 | 18.60 | 4.9353291 | 86164.7  | 16.319 |
|                 | Kaler, XXVII       | 43               | 49                    | 56 | 6.88  | 4.8559914 | 71778.0  | 13.594 |
| 35              | Nárakondá, XXV     | 70               | 43                    | 10 | 38.43 | 5.0231378 | 105472.2 | 19.976 |
|                 | Kaler, XXVII       | 70               | 102                   | 50 | 9.59  | 5.1769264 | 150288.7 | 28.464 |
|                 | Singánámá, XXIX    | 70               | 33                    | 59 | 11.98 | 4.9353291 | 86164.7  | 16.319 |
| 36              | Kaler, XXVII       | 88               | 61                    | 23 | 56.83 | 5.0659397 | 116396.5 | 22.045 |
|                 | Singánámá, XXIX    | 89               | 65                    | 53 | 28.97 | 5.0828199 | 121009.6 | 22.918 |
|                 | Pedákondá, XXX     | 88               | 52                    | 42 | 34.20 | 5.0231378 | 105472.2 | 19.976 |
| 37              | Rápák, XXVI        | 61               | 54                    | 4  | 47.65 | 4.9703570 | 93402.2  | 17.690 |
|                 | Kaler, XXVII       | 61               | 79                    | 18 | 51.42 | 5.0543628 | 113334.7 | 21.465 |
|                 | Párikondá, XXVIII  | 60               | 46                    | 36 | 20.93 | 4.9232819 | 83807.3  | 15.873 |
| 38              | Kaler, XXVII       | 82               | 66                    | 30 | 51.84 | 5.0785581 | 119827.9 | 22.695 |
|                 | Párikondá, XXVIII  | 82               | 67                    | 51 | 2.72  | 5.0828199 | 121009.6 | 22.918 |
|                 | Pedákondá, XXX     | 82               | 45                    | 38 | 5.44  | 4.9703570 | 93402.2  | 17.690 |
| 39              | Singánámá, XXIX    | 88               | 46                    | 31 | 31.42 | 4.9966760 | 99237.6  | 18.795 |
|                 | Pedákondá, XXX     | 88               | 75                    | 8  | 13.64 | 5.1211521 | 132175.9 | 25.033 |
|                 | Páncchá, XXXI      | 88               | 58                    | 20 | 14.94 | 5.0659397 | 116396.5 | 22.045 |
| 40              | Pedákondá, XXX     | 81               | 52                    | 49 | 53.27 | 5.0242312 | 105738.0 | 20.026 |
|                 | Páncchá, XXXI      | 82               | 78                    | 45 | 43.44 | 5.1144403 | 130148.8 | 24.649 |
|                 | Cherú, XXXIV       | 81               | 48                    | 24 | 23.29 | 4.9966760 | 99237.6  | 18.795 |
| 41              | Páncchá, XXXI      | 83               | 37                    | 20 | 31.30 | 5.0623480 | 115437.8 | 21.863 |
|                 | Munás, XXXII       | 84               | 111                   | 31 | 10.87 | 5.2480850 | 177045.6 | 33.531 |
|                 | Báli, XXXIII       | 83               | 31                    | 8  | 17.83 | 4.9930450 | 98411.3  | 18.639 |
| 42              | Páncchá, XXXI      | 1.30             | 36                    | 57 | 10.01 | 5.0303285 | 107233.0 | 20.309 |
|                 | Báli, XXXIII       | 1.30             | 60                    | 3  | 15.47 | 5.1891089 | 154564.2 | 29.274 |
|                 | Kaurálbiding, XXXV | 1.30             | 82                    | 59 | 34.52 | 5.2480850 | 177045.6 | 33.531 |
| 43              | Páncchá, XXXI      | 1.01             | 51                    | 30 | 20.48 | 5.0840314 | 121347.7 | 22.983 |
|                 | Kaurálbiding, XXXV | 1.01             | 42                    | 59 | 57.85 | 5.0242312 | 105738.0 | 20.026 |
|                 | Cherú, XXXIV       | 1.01             | 85                    | 29 | 41.67 | 5.1891089 | 154564.2 | 29.274 |
| 44              | Singánámá, XXIX    | 1.02             | 34                    | 4  | 55.01 | 4.9930450 | 98411.3  | 18.639 |
|                 | Páncchá, XXXI      | 1.02             | 97                    | 5  | 53.97 | 5.2412224 | 174269.9 | 33.006 |
|                 | Munás, XXXII       | 1.02             | 48                    | 49 | 11.02 | 5.1211521 | 132175.9 | 25.033 |

BIDER LONGITUDINAL SERIES.

| No. of triangle | Station            | Spherical excess | Corrected plane angle |    |       | Distance  |          |        |
|-----------------|--------------------|------------------|-----------------------|----|-------|-----------|----------|--------|
|                 |                    |                  |                       |    |       | Log. feet | Feet     | Miles  |
|                 |                    | "                | °                     | '  | "     |           |          |        |
| 45              | Munás, XXXII       | .97              | 42                    | 20 | 12'34 | 5'0303285 | 107233'0 | 20'309 |
|                 | Báli, XXXIII       | .98              | 91                    | 11 | 34'45 | 5'2019052 | 159186'1 | 30'149 |
|                 | Kaurálbiding, XXXV | .98              | 46                    | 28 | 13'21 | 5'0623480 | 115437'8 | 21'863 |
| 46              | Cherú, XXXIV       | .52              | 67                    | 11 | 20'34 | 5'0512077 | 112514'3 | 21'310 |
|                 | Kaurálbiding, XXXV | .52              | 29                    | 0  | 28'40 | 4'7722556 | 59191'0  | 11'210 |
|                 | Kálingkondá, XXXVI | .53              | 83                    | 48 | 11'26 | 5'0840314 | 121347'7 | 22'983 |
| 47              | Kaurálbiding, XXXV | .88              | 62                    | 9  | 43'72 | 5'0624241 | 115458'0 | 21'867 |
|                 | Kálingkondá, XXXVI | .87              | 58                    | 19 | 36'38 | 5'0457963 | 111121'0 | 21'046 |
|                 | Káp, XXXVIII       | .87              | 59                    | 30 | 39'90 | 5'0512077 | 112514'3 | 21'310 |
| 48              | Kálingkondá, XXXVI | .49              | 53                    | 21 | 25'52 | 4'9669504 | 92672'4  | 17'552 |
|                 | Káp, XXXVIII       | .48              | 35                    | 7  | 52'38 | 4'8225836 | 66463'6  | 12'588 |
|                 | Dhár, XXXIX        | .49              | 91                    | 30 | 42'10 | 5'0624241 | 115458'0 | 21'867 |
| 49              | Cherú, XXXIV       | .28              | 53                    | 58 | 33'11 | 4'7910474 | 61808'4  | 11'706 |
|                 | Kálingkondá, XXXVI | .28              | 75                    | 15 | 45'25 | 4'8686949 | 73908'6  | 13'998 |
|                 | Pándáwálá, XXXVII  | .28              | 50                    | 45 | 41'64 | 4'7722556 | 59191'0  | 11'210 |
| 50              | Kálingkondá, XXXVI | .33              | 89                    | 14 | 59'09 | 4'9550480 | 90167'1  | 17'077 |
|                 | Pándáwálá, XXXVII  | .32              | 47                    | 28 | 51'36 | 4'8225836 | 66463'6  | 12'588 |
|                 | Dhár, XXXIX        | .32              | 43                    | 16 | 9'55  | 4'7910474 | 61808'4  | 11'706 |
| 51              | Káp, XXXVIII       | .62              | 66                    | 27 | 28'74 | 5'0055400 | 101283'8 | 19'183 |
|                 | Dhár, XXXIX        | .62              | 56                    | 31 | 34'13 | 4'9645186 | 92154'9  | 17'454 |
|                 | Nalákondá, XL      | .62              | 57                    | 0  | 57'13 | 4'9669504 | 92672'4  | 17'552 |
| 52              | Káp, XXXVIII       | .54              | 79                    | 3  | 34'35 | 5'0305164 | 107279'4 | 20'318 |
|                 | Nalákondá, XL      | .53              | 43                    | 26 | 20'42 | 4'8758069 | 75128'9  | 14'229 |
|                 | Jarákondá, XLII    | .54              | 57                    | 30 | 5'23  | 4'9645186 | 92154'9  | 17'454 |
| 53              | Nalákondá, XL      | .75              | 65                    | 29 | 36'62 | 5'0453158 | 110998'2 | 21'022 |
|                 | Jarákondá, XLII    | .75              | 52                    | 55 | 58'30 | 4'9882800 | 97337'5  | 18'435 |
|                 | Pothkondá, XLIV    | .75              | 61                    | 34 | 25'08 | 5'0305164 | 107279'4 | 20'318 |
| 54              | Jarákondá, XLII    | .61              | 52                    | 39 | 15'47 | 4'9570964 | 90593'4  | 17'158 |
|                 | Pothkondá, XLIV    | .61              | 50                    | 25 | 37'68 | 4'9436850 | 87838'5  | 16'636 |
|                 | Márki, LXVI        | .62              | 76                    | 55 | 6'85  | 5'0453158 | 110998'2 | 21'022 |
| 55              | Pothkondá, XLIV    | .44              | 47                    | 33 | 10'53 | 4'8496341 | 70735'0  | 13'397 |
|                 | Márki, LXVI        | .44              | 61                    | 31 | 38'08 | 4'9256466 | 84264'9  | 15'959 |
|                 | Gumrú, LXIX        | .45              | 70                    | 55 | 11'39 | 4'9570964 | 90593'4  | 17'158 |
| 56              | Dhár, XXXIX        | .62              | 46                    | 6  | 35'58 | 4'9132122 | 81886'5  | 15'509 |
|                 | Nalákondá, XL      | .62              | 70                    | 50 | 32'92 | 5'0307325 | 107332'8 | 20'328 |
|                 | Sánjib, XLI        | .62              | 63                    | 2  | 51'50 | 5'0055400 | 101283'8 | 19'183 |
| 57              | Nalákondá, XL      | .54              | 70                    | 25 | 2'56  | 4'9935072 | 98516'1  | 18'658 |
|                 | Sánjib, XLI        | .54              | 58                    | 2  | 7'12  | 4'9479706 | 88709'6  | 16'801 |
|                 | Pánchdarlá, XLIII  | .54              | 51                    | 32 | 50'32 | 4'9132122 | 81886'5  | 15'509 |

NOTE.—Márki, LXVI, and Gumrú, LXIX, appertain to the East Coast Series.

## PRINCIPAL TRIANGULATION—TRIANGLES.

| No. of triangle | Station           | Spherical excess | Corrected plane angle | Distance  |          |        |
|-----------------|-------------------|------------------|-----------------------|-----------|----------|--------|
|                 |                   |                  |                       | Log. feet | • Feet   | Miles  |
| 58              | Nalákondá, XL     | "                | ° ' "                 |           |          |        |
|                 | Pánchdarlá, XLIII | '54              | 52 47 26'75           | 4'9194437 | 83069'9  | 15'733 |
|                 | Pothkondá, XLIV   | '55              | 68 56 34'22           | 4'9882800 | 97337'5  | 18'435 |
| 59              | Pánchdarlá, XLIII | '54              | 58 15 59'03           | 4'9479706 | 88709'6  | 16'801 |
|                 | Pánchdarlá, XLIII | '57              | 55 48 36'24           | 4'9559059 | 90345'4  | 17'111 |
|                 | Pothkondá, XLIV   | '57              | 74 40 32'61           | 5'0225840 | 105337'7 | 19'950 |
| 60              | Yarádá, XLV       | '57              | 49 30 51'15           | 4'9194437 | 83069'9  | 15'733 |
|                 | Pothkondá, XLIV   | '56              | 67 30 11'60           | 4'9874159 | 97144'0  | 18'398 |
|                 | Yarádá, XLV       | '55              | 53 15 54'73           | 4'9256466 | 84264'9  | 15'959 |
|                 | Gumrú, LXIX       | '56              | 59 13 53'67           | 4'9559059 | 90345'4  | 17'111 |

NOTE.—Gumrú, LXIX appertains to the East Coast Series.

October 1876.

J. HERSCHEL.

SECONDARY TRIANGULATION. TRIANGLES.

BIDER LONGITUDINAL SERIES.

PRINCIPAL-AUXILIARY STATIONS, AND INTERSECTED POINTS.

Differences between the common sides of two triangles to stations and intersected points, are shown by the small figures in the column for "Distance in Feet" between the data of the two triangles, the earlier of which in order has supplied the greater value: where the difference is small it has usually been apportioned between the triangles, but where it is large no adjustment has been made, as one or other of the two values must be erroneous.

| No of Triangle | Station         | Corrected plane angle | Distance  |        |        | No of Triangle | Station                | Corrected plane angle | Distance  |       |       | Theodolite used |   |
|----------------|-----------------|-----------------------|-----------|--------|--------|----------------|------------------------|-----------------------|-----------|-------|-------|-----------------|---|
|                |                 |                       | Log. feet | Feet   | Miles  |                |                        |                       | Log. feet | Feet  | Miles |                 |   |
| 61             | Narsulá, II     | 65 35 28              | 4.878536  | 75603  | 14.319 | 66             | Metkúr                 | 65 12 28              | 4.670866  | 46867 | 8.876 | Theodolite used |   |
|                | Borá Gattú, III | 18 11 2               | 4.413448  | 25909  | 4.907  |                | Malaná No. 1           | 72 24 9               | 4.692045  | 49209 | 9.320 |                 | " |
|                | Medak Mosque    |                       | 4.916631  | 82534  | 15.631 |                | Karchilá               |                       | 4.541629  | 34804 | 6.592 |                 | " |
| 62             | Botmilí, I      | 37 46 4               | 4.878536  | 75603  | 14.319 | 67             | Narsulá, II            | 94 34 55              | 4.670866  | 46867 | 8.876 | Theodolite used |   |
|                | Borá Gattú, III | 40 51 47              | 4.907203  | 80761  | 15.296 |                | Malaná No. 1           | 25 28 36              | 4.305870  | 20224 | 3.830 |                 | " |
|                | Medak Mosque    |                       | 5.082850  | 121018 | 22.920 |                | Karchilá               | 59 56 29              | 4.609530  | 40694 | 7.707 |                 |   |
| 63             | Botmilí, I      | 83 55 1               | 4.484892  | 30542  | 5.784  | 68             | Narsulá, II            | 54 31 37              | 4.454048  | 28448 | 5.388 | Theodolite used |   |
|                | Narsulá, II     | 79 34 51              | 5.029041  | 106916 | 20.249 |                | Metkúr                 | 64 30 26              | 4.498731  | 31531 | 5.972 |                 | " |
|                | Metkúr          |                       | 5.024273  | 105748 | 20.028 |                | Kúknúr Village Tower   |                       | 4.484892  | 30542 | 5.784 |                 |   |
| 64             | Botmilí, I      | 61 57 31              | 4.717460  | 52175  | 9.882  | 69             | Narsulá, II            | 96 24 9               | 4.594521  | 39312 | 7.445 | Theodolite used |   |
|                | Borá Gattú, III | 92 31 43              | 5.029041  | 106916 | 20.249 |                | Karchilá               | 52 51 2               | 4.498731  | 31531 | 5.972 |                 | " |
|                | Metkúr          |                       | 5.082850  | 121018 | 22.920 |                | Kúknúr Village Tower   |                       | 4.305870  | 20224 | 3.830 |                 |   |
| 65             | Narsulá, II     | 56 20 51              | 4.541629  | 34804  | 6.592  | 70             | Malaná No. 1           | 48 50 57              | 4.561998  | 36475 | 6.908 | Theodolite used |   |
|                | Metkúr          | 76 43 36              | 4.609530  | 40694  | 7.707  |                | Karchilá               | 26 30 13              | 4.334797  | 21617 | 4.094 |                 | " |
|                | Malaná No. 1    |                       | 4.484892  | 30542  | 5.784  |                | Chetipailí Hill Temple |                       | 4.670866  | 46867 | 8.876 |                 |   |

NOTE.—1. Names followed by Roman numerals are those of Principal Stations.  
 2. The values of the sides are given in the same lines with the opposite angles.



SECONDARY TRIANGULATION. TRIANGLES.

| No. of triangle | Station                                                         | Corrected plane angle |          |          | Distance  |        |        | Theodolite used | No. of triangle                                            | Station | Corrected plane angle |          |       | Distance |      |   | Theodolite used |
|-----------------|-----------------------------------------------------------------|-----------------------|----------|----------|-----------|--------|--------|-----------------|------------------------------------------------------------|---------|-----------------------|----------|-------|----------|------|---|-----------------|
|                 |                                                                 | °                     | '        | "        | Log. feet | Feet   | Miles  |                 |                                                            |         | Log. feet             | Feet     | Miles | °        | '    | " |                 |
| 71              | Gadkol<br>Burgidá<br>Yalámaldevgat                              | h.s.                  | 46 30 18 | 5 111206 | 129183    | 24 467 | C.T.I. | 84              | Mángálorguttá<br>Níladírsámí<br>Ráilápur Village Tower     | h.s.    | 7 14 40               | 3 535149 | 3429  | 0 649    | Inch |   |                 |
| 72              | Burgidá<br>Yalámaldevgat<br>Chittial                            | h.s.                  | 36 50 37 | 4 890554 | 77724     | 14 720 | "      | 85              | Borá Gattú, III<br>Mángálorguttá<br>Ráilápur Village Tower | h.s.    | 71 40 45              | 4 369707 | 23426 | 4 437    | "    |   |                 |
| 73              | Burgidá<br>Chittial<br>Báchápálí, XLI                           | h.s.                  | 50 17 42 | 5 040402 | 109749    | 20 786 | "      | 86              | Mángálorguttá<br>Níladírsámí<br>Konápur Village Temple     | h.s.    | 45 48 26              | 4 247817 | 17694 | 3 351    | "    |   |                 |
| 74              | Yalámaldevgat<br>Chittial<br>Ambojipettí Mosque                 | h.s.                  | 81 37 56 | 5 164184 | 145943    | 27 641 | "      | 87              | Borá Gattú, III<br>Mángálorguttá<br>Konápur Village Temple | h.s.    | 30 29 54              | 4 111543 | 12928 | 2 449    | "    |   |                 |
| 75              | Yalámaldevgat<br>Chittial<br>Narsangpettí Mosque                | h.s.                  | 7 42 27  | 4 484214 | 30494     | 5 775  | "      | 88              | Mángálorguttá<br>Níladírsámí<br>Isanápáulí Temple          | h.s.    | 48 12 10              | 4 278548 | 18991 | 3 597    | "    |   |                 |
| 76              | Burgidá<br>Chittial<br>Argundá Turret                           | h.s.                  | 31 12 37 | 4 815036 | 65319     | 12 371 | "      | 89              | Mángálorguttá<br>Níladírsámí<br>Malárpettá Temple          | h.s.    | 49 34 55              | 4 278548 | 18991 | 3 597    | "    |   |                 |
| 77              | Yalámaldevgat<br>Chittial<br>Kúknúr Hill Pagoda                 | h.s.                  | 6 51 27  | 4 177561 | 15051     | 2 851  | "      | 90              | Pirmulo, V<br>Nálaguttá No. 1<br>Chitárgat No. 1           | h.s.    | 62 19 10              | 4 389823 | 24537 | 4 647    | "    |   |                 |
| 78              | Borá Gattú, III<br>Metkúr<br>Mángálorguttá                      | h.s.                  | 17 49 36 | 4 549947 | 35233     | 6 673  | "      | 91              | Pirmulo, V<br>Nálaguttá No. 1<br>Deogat                    | h.s.    | 53 19 8               | 4 346769 | 22221 | 4 209    | "    |   |                 |
| 79              | Narsulá, II<br>Borá Gattú, III<br>Mángálorguttá                 | h.s.                  | 31 28 27 | 4 608744 | 40620     | 7 693  | "      | 92              | Pirmulo, V<br>Deogat<br>Rámáram                            | h.s.    | 36 49 5               | 4 176737 | 15022 | 2 845    | "    |   |                 |
| 80              | Narsulá, II<br>Borá Gattú, III<br>Nálaguttá No. 1               | h.s.                  | 70 54 8  | 4 604941 | 49538     | 9 382  | 7      | 93              | Pirmulo, V<br>Rámáram<br>Pandolmárgú                       | h.s.    | 57 57 51              | 4 327361 | 21250 | 4 025    | "    |   |                 |
| 81              | Narsulá, II<br>Borá Gattú, III<br>Pirmulo, V<br>Nálaguttá No. 1 | h.s.                  | 24 40 58 | 4 340281 | 21892     | 4 146  | "      | 94              | Pirmulo, V<br>Pandolmárgú<br>Chitárgat No. 2               | h.s.    | 64 0 58               | 4 653038 | 44982 | 8 519    | "    |   |                 |
| 82              | Borá Gattú, III<br>Mángálorguttá<br>Níladírsámí                 | h.s.                  | 67 59 21 | 4 886774 | 77050     | 14 593 | "      | 95              | Pirmulo, V<br>Deogat<br>Chitárgat No. 2                    | h.s.    | 101 23 29             | 4 100620 | 12607 | 2 388    | "    |   |                 |
| 83              | Borá Gattú, III<br>Nálaguttá No. 1<br>Níladírsámí               | h.s.                  | 96 44 17 | 4 916631 | 82534     | 15 631 | "      | 96              | Pirmulo, V<br>Deogat<br>Begampett                          | h.s.    | 75 8 42               | 4 160510 | 14471 | 2 741    | "    |   |                 |

NOTE.—Báchápálí, XLI, appertains to the Great Arc Meridional Series, Section 18° to 24°.  
\* C.T.I. stands for "Circular Transit Instrument"—probably a small theodolite with complete vertical circle.

| No. of Triangle | Station                                                  | Corrected plane angle<br>° ' "   | Distance                                     |                         |                              | No. of triangle | Station                                                  | Corrected plane angle<br>° ' "      | Distance                                     |                           |                               | Theodolite used |
|-----------------|----------------------------------------------------------|----------------------------------|----------------------------------------------|-------------------------|------------------------------|-----------------|----------------------------------------------------------|-------------------------------------|----------------------------------------------|---------------------------|-------------------------------|-----------------|
|                 |                                                          |                                  | Log. feet                                    | Feet                    | Miles                        |                 |                                                          |                                     | Log. feet                                    | Feet                      | Miles                         |                 |
| 97              | Pirmulo, V<br>Rámarám<br>Tirmalápúr Village Tower        | 17 32 52<br>143 58 53            | 4° 02' 13.48<br>4° 31' 14.72<br>4° 04' 28.75 | 10504<br>20487<br>11038 | 1° 989<br>3° 880<br>2° 090   | 110             | Maláná, IV<br>Boráguttá<br>Chokaredipett Village Flag    | 52 45 16<br>41 13 18                | 4° 14' 01.48<br>4° 05' 80.77<br>4° 23' 81.62 | 13809<br>11431<br>17305   | 2° 615<br>2° 165<br>3° 277    | 7<br>"          |
| 98              | Pirmulo, V<br>Deogat<br>Tirmalápúr Village Tower         | 92 41 34<br>56 27 6              | 4° 39' 01.29<br>4° 31' 14.72<br>4° 10' 00.20 | 24554<br>20487<br>12607 | 4° 650<br>3° 880<br>2° 388   | 111             | Maláná, IV<br>Chinchalkot, VI<br>Ranganáikullá No. 1     | 36 31 40<br>20 30 20                | 5° 03' 81.87<br>4° 80' 79.53<br>5° 18' 27.1  | 109191<br>64262<br>153911 | 20° 680<br>12° 171<br>29° 150 | "<br>86<br>"    |
| 99              | Pirmulo, V<br>Rámarám<br>Timakpailí Village Tower        | 37 53 16<br>122 23 0             | 4° 30' 27.62<br>4° 44' 11.02<br>4° 04' 28.75 | 20080<br>27012<br>11038 | 3° 803<br>5° 230<br>2° 090   | 112             | Chinchalkot, VI<br>Anáságar, VIII<br>Ranganáikullá No. 1 | 21 17 1<br>70 35 8                  | 4° 62' 35.00<br>5° 03' 81.87<br>5° 06' 33.80 | 42024<br>109191<br>115712 | 7° 959<br>20° 680<br>21° 915  | "<br>"          |
| 100             | Pirmulo, V<br>Pandolmargú<br>Timakpailí Village Tower    | 44 14 8<br>88 7 46               | 4° 28' 49.46<br>4° 44' 11.02<br>4° 30' 99.00 | 19273<br>27012<br>20413 | 3° 650<br>5° 230<br>3° 866   | 113             | Maláná, IV<br>Niliguttá<br>Maláná No. 2                  | 95 34 18<br>42 56 34                | 4° 69' 71.30<br>4° 53' 25.04<br>4° 52' 03.27 | 49789<br>34080<br>33138   | 9° 430<br>6° 455<br>6° 276    | 7<br>"          |
| 101             | Pirmulo, V<br>Rámarám<br>Rámáságar Village Tower         | 75 49 42<br>43 53 8              | 4° 09' 06.77<br>3° 94' 49.71<br>4° 04' 28.75 | 12322<br>8810<br>11038  | 2° 334<br>1° 669<br>2° 090   | 114             | Maláná, IV<br>Ranganáikullá No. 1<br>Maláná No. 2        | 40 41 38                            | 4° 54' 72.35<br>4° 53' 25.04<br>4° 80' 79.53 | 44385<br>34080<br>64262   | 8° 406<br>6° 455<br>12° 171   | "<br>"          |
| 102             | Pirmulo, V<br>Chítárgat No. 2<br>Rámáságar Village Tower | 90 9 41<br>39 56 52              | 4° 13' 73.74<br>3° 94' 49.71<br>4° 02' 09.34 | 13721<br>8810<br>10494  | 2° 599<br>1° 669<br>1° 987   | 115             | Maláná, IV<br>Niliguttá<br>Dubák                         | 49 11 25<br>31 38 47                | 4° 40' 49.35<br>4° 24' 57.95<br>4° 52' 03.27 | 25406<br>17611<br>33138   | 4° 812<br>3° 336<br>6° 276    | "<br>"          |
| 103             | Pirmulo, V<br>Begampett<br>Wadapailí                     | 32 56 2<br>21 17 28<br>125 46 30 | 4° 01' 49.55<br>3° 83' 06.53<br>4° 18' 88.10 | 10350<br>6913<br>15446  | 1° 960<br>1° 309<br>2° 925   | 116             | Maláná, IV<br>Maláná No. 2<br>Dubák                      | 46 22 53<br>30 10 59                | 4° 40' 42.83<br>4° 24' 57.95<br>4° 53' 25.04 | 25368<br>17611<br>34080   | 4° 805<br>3° 336<br>6° 455    | "<br>"          |
| 104             | Pirmulo, V<br>Deogat<br>Wadapailí                        | 19 0 51<br>20 21 6               | 3° 81' 13.00<br>3° 83' 06.53<br>4° 10' 06.20 | 6476<br>6913<br>12607   | 1° 226<br>1° 309<br>2° 388   | 117             | Maláná, IV<br>Maláná No. 2<br>Chelápúr Village Tower     | 12 46 21<br>4 44 47                 | 4° 39' 84.59<br>3° 97' 16.52<br>4° 53' 25.04 | 25030<br>9368<br>34080    | 4° 741<br>1° 774<br>6° 455    | "<br>"          |
| 105             | Borá Gattá, III<br>Maláná, IV<br>Boláboin                | 20 4 15<br>74 53 39<br>85 2 6    | 4° 50' 67.07<br>4° 95' 59.11<br>4° 06' 95.50 | 32115<br>90346<br>93229 | 6° 082<br>17° 111<br>17° 657 | 118             | Maláná, IV<br>Maláná No. 2<br>Dúmpalpailí                | 22 31 14<br>31 9 25<br>126 19 21    | 4° 20' 95.49<br>4° 34' 01.46<br>4° 53' 25.04 | 16201<br>21885<br>34080   | 3° 068<br>4° 145<br>6° 455    | "<br>"          |
| 106             | Maláná, IV<br>Boláboin<br>Niliguttá                      | 62 55 25<br>60 0 22<br>57 4 15   | 4° 53' 23.55<br>4° 52' 03.27<br>4° 50' 67.07 | 34069<br>33138<br>32115 | 6° 452<br>6° 276<br>6° 082   | 119             | Maláná, IV<br>Niliguttá<br>Dúmpalpailí                   | 73 3 4<br>38 2 17<br>68 54 39       | 4° 53' 11.50<br>4° 34' 01.46<br>4° 52' 03.27 | 33974<br>21885<br>33138   | 6° 435<br>4° 145<br>6° 276    | "<br>"          |
| 107             | Maláná, IV<br>Boláboin<br>Boráguttá                      | 28 35 23<br>62 38 4              | 4° 55' 81.50<br>4° 23' 81.62<br>4° 50' 67.07 | 36153<br>17305<br>32115 | 6° 847<br>3° 277<br>6° 082   | 120             | Chinchalkot, VI<br>Anáságar, VIII<br>Naláguttá No. 2     | 40 29 31<br>55 11 1<br>5° 06' 33.80 | 4° 87' 79.87<br>4° 97' 98.50<br>5° 06' 33.80 | 75507<br>95466<br>115712  | 14° 301<br>18° 081<br>21° 915 | 86<br>"         |
| 108             | Maláná, IV<br>Boláboin<br>Madikuntá Village Tower        | 91 5 20<br>19 45 27              | 4° 53' 06.31<br>4° 06' 97.8<br>4° 50' 67.07  | 34358<br>11617<br>32115 | 6° 507<br>2° 200<br>6° 082   | 121             | Maláná, IV<br>Anáságar, VIII<br>Naláguttá No. 2          | 46 37 42<br>34 16 59                | 4° 87' 79.87<br>4° 76' 72.29<br>5° 01' 10.16 | 75507<br>58510<br>102569  | 14° 301<br>11° 081<br>19° 426 | "<br>"          |
| 109             | Boláboin<br>Boráguttá<br>Madikuntá Village Tower         | 8 49 56<br>67 20 19              | 3° 75' 71.51<br>4° 53' 06.31<br>4° 55' 81.50 | 5717<br>34358<br>36153  | 1° 083<br>6° 507<br>6° 847   | 122             | Anáságar, VIII<br>Naláguttá No. 2<br>Gobariguttá         | 48 46 2<br>32 40 3<br>98 33 55      | 4° 75' 90.98<br>4° 61' 50.61<br>4° 87' 79.87 | 57425<br>41216<br>75507   | 10° 876<br>7° 806<br>14° 301  | "<br>7<br>"     |

SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station                                                   | Corrected plane angle            | Distance                         |                            |                            | No. of Triangle | Station                                                    | Corrected plane angle             | Distance                         |                           |                            | Theodolite used |
|-----------------|-----------------------------------------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------|-----------------|------------------------------------------------------------|-----------------------------------|----------------------------------|---------------------------|----------------------------|-----------------|
|                 |                                                           |                                  | Log. feet                        | Feet                       | Miles                      |                 |                                                            |                                   | Log. feet                        | Feet                      | Miles                      |                 |
| 128             | Chinchalkot, VI<br>Nálaguttá No. 2<br>Gobariguttá         | 36 57 58<br>51 39 25             | 4 759908<br>4 874404<br>4 979850 | 57425<br>74897<br>95466    | 10 876<br>14 185<br>18 081 | 136             | Gadrál<br>Nársimulguttá<br>Siganálapáram Tower             | 52 51 39<br>80 55 50              | 4 404309<br>4 497294<br>4 361213 | 25369<br>31426<br>22973   | 4 805<br>5 952<br>4 351    | Inch<br>7<br>"  |
| 124             | Anáságar, VIII<br>Yarábali, X<br>Gadrál                   | 11 45 35<br>4 0 18<br>164 14 7   | 5 044837<br>4 579742<br>5 169686 | 110876<br>37996<br>147804  | 20 999<br>7 196<br>27 993  | 137             | Anáságar, VIII<br>Gadrál<br>Bijenkiguttá                   | 88 45 48<br>31 32 14<br>59 41 58  | 4 643433<br>4 362080<br>4 579742 | 43998<br>23019<br>37996   | 8 333<br>4 360<br>7 196    | "<br>"<br>"     |
| 125             | Anáságar, VIII<br>Gobariguttá<br>Gadrál                   | 68 24 23<br>52 22 30<br>59 13 7  | 4 649402<br>4 579742<br>4 615061 | 44607<br>37996<br>41216    | 8 448<br>7 196<br>7 806    | 138             | Anáságar, VIII<br>Nársimulguttá<br>Bijenkiguttá            | 73 40 10<br>66 46 21<br>39 33 29  | 4 380905<br>4 362080<br>4 202834 | 24038<br>23019<br>15953   | 4 553<br>4 360<br>3 021    | "<br>"<br>"     |
| 126             | Yarábali, X<br>Gadrál<br>Mallángur                        | 64 5 29<br>50 36 26<br>65 18 5   | 5 040501<br>4 974578<br>5 044837 | 109774<br>94314<br>110876  | 20 791<br>17 863<br>20 999 | 139             | Anáságar, VIII<br>Nársimulguttá<br>Ravalapád Village Tower | 36 24 31<br>48 29 35              | 3 978005<br>4 078065<br>4 202834 | 9506<br>11994<br>15953    | 1 800<br>2 272<br>3 021    | "<br>"<br>"     |
| 127             | Gadrál<br>Mallángur<br>Ailgandal                          | 62 8 34<br>58 0 28<br>59 50 58   | 5 050140<br>5 032089<br>5 040501 | 112238<br>107668<br>109774 | 21 257<br>20 392<br>20 791 | 140             | Nársimulguttá<br>Bijenkiguttá<br>Tangúlpáli Village Tower  | 90 53 45<br>25 25 50              | 4 428407<br>4 061340<br>4 380905 | 26817<br>11517<br>24038   | 5 079<br>2 181<br>4 553    | "<br>"<br>"     |
| 128             | Anáságar, VIII<br>Gadrál<br>Devarguttá                    | 48 23 21<br>36 20 49<br>95 15 50 | 4 455289<br>4 354393<br>4 579742 | 28529<br>22015<br>37996    | 5 403<br>4 283<br>7 196    | 141             | Nársimulguttá<br>Bijenkiguttá<br>Rámacháglullá Temple      | 33 1 32<br>91 19 15               | 4 200321<br>4 463998<br>4 380905 | 15868<br>29107<br>24038   | 3 005<br>5 513<br>4 553    | "<br>"<br>"     |
| 129             | Gobariguttá<br>Gadrál<br>Devarguttá                       | 31 11 2<br>22 52 18<br>125 56 40 | 4 455289<br>4 330718<br>4 649402 | 28529<br>21415<br>44607    | 5 403<br>4 056<br>8 448    | 142             | Nársimulguttá<br>Bijenkiguttá<br>Gondáram Fort             | 25 38 16<br>83 38 33              | 4 042140<br>4 403294<br>4 380905 | 11019<br>25310<br>24038   | 2 087<br>4 794<br>4 553    | "<br>"<br>"     |
| 130             | Gobariguttá<br>Devarguttá<br>Iganágram Fort               | 40 9 17<br>75 16 30              | 4 184437<br>4 360473<br>4 330718 | 15291<br>22934<br>21415    | 2 896<br>4 343<br>4 056    | 143             | Anáságar, VIII<br>Nársimulguttá<br>Gondáram Fort           | 100 34 49<br>41 8 5               | 4 403294<br>4 228856<br>4 202834 | 25310<br>16938<br>15953   | 4 794<br>3 208<br>3 021    | "<br>"<br>"     |
| 131             | Gobariguttá<br>Devarguttá<br>Bedípargi Village Temple     | 28 23 29<br>86 47 11             | 4 051216<br>4 373389<br>4 330718 | 11252<br>23626<br>21415    | 2 131<br>4 475<br>4 056    | 144             | Chinchalkot, VI<br>Anáságar, VIII<br>Wúltá                 | 40 0 37<br>60 32 47               | 4 878954<br>5 010689<br>5 063350 | 75675<br>102492<br>115712 | 14 332<br>19 411<br>21 915 | 36<br>"<br>"    |
| 132             | Anáságar, VIII<br>Gobariguttá<br>Bedípargi Village Temple | 34 46 56<br>49 34 57             | 4 373389<br>4 498744<br>4 615061 | 23626<br>31531<br>41216    | 4 475<br>5 972<br>7 806    | 145             | Chinchalkot, VI<br>Yarábali, X<br>Wúltá                    | 22 20 12<br>30 46 45              | 4 881487<br>5 010689<br>5 204657 | 76118<br>102492<br>160198 | 14 416<br>10 411<br>30 341 | "<br>"<br>"     |
| 133             | Gobariguttá<br>Gadrál<br>Nársimulguttá                    | 30 27 56<br>4 628161<br>79 53 52 | 4 361213<br>4 628161<br>4 649402 | 22973<br>42478<br>44607    | 4 351<br>8 045<br>8 448    | 146             | Anáságar, VIII<br>Yarábali, X<br>Bonthá                    | 24 13 21<br>37 55 11<br>117 51 28 | 4 836262<br>5 011742<br>5 169686 | 68590<br>102741<br>147804 | 12 991<br>19 458<br>27 993 | "<br>"<br>7     |
| 134             | Anáságar, VIII<br>Gobariguttá<br>Nársimulguttá            | 83 30 1<br>21 54 34              | 4 628161<br>4 202834<br>4 615061 | 42478<br>15953<br>41216    | 8 045<br>3 021<br>7 806    | 147             | Yarábali, X<br>Wúltá<br>Bonthá                             | 24 47 41<br>64 17 18<br>90 55 1   | 4 504138<br>4 836262<br>4 881487 | 31926<br>68590<br>76118   | 6 047<br>12 991<br>14 416  | 86<br>7<br>"    |
| 135             | Gobariguttá<br>Nársimulguttá<br>Kátúrpáli Village Tower   | 12 14 10<br>4 10 8               | 4 503472<br>4 638772<br>4 628161 | 31877<br>10934<br>42478    | 6 037<br>2 071<br>8 045    | 148             | Yarábali, X<br>Wúltá<br>Sevaráná                           | 38 31 56<br>113 36 12             | 4 713887<br>4 589102<br>4 881487 | 51747<br>38824<br>76118   | 9 801<br>7 353<br>14 416   | 86<br>7<br>"    |

| No. of Triangle | Station                                   | Corrected plane angle            | Distance                         |                         |                         | No. of Triangle | Station                                                   | Corrected plane angle            | Distance                         |                         |                         | Theodolite used |
|-----------------|-------------------------------------------|----------------------------------|----------------------------------|-------------------------|-------------------------|-----------------|-----------------------------------------------------------|----------------------------------|----------------------------------|-------------------------|-------------------------|-----------------|
|                 |                                           |                                  | Log. feet                        | Feet                    | Miles                   |                 |                                                           |                                  | Log. feet                        | Feet                    | Miles                   |                 |
| 149             | Wúltá<br>Bonthá<br>Seváráná               | 107 32 33<br>36 2 1              | 4.508176<br>4.713887<br>4.504138 | 32224<br>51747<br>31926 | 6.103<br>9.801<br>6.047 | 162             | Wúltá<br>Pangiri<br>Gandipaili Village Tower              | 59 45 14<br>37 26 55             | 4.553995<br>4.401485<br>4.614106 | 35809<br>25205<br>41125 | 6.782<br>4.774<br>7.789 | Inch<br>7<br>"  |
| 150             | Bonthá<br>Seváráná<br>Pangiri             | 24 53 13<br>69 43 9<br>85 23 38  | 4.133687<br>4.481786<br>4.508176 | 13605<br>39324<br>32224 | 2.577<br>5.743<br>6.103 | 163             | Wúltá<br>Bonthá<br>Gandipaili Village Tower               | 12 45 27<br>37 9 44              | 3.964444<br>4.401485<br>4.504138 | 9214<br>25205<br>31926  | 1.745<br>4.774<br>6.047 | "               |
| 151             | Wúltá<br>Bonthá<br>Pangiri                | 46 59 47<br>82 39 20<br>50 20 53 | 4.481786<br>4.614106<br>4.504138 | 39324<br>41125<br>31926 | 5.743<br>7.789<br>6.047 | 164             | Wúltá<br>Ranganáikullá No. 2<br>Akanápailli Village Tower | 16 45 36<br>78 7 33<br>4.492893  | 3.954414<br>4.485080<br>4.492893 | 9004<br>39555<br>31109  | 1.705<br>5.787<br>5.892 | "               |
| 152             | Wúltá<br>Bonthá<br>Degalá                 | 19 54 25<br>17 3 53<br>143 1 42  | 4.257069<br>4.192497<br>4.504138 | 18075<br>15577<br>31926 | 3.423<br>2.950<br>6.047 | 165             | Kháthá<br>Ranganáikullá No. 2<br>Nanganáur Village Tower  | 29 4 36<br>118 23 14<br>4.082453 | 4.038425<br>4.296169<br>4.082453 | 10925<br>19777<br>12091 | 2.069<br>3.746<br>2.290 | "               |
| 153             | Bonthá<br>Pangiri<br>Degalá               | 99 43 13<br>28 5 32<br>52 11 15  | 4.577867<br>4.257069<br>4.481786 | 37833<br>18075<br>39324 | 7.165<br>3.423<br>5.743 | 166             | Ranganáikullá No. 2<br>Gobariguttá<br>Makdúmpúr Tower     | 6 39 44<br>8 17 59<br>4.624290   | 4.276889<br>4.371793<br>4.624290 | 18919<br>23539<br>42101 | 3.583<br>4.458<br>7.974 | "               |
| 154             | Bonthá<br>Degalá<br>Maláná No. 3          | 47 43 33<br>71 2 57<br>61 13 30  | 4.183502<br>4.290107<br>4.257069 | 15258<br>19503<br>18075 | 2.890<br>3.694<br>3.423 | 167             | Wúltá<br>Seváráná<br>Sáralá                               | 68 54 23<br>78 59 6<br>4.713887  | 4.447487<br>4.691841<br>4.713887 | 28021<br>49186<br>51747 | 5.307<br>9.316<br>9.801 | "               |
| 155             | Wúltá<br>Bonthá<br>Maláná No. 3           | 36 45 50<br>64 47 26<br>78 26 44 | 4.290107<br>4.409561<br>4.504138 | 19503<br>29482<br>31926 | 3.694<br>5.584<br>6.047 | 168             | Wúltá<br>Bonthá<br>Sáralá                                 | 68 31 57<br>73 4 47<br>38 23 16  | 4.679835<br>4.691841<br>4.504138 | 47845<br>49186<br>31926 | 9.062<br>9.316<br>6.047 | "               |
| 156             | Wúltá<br>Bonthá<br>Kháthá                 | 70 45 20<br>57 3 49<br>52 10 51  | 4.581566<br>4.539443<br>4.504138 | 38156<br>33919<br>31926 | 7.227<br>6.424<br>6.047 | 169             | Wúltá<br>Sáralá<br>Katkúr Village Tower                   | 23 42 33<br>34 12 52<br>4.368111 | 4.368111<br>4.513745<br>4.691841 | 23341<br>32640<br>49186 | 4.421<br>6.182<br>9.316 | "               |
| 157             | Wúltá<br>Degalá<br>Kháthá                 | 50 50 55<br>26 38 15             | 4.430456<br>4.539443<br>4.192497 | 26944<br>33919<br>15577 | 5.103<br>6.424<br>2.950 | 170             | Wúltá<br>Bonthá<br>Katkúr Village Tower                   | 44 49 24<br>69 7 28<br>4.391374  | 4.391374<br>4.513745<br>4.504138 | 24625<br>32640<br>31926 | 4.664<br>6.182<br>6.047 | "               |
| 158             | Wúltá<br>Bonthá<br>Ranganáikullá No. 2    | 91 36 46<br>43 28 21<br>44 54 53 | 4.655128<br>4.492893<br>4.504138 | 45199<br>31109<br>31926 | 8.560<br>5.892<br>6.047 | 171             | Seváráná<br>Pangiri<br>Kotháakondá Rock                   | 54 34 10<br>89 5 21<br>4.300874  | 4.271989<br>4.300874<br>4.133687 | 18706<br>22955<br>13605 | 9.543<br>4.348<br>2.577 | "               |
| 159             | Bonthá<br>Kháthá<br>Ranganáikullá No. 2   | 13 35 28<br>118 32 30<br>47 52 2 | 4.082453<br>4.655128<br>4.581566 | 12091<br>45199<br>38156 | 2.290<br>8.560<br>7.227 | 172             | Seváráná<br>Sáralá<br>Kotháakondá Rock                    | 19 20 55<br>50 4 58<br>4.360874  | 3.996335<br>4.360874<br>4.447487 | 9916<br>22955<br>28021  | 1.878<br>4.348<br>5.307 | "               |
| 160             | Bonthá<br>Pangiri<br>Antakápett Hill Mark | 30 48 48<br>53 37 20             | 4.193313<br>4.389700<br>4.481786 | 15607<br>24530<br>39324 | 2.956<br>4.646<br>5.743 | 178             | Seváráná<br>Sáralá<br>Narsimulá                           | 73 46 46<br>56 39 53<br>49 33 21 | 4.548439<br>4.488011<br>4.447487 | 35354<br>30762<br>28021 | 6.696<br>5.826<br>5.307 | "               |
| 161             | Wúltá<br>Bonthá<br>Antakápett Hill Mark   | 48 59 42<br>51 50 32             | 4.389700<br>4.407549<br>4.504138 | 24530<br>25559<br>31926 | 4.646<br>4.841<br>6.047 | 174             | Yarábali, X<br>Seváráná<br>Narsimulá                      | 51 23 22<br>29 4 57<br>99 31 41  | 4.488011<br>4.281832<br>4.589102 | 30762<br>19135<br>38824 | 5.826<br>3.624<br>7.353 | "               |

\* Base deduced by two sides and included angle.

SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station                                                      | Corrected plane angle | Distance                         |                           |                           | No. of triangle | Station                                          | Corrected plane angle             | Distance                         |                            |                            | Theodolite used |
|-----------------|--------------------------------------------------------------|-----------------------|----------------------------------|---------------------------|---------------------------|-----------------|--------------------------------------------------|-----------------------------------|----------------------------------|----------------------------|----------------------------|-----------------|
|                 |                                                              |                       | Log. feet                        | Feet                      | Miles                     |                 |                                                  |                                   | Log. feet                        | Feet                       | Miles                      |                 |
| 175             | Seváráná<br>Narsimulá<br>Goláram Village Tower               | h.s.<br>"<br>"        | 4.234505<br>4.413501<br>4.488011 | 17160<br>25912<br>30762   | 3.250<br>4.908<br>5.826   | 188             | Maisamá, VII<br>Rediguttá<br>Benkuntá            | 26 18 51<br>24 14 51<br>4.721199  | 4.480099<br>4.446911<br>4.721199 | 30206<br>27984<br>52626    | 5.721<br>5.300<br>9.967    | Inch<br>7<br>"  |
| 176             | Yarábalí, X<br>Seváráná<br>Goláram Village Tower             | h.s.<br>"<br>"        | 4.413501<br>4.550981<br>4.589102 | 25912<br>35562<br>38824   | 4.908<br>6.735<br>7.353   | 189             | Chinchalkot, VI<br>Rediguttá<br>Benkuntá         | 23 45 36<br>124 50 11<br>4.590542 | 4.480099<br>4.788597<br>4.590542 | 30206<br>61461<br>38953    | 5.721<br>11.640<br>7.377   | 86<br>7<br>"    |
| 177             | Yarábalí, X<br>Narsimulá<br>Sordápalí Village Tower          | h.s.<br>"<br>"        | 4.105056<br>4.498107<br>4.281832 | 12737<br>31485<br>19135   | 2.412<br>5.963<br>3.624   | 190             | Maisamá, VII<br>Rediguttá<br>Tirmalápúr          | 15 7 42<br>117 10 43<br>4.640979  | 4.640979<br>4.188621<br>4.721199 | 43750<br>15439<br>52626    | 8.286<br>2.924<br>9.967    | "<br>"<br>"     |
| 178             | Yarábalí, X<br>Narsimulá<br>Valer Village Tower              | h.s.<br>"<br>"        | 4.107330<br>4.322918<br>4.281832 | 12804<br>21034<br>19135   | 2.425<br>3.984<br>3.624   | 191             | Rediguttá<br>Benkuntá<br>Tirmalápúr              | 39 22 33<br>43 12 31<br>4.446993  | 4.446993<br>4.640979<br>4.480099 | 27989<br>43750<br>30206    | 5.301<br>8.286<br>5.721    | "<br>"<br>"     |
| 179             | Seváráná<br>Narsimulá<br>Yarábalí Village Tower              | h.s.<br>"<br>"        | 4.066805<br>4.459324<br>4.488011 | 11663<br>28795<br>30762   | 2.209<br>5.454<br>5.826   | 192             | Maisamá, VII<br>Tirmalápúr<br>Türkápallí         | 46 24 53<br>32 28 27<br>101 6 40  | 4.056787<br>3.926748<br>4.188621 | 11397<br>8448<br>15439     | 2.159<br>1.600<br>2.924    | "<br>"<br>"     |
| 180             | Yarábalí, X<br>Narsimulá<br>Yarábalí Village Tower           | h.s.<br>"<br>"        | 4.066805<br>4.032895<br>4.281832 | 11663<br>10787<br>19135   | 2.209<br>2.043<br>3.624   | 198             | Maisamá, VII<br>Tirmalápúr<br>Usánrálá           | 49 6 0<br>82 55 41<br>16 37 33    | 4.062820<br>4.070376<br>4.188621 | 11556<br>11759<br>15439    | 2.189<br>2.227<br>2.924    | "<br>"<br>"     |
| 181             | Sáralá<br>Narsimulá<br>Malkánúr Village Tower                | h.s.<br>"<br>"        | 4.593023<br>4.373341<br>4.548439 | 31844<br>23623<br>35354   | 6.031<br>4.474<br>6.696   | 194             | Tirmalápúr<br>Türkápallí<br>Usánrálá             | 16 37 33<br>84 24 31<br>4.056787  | 3.521441<br>4.062820<br>4.056787 | 3322<br>11556<br>11397     | 0.620<br>2.189<br>2.159    | "<br>"<br>"     |
| 182             | Yarábalí, X<br>Sáralá<br>Malkánúr Village Tower              | h.s.<br>"<br>"        | 4.373341<br>4.124286<br>4.456315 | 23623<br>13313<br>27310   | 4.474<br>2.521<br>5.172   | 195             | Chinchalkot, VI<br>Anáságar, VIII<br>Dásáram     | 52 14 59<br>10 45 23<br>84 30 22  | 5.011480<br>4.384466<br>5.063380 | 102679<br>24236<br>115712  | 19.447<br>4.590<br>21.915  | 86<br>"<br>"    |
| 183             | Pirmulo, V<br>Chinchalkot, VI<br>Rediguttá                   | h.s.<br>"<br>"        | 4.590542<br>5.008324<br>5.084648 | 38953<br>101935<br>121520 | 7.377<br>19.306<br>23.015 | 196             | Anáságar, VIII<br>Yarábalí, X<br>Dásáram         | 36 31 48<br>84 30 22<br>36 31 48  | 5.234786<br>5.011480<br>5.169686 | 171706<br>102679<br>147804 | 32.520<br>19.447<br>27.993 | "<br>"<br>"     |
| 184             | Pirmulo, V<br>Maisamá, VII<br>Rediguttá                      | h.s.<br>"<br>"        | 4.721199<br>5.008324<br>5.087621 | 52626<br>101935<br>122355 | 9.967<br>19.306<br>23.173 | 197             | Chinchalkot, VI<br>Maisamá, VII<br>Kondá Pochamá | 57 25 47<br>18 19 45<br>53 45 1   | 4.885510<br>4.457408<br>4.946265 | 76826<br>28669<br>88362    | 14.550<br>5.430<br>16.735  | "<br>"<br>"     |
| 185             | Chinchalkot, VI<br>Maisamá, VII<br>Bondágullá Village Temple | h.s.<br>"<br>"        | 4.759692<br>4.608689<br>4.946265 | 57503<br>40615<br>88362   | 10.891<br>7.692<br>16.735 | 198             | Chinchalkot, VI<br>Dásáram<br>Kondá Pochamá      | 53 42 29<br>72 32 30<br>53 45 1   | 4.384231<br>4.457408<br>4.384466 | 24223<br>28669<br>24236    | 4.588<br>5.430<br>4.590    | 7<br>"<br>"     |
| 186             | Maisamá, VII<br>Rediguttá<br>Bondágullá Village Temple       | h.s.<br>"<br>"        | 4.517178<br>4.759692<br>4.721199 | 32899<br>57503<br>52626   | 6.231<br>10.891<br>9.967  | 199             | Chinchalkot, VI<br>Maisamá, VII<br>Koni          | 43 2 24<br>13 44 53<br>91 13 31   | 4.857829<br>4.399664<br>4.946265 | 72082<br>25099<br>88362    | 13.652<br>4.754<br>16.735  | 86<br>"<br>"    |
| 187             | Chinchalkot, VI<br>Rediguttá<br>Bondágullá Hill Building     | h.s.<br>"<br>"        | 4.543456<br>4.625470<br>4.590542 | 34951<br>42215<br>38953   | 6.619<br>7.995<br>7.377   | 200             | Chinchalkot, VI<br>Yarábalí, X<br>Koni           | 8 52 24<br>5.204657               | 5.211339<br>4.399664<br>5.204657 | 162682<br>25099<br>160198  | 30.811<br>4.754<br>30.341  | "<br>"<br>"     |

• Base deduced by two sides and included angle.

| No. of triangle | Station                                                   | Corrected plane angle             | Distance                                        |                         |                           | No. of triangle | Station                                             | Corrected plane angle            | Distance                                       |                           |                           | Theodolite used |
|-----------------|-----------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------|---------------------------|-----------------|-----------------------------------------------------|----------------------------------|------------------------------------------------|---------------------------|---------------------------|-----------------|
|                 |                                                           |                                   | Log. feet                                       | Feet                    | Miles                     |                 |                                                     |                                  | Log. feet                                      | Feet                      | Miles                     |                 |
| 201             | Chinchalkot, VI<br>Maisam, VII<br>Kodavátúr Hill Building | 86 38 15<br>27 18 4               | 4° 08' 45.8"                                    | 96512<br>44343<br>88362 | 18.279<br>8.398<br>16.735 | 214             | Koní<br>Mangalgaddá<br>Nágaram Temple               | 56 59 46<br>63 29 27             | 4° 53' 02.54"<br>4° 55' 8.38"<br>4° 54' 26.00" | 33904<br>36177<br>34839   | 6.421<br>6.852<br>6.598   | Inch<br>7<br>"  |
| 202             | Chinchalkot, VI<br>Koni<br>Kodavátúr Hill Building        | 43 35 51<br>102 55 7              | 4° 49' 6.54"<br>4° 64' 6.82"<br>4° 39' 9.664"   | 31373<br>44343<br>25999 | 5.942<br>8.398<br>4.754   | 215             | Vánakondá, IX<br>Yarábali, X<br>Koilkondá           | 32 5 37<br>142 27 59             | 5° 14' 9.433"<br>4° 40' 9.13"<br>5° 20' 8.869" | 141069<br>25172<br>161759 | 26.718<br>4.767<br>30.636 | 36<br>7         |
| 203             | Chinchalkot, VI<br>Yarábali, X<br>Kodavátúr Hill Mark     | 44 21 58<br>12 34 14              | 5° 12' 6.004"<br>4° 61' 9.120"                  | 133661<br>41603         | 25.315<br>7.879           | 216             | Vánakondá, IX<br>Koilkondá<br>Golainkondá           | 60 20 18<br>102 15 52            | 4° 86' 4.251"<br>4° 91' 5.224"                 | 73156<br>82267            | 13.855<br>15.581          | 36<br>7         |
| 204             | Chinchalkot, VI<br>Koni<br>Kodavátúr Hill Mark            | 46 51 33<br>96 17 38              | 4° 48' 4.875"<br>4° 61' 9.120"                  | 30540<br>41603          | 5.784<br>7.879            | 217             | Vánakondá, IX<br>Golainkondá<br>Midikondá Hill Mark | 73 50 33<br>51 54 52             | 4° 98' 8.431"<br>4° 90' 10.58"                 | 97371<br>79792            | 18.442<br>15.112          | 36<br>7         |
| 205             | Chinchalkot, VI<br>Koni<br>Nágaredípali Village Tower     | 6 49 43<br>9 58 28                | 4° 01' 3.823"<br>4° 17' 2.12"                   | 10323<br>15939          | 1.955<br>2.848            | 218             | Koilkondá<br>Golainkondá<br>Midikondá Hill Mark     | 97 18 29<br>34 31 2              | 4° 98' 8.431"<br>4° 74' 5.288"                 | 97371<br>55027            | 18.442<br>10.535          | "<br>"          |
| 206             | Maisam, VII<br>Koni<br>Kúlpak                             | 39 11 57<br>62 19 40<br>78 28 23  | 4° 66' 7.408"<br>4° 81' 3.925"<br>4° 85' 7.829" | 46495<br>65152<br>72682 | 8.806<br>12.339<br>13.652 | 219             | Vánakondá, IX<br>Koilkondá<br>Kúshú                 | 64 21 23<br>67 18 49<br>48 19 48 | 4° 48' 2.568"<br>4° 49' 2.628"<br>4° 40' 9.13" | 30379<br>31091<br>25172   | 5.754<br>5.888<br>4.767   | "<br>"<br>"     |
| 207             | Maisam, VII<br>Rediguttá<br>Kúlpak                        | 65 59 57<br>66 18 4<br>47 41 59   | 4° 81' 2.914"<br>4° 81' 3.925"<br>4° 72' 1.199" | 65000<br>65152<br>52626 | 12.311<br>12.339<br>9.967 | 220             | Koilkondá<br>Golainkondá<br>Davarúpala Hill Mark    | 90 44 21<br>33 35 35             | 4° 94' 7.350"<br>4° 69' 0.340"                 | 88583<br>49016<br>73156   | 16.777<br>9.283<br>13.855 | "<br>"<br>"     |
| 208             | Maisam, VII<br>Rediguttá<br>Kondalamá                     | 96 50 5<br>34 49 31               | 4° 84' 4.722"<br>4° 60' 4.513"                  | 69939<br>40227          | 13.246<br>7.619           | 221             | Koilkondá<br>Kúshú<br>Davarúpala Hill Mark          | 78 50 20<br>66 31 9              | 4° 71' 9.586"<br>4° 69' 0.340"                 | 52431<br>49016            | 9.930<br>9.283            | "<br>"          |
| 209             | Maisam, VII<br>Koni<br>Kondalamá                          | 70 2 5<br>32 56 36<br>77 1 19     | 4° 84' 2.149"<br>4° 60' 4.513"<br>4° 85' 7.829" | 69526<br>40227<br>72082 | 13.168<br>7.619<br>13.652 | 222             | Koilkondá<br>Kúshú<br>Pogalkondá Hill Mark          | 60 14 36<br>85 34 27             | 4° 67' 1.553"<br>4° 73' 1.666"                 | 46941<br>53910            | 8.890<br>10.210           | "<br>"          |
| 210             | Koni<br>Kondalamá<br>Sidenghi Hill Building               | 47 2 0<br>47 47 29                | 4° 70' 8.053"<br>4° 71' 3.335"                  | 51057<br>51681          | 9.670<br>9.788            | 223             | Vánakondá, IX<br>Kúshú<br>Pogalkondá Hill Mark      | 102 27 37<br>37 14 39            | 4° 67' 1.553"<br>4° 46' 3.813"                 | 46941<br>29095            | 8.890<br>5.510            | "<br>"          |
| 211             | Rediguttá<br>Kondalamá<br>Sidenghi Hill Building          | 40 33 38<br>76 28 24              | 4° 70' 8.053"<br>4° 88' 2.755"                  | 51057<br>76341          | 9.670<br>14.458           | 224             | Koilkondá<br>Kúshú<br>Gabetá Hill Mark              | 50 57 45<br>53 18 43             | 4° 38' 6.460"<br>4° 40' 0.308"                 | 24348<br>25137            | 4.611<br>4.761            | "<br>"          |
| 212             | Chinchalkot, VI<br>Koni<br>Mangalgaddá                    | 109 53 14<br>27 27 55<br>42 38 51 | 4° 54' 20.60"<br>4° 23' 2.664"<br>4° 39' 9.664" | 34839<br>17687<br>25999 | 6.598<br>3.236<br>4.754   | 225             | Vánakondá, IX<br>Kúshú<br>Gabetá Hill Mark          | 33 31 6<br>101 38 31             | 4° 38' 6.460"<br>4° 63' 5.334"                 | 24348<br>43185            | 4.611<br>8.179            | "<br>"          |
| 213             | Chinchalkot, VI<br>Dásarsm<br>Mangalgaddá                 | 95 56 5<br>33 10 6<br>50 53 49    | 4° 49' 2.663"<br>4° 23' 2.664"<br>4° 38' 4.466" | 31064<br>17687<br>24236 | 5.883<br>3.236<br>4.590   | 226             | Vánakondá, IX<br>Kúshú<br>Wolamadi                  | 54 5 22<br>57 49 31<br>68 5 7    | 4° 43' 0.51"<br>4° 45' 2.792"<br>4° 49' 2.628" | 27143<br>28366<br>31091   | 5.141<br>5.372<br>5.888   | "<br>"<br>"     |

SECONDARY TRIANGULATION. TRIANGLES.

| No. of triangle | Station                                                    | Corrected plane angle<br>° ' " | Distance                         |                            |                            | No. of triangle | Station                                                 | Corrected plane angle<br>° ' "   | Distance                         |                            |                            | Theodolite used |
|-----------------|------------------------------------------------------------|--------------------------------|----------------------------------|----------------------------|----------------------------|-----------------|---------------------------------------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------|-----------------|
|                 |                                                            |                                | Log. feet                        | Feet                       | Miles                      |                 |                                                         |                                  | Log. feet                        | Feet                       | Miles                      |                 |
| 227             | Koilkondá<br>Kúshú<br>Wolámadi                             | h.s.<br>" "<br>"               | 4.433651<br>4.663007<br>4.482568 | 27143<br>46026<br>30379    | 5.141<br>8.717<br>5.754    | 240             | Katájpúr, XIII<br>Partábágrí, XVI<br>Yelchal Hill Mark  | 43 16 0<br>32 50 56              | 5.153423<br>5.051822<br>5.304603 | 142371<br>112673<br>201652 | 26.964<br>21.340<br>38.192 | "               |
| 228             | Vánátondá, IX<br>Yarábali, X<br>Hánimkondá                 | h.s.                           | 4.856857<br>5.204331<br>5.208869 | 71921<br>100078<br>161759  | 13.621<br>30.318<br>30.636 | 241             | Rámágr, XIV<br>Partábágrí, XVI<br>Malánáguттá Hill Mark | 47 50 6<br>25 36 55              | 5.108970<br>4.874837<br>5.220651 | 128520<br>74961<br>106208  | 24.341<br>14.197<br>31.479 | "               |
| 229             | Yarábali, X<br>Katájpúr, XIII<br>Hánimkondá                | h.s.                           | 4.979446<br>4.856857<br>5.197014 | 95377<br>71921<br>157403   | 18.064<br>13.621<br>29.811 | 242             | Rámágr, XIV<br>Malánáguттá Hill Mark<br>Mantáni         | 29 7 45<br>" "                   | 4.590730<br>4.714351<br>4.874837 | 38969<br>51803<br>74961    | 7.380<br>9.811<br>14.197   | "               |
| 230             | Bolikondá, XI<br>Katájpúr, XIII<br>Rángsháhipett Hill Mark | h.s.                           | 5.022791<br>5.069924<br>5.164959 | 105388<br>117469<br>146204 | 19.960<br>22.248<br>27.690 | 243             | Rámágr, XIV<br>Mantáni<br>Pargandi Hill Mark            | 15 54 36<br>126 18 24            | 4.365071<br>4.833379<br>4.714351 | 23178<br>68136<br>51803    | 4.390<br>12.905<br>9.811   | "               |
| 231             | Yarábali, X<br>Katájpúr, XIII<br>Rángsháhipett Hill Mark   | h.s.                           | 5.022791<br>4.889924<br>5.197014 | 105388<br>77617<br>157403  | 19.960<br>14.699<br>29.811 | 244             | Rámágr, XIV<br>Mantáni<br>Godam Ishwar Pagoda           | 3 33 9<br>156 6 39               | 3.965485<br>4.780773<br>4.714351 | 9236<br>60363<br>51803     | 1.749<br>11.430<br>9.811   | "               |
| 232             | Yarábali, X<br>Hánimkondá<br>Chandrágrí                    | h.s.<br>"                      | 4.677813<br>4.960157<br>4.856858 | 47623<br>93144<br>71921    | 9.019<br>17.641<br>13.621  | 245             | Rámágr, XIV<br>Mantáni<br>Pamánur Pagoda                | 11 53 58<br>126 2 18             | 4.202595<br>4.790063<br>4.714351 | 15944<br>62526<br>51803    | 3.020<br>11.842<br>9.811   | "               |
| 233             | Katájpúr, XIII<br>Hánimkondá<br>Chandrágrí                 | h.s.<br>"                      | 4.677813<br>4.819947<br>4.979446 | 47623<br>66061<br>95377    | 9.019<br>12.512<br>18.064  | 246             | Rámágr, XIV<br>Mantáni<br>Rámágr                        | 54 12 49<br>9 2 33<br>116 44 38  | 4.672616<br>3.959848<br>4.714351 | 47056<br>9117<br>51803     | 8.912<br>1.727<br>9.811    | "               |
| 234             | Yarábali, X<br>Katájpúr, XIII<br>Marikondá Temple          | h.s.                           | 5.101202<br>4.710588<br>5.197014 | 126242<br>52070<br>157403  | 23.909<br>9.862<br>29.811  | 247             | Rámágr, XIV<br>Partábágrí, XVI<br>Rámágr                | 35 30 28<br>1 54 36<br>142 34 56 | 5.201054<br>3.959848<br>5.220651 | 158874<br>9117<br>106208   | 30.090<br>1.727<br>31.479  | "               |
| 235             | Yarábali, X<br>Chandrágrí<br>Marikondá Temple              | h.s.                           | 4.869255<br>4.710588<br>4.969157 | 74004<br>52070<br>93144    | 14.016<br>9.862<br>17.641  | 248             | Rámágr, XIV<br>Partábágrí, XVI<br>Gunjáparga Building   | 49 47 2<br>15 2 51               | 5.146847<br>4.678310<br>5.220651 | 140232<br>47677<br>106208  | 26.559<br>9.030<br>31.479  | "               |
| 236             | Bolikondá, XI<br>Katájpúr, XIII<br>Warangal Fort           | h.s.                           | 4.956866<br>5.034674<br>5.164959 | 90545<br>108311<br>140204  | 17.149<br>20.514<br>27.690 | 249             | Rámágr, XIV<br>Rámágr<br>Gunjáparga Building            | 85 17 30<br>83 45 2              | 4.679431<br>4.678310<br>3.959848 | 47800<br>47677<br>9117     | 9.053<br>9.030<br>1.727    | "               |
| 237             | Katájpúr, XIII<br>Hánimkondá<br>Warangal Fort              | h.s.                           | 4.358917<br>4.956866<br>4.979446 | 22852<br>90545<br>95377    | 4.328<br>17.149<br>18.064  | 250             | Rámágr, XIV<br>Partábágrí, XVI<br>Kistnápett Hill Mark  | 57 6 45<br>47 31 21              | 5.159119<br>5.202762<br>5.220651 | 144251<br>126696<br>106208 | 27.320<br>23.995<br>31.479 | "               |
| 238             | Katájpúr, XIII<br>Hánimkondá<br>Pedápúram Hill Temple      | h.s.                           | 4.711668<br>4.687146<br>4.979446 | 51484<br>48657<br>95377    | 9.751<br>9.215<br>18.064   | 251             | Rámágr, XIV<br>Yelchal Hill Mark<br>Ilásagar            | 67 15 34<br>" "                  | 5.057474<br>5.054303<br>4.952863 | 114149<br>113319<br>89714  | 21.619<br>21.462<br>16.991 | "               |
| 239             | Rámágr, XIV<br>Partábágrí, XVI<br>Yelchal Hill Mark        | h.s.                           | 5.153423<br>4.952863<br>5.220651 | 142371<br>89714<br>106208  | 26.964<br>16.991<br>31.479 | 252             | Rámágr, XIV<br>Kistnápett Hill Mark<br>Ilásagar         | 48 45 13<br>72 38 6              | 4.999171<br>5.054303<br>5.102762 | 99809<br>113319<br>126696  | 18.903<br>21.462<br>23.995 | "               |

\* See note to page 20—D.

| No. of triangle | Station                                                   | Corrected plane angle             | Distance                         |                            |                            | No. of triangle | Station                                               | Corrected plane angle            | Distance                         |                            |                            | Theodolite used |
|-----------------|-----------------------------------------------------------|-----------------------------------|----------------------------------|----------------------------|----------------------------|-----------------|-------------------------------------------------------|----------------------------------|----------------------------------|----------------------------|----------------------------|-----------------|
|                 |                                                           |                                   | Log. feet                        | Feet                       | Miles                      |                 |                                                       |                                  | Log. feet                        | Feet                       | Miles                      |                 |
| 253             | Rámárgí, XIV<br>Partabgiri, XVI<br>Chinur Temple          | 40 10 0<br>53 12 38               | 5'039974<br>5'124952<br>5'220651 | 107393<br>133337<br>166208 | 20.340<br>25.253<br>31.479 | 266             | Bolikondá, XI<br>Kándágatlá, XII<br>Kandikondá Pagoda | 58 20 3<br>37 4 0                | 5'146594<br>4'996734<br>5'214669 | 140150<br>99251<br>163934  | 26.544<br>18.797<br>31.048 | Inch<br>C.T.I.  |
| 254             | Rámárgí, XIV<br>Partabgiri, XVI<br>Sironcha Fort          | 26 27 31<br>84 11 4               | 4'898368<br>5'247229<br>5'220651 | 79135<br>176697<br>166208  | 14.988<br>33.465<br>31.479 | 267             | Kándágatlá, XII<br>Gunigat<br>Inkúrti                 | 47 23 50<br>53 37 40             | 5'052063<br>5'177057<br>5'091041 | 112736<br>159334<br>123322 | 21.352<br>28.472<br>23.356 | "               |
| 255             | Katájpúr, XIII<br>Yalápúram, XVIII<br>Páneh Pandol        | 52 5 6<br>67 27 13<br>60 27 41    | 5'226759<br>5'295194<br>5'269256 | 168562<br>197330<br>185890 | 31.925<br>37.373<br>35.206 | 268             | Kándágatlá, XII<br>Kandikondá Pagoda<br>Inkúrti       | 34 22 37<br>5'177057<br>5'146594 | 4'936475<br>159334<br>140150     | 86392<br>159334<br>140150  | 16.362<br>28.472<br>26.544 | "               |
| 256             | Bolikondá, XI<br>Katájpúr, XIII<br>Páneh Pandol           | 79 48 53<br>53 21 47<br>46 49 20  | 5'295194<br>5'200501<br>5'164959 | 197330<br>106879<br>146204 | 37.373<br>30.470<br>27.690 | 269             | Bolikondá, XI<br>Kandikondá Pagoda<br>Gudur           | 13 12 3<br>4'893077<br>4'996734  | 4'465774<br>78177<br>99251       | 29226<br>78177<br>99251    | 5.535<br>14.806<br>18.797  | "               |
| 257             | Bolikondá, XI<br>Páneh Pandol<br>Girmájpétt Hill Pagoda   | 117 44 32<br>25 44 25             | 5'378902<br>5'069716<br>5'200501 | 239278<br>117413<br>166879 | 45.318<br>22.237<br>30.470 | 270             | Gunigat<br>Kandikondá Pagoda<br>Gudur                 | 35 41 28<br>4'691442<br>4'534445 | 4'465774<br>49141<br>34233       | 29226<br>49141<br>34233    | 5.535<br>9.307<br>6.484    | "               |
| 258             | Bolikondá, XI<br>Katájpúr, XIII<br>Girmájpétt Hill Pagoda | 37 55 39<br>53 24 15              | 4'953714<br>5'069716<br>5'164959 | 89891<br>117413<br>146204  | 17.025<br>22.237<br>27.690 | 271             | Gunigat<br>Gudur<br>Narswelpétt Hill Pagoda           | 23 19 5<br>120 30 53             | 4'517998<br>4'855739<br>4'691442 | 32961<br>71736<br>49141    | 6.243<br>13.586<br>9.307   | "               |
| 259             | Bolikondá, XI<br>Páneh Pandol<br>Shaiámápett Hill Mark    | 91 33 28<br>43 11 47              | 5'355300<br>5'199535<br>5'200501 | 226464<br>155072<br>166879 | 42.891<br>29.370<br>30.470 | 272             | Kándágatlá, XII<br>Gunigat<br>Narswelpétt Hill Pagoda | 35 34 1<br>53 43 0               | 4'855739<br>4'997464<br>5'091041 | 71736<br>99418<br>123322   | 13.586<br>18.829<br>23.356 | "               |
| 260             | Bolikondá, XI<br>Páneh Pandol<br>Shilkaugat Hill Mark     | 41 57 22<br>42 39 20              | 5'033565<br>5'039391<br>5'200501 | 108035<br>109494<br>166879 | 20.461<br>20.738<br>30.470 | 273             | Bolikondá, XI<br>Gunigat<br>Isompáli Hill Pagoda      | 4 56 1<br>13 33 17               | 4'537240<br>4'972644<br>5'103947 | 34454<br>93895<br>127042   | 6.525<br>17.783<br>24.061  | "               |
| 261             | Bolikondá, XI<br>Katájpúr, XIII<br>Shilkaugat Hill Mark   | 37 51 31<br>48 21 19              | 4'953875<br>5'039391<br>5'164959 | 89924<br>109494<br>146204  | 17.031<br>20.738<br>27.690 | 274             | Gunigat<br>Gudur<br>Isompáli Hill Pagoda              | 8 47 52<br>19 14 51              | 4'203730<br>4'537240<br>4'691442 | 15986<br>34454<br>49141    | 3.028<br>6.525<br>9.307    | "               |
| 262             | Bolikondá, XI<br>Páneh Pandol<br>Chetupáli Hill Mark      | 2 57 0<br>90 22 7                 | 3'918737<br>5'207221<br>5'200501 | 8293<br>161146<br>166879   | 1.571<br>30.520<br>30.470  | 275             | Gunigat<br>Kandikondá Pagoda<br>Haidarshahipétt       | 77 7 59<br>4'015942<br>4'534445  | 33487<br>10374<br>54333          | 33487<br>10374<br>54333    | 6.342<br>1.965<br>6.484    | "               |
| 263             | Bolikondá, XI<br>Páneh Pandol<br>Gunigat                  | 71 22 9<br>45 1 18<br>63 36 33    | 5'239921<br>5'103947<br>5'200501 | 170185<br>127042<br>166879 | 32.232<br>24.061<br>30.470 | 276             | Partabgiri, XVI<br>Yalápúram, XVIII<br>Rajenaguttá    | 49 2 53<br>121 0 57              | 4'585959<br>5'227140<br>5'282037 | 38544<br>168710<br>191442  | 7.300<br>31.953<br>36.258  | "               |
| 264             | Bolikondá, XI<br>Kándágatlá, XII<br>Gunigat               | 48 7 17<br>50 5 13<br>81 47 30    | 5'091041<br>5'103947<br>5'214669 | 123322<br>127042<br>163934 | 23.356<br>24.061<br>31.048 | 277             | Yalápúram, XVIII<br>Rajenaguttá<br>Mangampétt Fort    | 68 26 41<br>74 28 13<br>4'585959 | 4'774155<br>4'789490<br>4'585959 | 59450<br>61587<br>38544    | 11.260<br>11.664<br>7.300  | "               |
| 265             | Kándágatlá, XII<br>Gunigat<br>Kandikondá Pagoda           | 13 1 13<br>112 43 33<br>112 43 33 | 4'534445<br>5'146594<br>5'091041 | 34233<br>140150<br>123322  | 6.484<br>26.544<br>23.356  | 278             | Yalápúram, XVIII<br>Rajenaguttá<br>Kamenagudium Tree  | 36 21 32<br>97 12 50<br>4'585959 | 4'498859<br>4'722469<br>4'585959 | 31540<br>52780<br>38544    | 5.973<br>9.996<br>7.300    | "               |

\* See note to page 20—D.



SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station                                                       | Corrected plane angle                    | Distance                               |                            |                            | No. of Triangle | Station                                               | Corrected plane angle | Distance                               |                         |                           | Theodolite used |
|-----------------|---------------------------------------------------------------|------------------------------------------|----------------------------------------|----------------------------|----------------------------|-----------------|-------------------------------------------------------|-----------------------|----------------------------------------|-------------------------|---------------------------|-----------------|
|                 |                                                               |                                          | Log. feet                              | Feet                       | Miles                      |                 |                                                       |                       | Log. feet                              | Feet                    | Miles                     |                 |
| 279             | Yalápúram, XVIII<br>Kájénaguttá<br>Nágáram Flag               | s.<br>22 53 7<br>121 59 0                | 4°41'57.72<br>4°75'44.18<br>4°58'59.59 | 26048<br>56813<br>38544    | 4.933<br>10.760<br>7.300   | 292             | Bodánali, XXII<br>Ratanguttá<br>Dumagudem             | h.s.<br>s.<br>s.      | 4°51'14.84<br>4°73'84.03<br>4°57'00.88 | 32470<br>54752<br>37161 | 6.150<br>10.370<br>7.038  | Inch<br>" " "   |
| 280             | Partábgiri, XVI<br>Yalápúram, XVIII<br>Bhupalpatnam Hill Mark | s.<br>73 55 50<br>39 20 16               | 5°30'15.71<br>5°12'08.95<br>5°28'20.37 | 200249<br>132098<br>191442 | 37.926<br>25.018<br>36.258 | 293             | Bodánali, XXII<br>Singáwáram, XXIII<br>Dumagudem      | s.<br>s.<br>s.        | 4°60'79.84<br>4°73'84.03<br>4°93'32.1  | 40549<br>54752<br>86960 | 7.680<br>10.370<br>16.470 | " " "           |
| 281             | Partábgiri, XVI<br>Bhupalpatnam Hill Mark                     | s.<br>78 10 48                           | 5°11'20.78<br>4°52'13.03               | 129443<br>33213            | 24.516<br>6.290            | 294             | Singáwáram, XXIII<br>Dumagudem<br>Yalágúram Hill Mark | s.<br>s.<br>h.s.      | 4°52'45.52<br>4°46'42.83<br>4°60'79.84 | 33462<br>29126<br>40549 | 6.338<br>5.516<br>7.680   | " " "           |
| 282             | Partábgiri, XVI<br>Mahádeopúr<br>Somanur Hill Mark            | s.<br>87 16 30                           | 4°97'56.88<br>4°97'47.02<br>4°52'13.03 | 94556<br>94341<br>33213    | 17.908<br>17.868<br>6.290  | 295             | Singáwáram, XXIII<br>Yalágúram Hill Mark<br>Dágálvine | h.s.<br>h.s.<br>h.s.  | 4°43'34.14<br>4°59'67.47<br>4°40'42.83 | 25907<br>39514<br>29126 | 4.907<br>7.484<br>5.516   | " " "           |
| 283             | Soman Devarguttá, XX<br>Bodánali, XXII<br>Kaler               | h.s.<br>20 55 35<br>142 31.56            | 4°55'01.2<br>4°65'74.85<br>4°88'87.41  | 36225<br>45445<br>77400    | 6.861<br>8.607<br>14.659   | 296             | Singáwáram, XXIII<br>Dágálvine<br>Tunkiguttá          | h.s.<br>h.s.<br>h.s.  | 4°34'37.50<br>4°53'42.07<br>4°59'67.47 | 22067<br>34214<br>39514 | 4.179<br>6.480<br>7.484   | " " "           |
| 284             | Bodánali, XXII<br>Kaler<br>Ratanguttá                         | h.s.<br>48 38 50<br>67 17 32<br>64 3 38  | 4°48'05.69<br>4°57'00.88<br>4°55'01.2  | 30239<br>37161<br>36225    | 5.727<br>7.038<br>6.861    | 297             | Bodánali, XXII<br>Singáwáram, XXIII<br>Tunkiguttá     | h.s.<br>h.s.<br>h.s.  | 4°53'42.07<br>4°99'70.49<br>4°93'32.1  | 34214<br>99323<br>86960 | 6.480<br>18.811<br>16.470 | " " "           |
| 285             | Bodánali, XXII<br>Singáwáram, XXIII<br>Itatanguttá            | h.s.<br>55 47 5<br>24 56 43              | 4°56'24.99<br>4°57'00.88<br>4°93'32.1  | 72862<br>37161<br>86960    | 13.800<br>7.038<br>16.470  | 298             | Singáwáram, XXIII<br>Tunkiguttá<br>Devarpilguttá      | h.s.<br>h.s.<br>h.s.  | 4°51'00.55<br>4°70'29.92<br>4°53'42.07 | 32363<br>50465<br>34214 | 6.129<br>9.558<br>6.480   | " " "           |
| 286             | Soman Devarguttá, XX<br>Kaler<br>Lachipúram                   | h.s.<br>57 47 51<br>84 38 19             | 4°44'44.67<br>4°58'68.47<br>4°65'74.85 | 27827<br>38623<br>45445    | 5.270<br>7.315<br>8.607    | 299             | Singáwáram, XXIII<br>Rajáguttá, XXIV<br>Devarpilguttá | h.s.<br>h.s.<br>h.s.  | 4°70'85.94<br>4°70'29.92<br>4°98'31.52 | 51120<br>50465<br>96195 | 9.682<br>9.558<br>18.219  | " " "           |
| 287             | Kaler<br>Ratanguttá<br>Lachipúram                             | h.s.<br>92 22 41<br>41 31 44<br>46 5 35  | 4°62'25.81<br>4°44'44.67<br>4°48'05.69 | 41935<br>27827<br>30239    | 7.942<br>5.270<br>5.727    | 300             | Singáwáram, XXIII<br>Rajáguttá, XXIV<br>Bhadrachallam | h.s.<br>h.s.<br>h.s.  | 4°87'20.85<br>4°56'42.31<br>4°98'31.52 | 74488<br>36663<br>96195 | 14.108<br>6.944<br>18.219 | " " "           |
| 288             | Ratanguttá<br>Lachipúram<br>Mutalámásguttá                    | h.s.<br>63 53 51<br>53 2 11<br>63 3 58   | 4°62'57.25<br>4°57'50.01<br>4°62'25.81 | 42240<br>37584<br>41935    | 8.000<br>7.118<br>7.942    | 301             | Singáwáram, XXIII<br>Devarpilguttá<br>Bhadrachallam   | h.s.<br>h.s.<br>h.s.  | 4°67'32.13<br>4°56'42.31<br>4°70'29.92 | 47121<br>36663<br>50465 | 8.924<br>6.944<br>9.558   | 7               |
| 289             | Lachipúram<br>Mutalámásguttá<br>Durganguttá                   | h.s.<br>59 42 50<br>69 28 47<br>70 48 23 | 4°45'60.33<br>4°62'20.94<br>4°62'57.25 | 28578<br>41888<br>42240    | 5.413<br>7.933<br>8.000    | 302             | Rajáguttá, XXIV<br>Bhadrachallam<br>Kindarsainguttá   | h.s.<br>h.s.<br>h.s.  | 4°42'05.58<br>4°72'81.85<br>4°87'20.85 | 26337<br>53479<br>74488 | 4.988<br>10.129<br>14.108 | " " "           |
| 290             | Bodánali, XXII<br>Ratanguttá<br>Nálábeli                      | h.s.<br>43 51 56<br>71 19 53<br>64 48 11 | 4°45'42.25<br>4°59'00.38<br>4°57'00.88 | 28459<br>38908<br>37161    | 5.390<br>7.309<br>7.038    | 303             | Rajáguttá, XXIV<br>Devarpilguttá<br>Kindarsainguttá   | h.s.<br>h.s.<br>h.s.  | 4°34'45.66<br>4°72'81.85<br>4°70'85.94 | 22109<br>53479<br>51120 | 4.187<br>10.129<br>9.682  | " " "           |
| 291             | Bodánali, XXII<br>Singáwáram, XXIII<br>Nálábeli               | h.s.<br>11 55 9<br>9 20 1<br>158 44 50   | 4°69'50.20<br>4°59'00.38<br>4°93'32.1  | 49547<br>38908<br>86960    | 9.384<br>7.309<br>16.470   | 304             | Singáwáram, XXIII<br>Tunkiguttá<br>Eragúntá           | h.s.<br>h.s.<br>h.s.  | 4°39'32.06<br>4°47'37.41<br>4°53'42.07 | 24729<br>29767<br>34214 | 4.684<br>5.638<br>6.480   | " " "           |

See note to page 20.—D.

| No. of triangle | Station                                                     | Corrected plane angle            | Distance                         |                         |                           | No. of triangle | Station                                                   | Corrected plane angle | Distance                         |                            |                            | Theodolite used |
|-----------------|-------------------------------------------------------------|----------------------------------|----------------------------------|-------------------------|---------------------------|-----------------|-----------------------------------------------------------|-----------------------|----------------------------------|----------------------------|----------------------------|-----------------|
|                 |                                                             |                                  | Log. feet                        | Feet                    | Miles                     |                 |                                                           |                       | Log. feet                        | Feet                       | Miles                      |                 |
| 305             | Singawaram, XXIII<br>Bhadrachallam<br>Brágitá               | 57 43 3<br>50 28 26<br>71 48 31  | 4 513574<br>4 473741<br>4 504231 | 32627<br>29767<br>30663 | 6 179<br>5 638<br>6 944   | 318             | Rápák, XXVI<br>Párikondá, XXVIII<br>Bátakondá Hill Mark   | 19 59 54<br>28 16 27  | 4 715456<br>4 856934<br>5 054363 | 51934<br>71934<br>113335   | 9 836<br>13 624<br>21 465  | Inch<br>86<br>" |
| 306             | Singawaram, XXIII<br>Eriguntá<br>Bhadrachallam Temple       | 57 50 59<br>71 40 31             | 4 514198<br>4 563891<br>4 473741 | 32674<br>36635<br>29767 | 6 188<br>6 938<br>5 638   | 319             | Nárakondá, XXV<br>Singánámá, XXIX<br>Kauslúr              | 56 17 57<br>42 30 59  | 5 102183<br>5 011906<br>5 176926 | 126527<br>102779<br>150289 | 23 963<br>19 466<br>28 464 | "               |
| 307             | Singawaram, XXIII<br>Devarpilíguntá<br>Bhadrachallam Temple | 63 17 44<br>43 54 19             | 4 673880<br>4 563891<br>4 762992 | 47193<br>36635<br>50465 | 8 938<br>6 938<br>9 558   | 320             | Nárakondá, XXV<br>Kaler, XXVII<br>Kánszlúr                | 13 7 18<br>120 50 23  | 4 434176<br>5 011906<br>4 935329 | 27175<br>102779<br>86165   | 5 147<br>19 466<br>16 319  | "               |
| 308             | Bhadrachallam<br>Kráguntá<br>Elíguntá                       | 117 37 4<br>32 33 39             | 4 730097<br>4 479251<br>4 513574 | 53715<br>30147<br>32627 | 10 173<br>5 710<br>6 179  | 321             | Nárakondá, XXV<br>Kaler, XXVII<br>Hill Peak No. 1         | 87 56 31<br>36 47 15  | 5 020256<br>4 797853<br>4 935329 | 104775<br>62785<br>86165   | 19 844<br>11 891<br>16 319 | "               |
| 309             | Bhadrachallam<br>Kindarsainguntá<br>Korápil Hill Mark       | 148 29 56<br>18 52 0             | 4 798749<br>4 590346<br>4 420558 | 62914<br>38935<br>26337 | 11 916<br>7 374<br>4 988  | 322             | Kaler, XXVII<br>Singánámá, XXIX<br>Hill Peak No. 2        | 72 8 20<br>47 37 48   | 5 063148<br>4 953132<br>5 023138 | 115651<br>8770<br>105472   | 21 904<br>17 002<br>19 976 | "               |
| 310             | Bhadrachallam<br>Elíguntá<br>Korápil Hill Mark              | 128 33 35<br>29 13 36            | 4 794873<br>4 590346<br>4 479251 | 62555<br>38935<br>30147 | 11 810<br>7 374<br>5 710  | 323             | Kaler, XXVII<br>Singánámá, XXIX<br>Hill Peak No. 3        | 43 5 35<br>36 37 42   | 4 864703<br>4 805863<br>5 023138 | 73232<br>63953<br>105472   | 13 870<br>12 112<br>19 976 | "               |
| 311             | Nárakondá, XXV<br>Rápák, XXVI<br>Bolígattá                  | 39 52 51<br>116 34 11            | 4 506025<br>4 711453<br>4 855991 | 32065<br>51458<br>7177  | 6 073<br>9 746<br>13 594  | 324             | Kaler, XXVII<br>Singánámá, XXIX<br>Hill Peak No. 1        | 106 29 44<br>23 40 27 | 5 121713<br>4 743690<br>5 023138 | 132347<br>55423<br>105472  | 25 066<br>10 497<br>19 976 | "               |
| 312             | Rájágitá, XXIV<br>Rápák, XXVI<br>Bolígattá                  | 18 44 51<br>67 54 7              | 4 506025<br>4 963847<br>4 998239 | 32065<br>92437<br>99595 | 6 073<br>17 507<br>18 863 | 325             | Nárakondá, XXV<br>Singánámá, XXIX<br>Hill Peak No. 1      | 49 43 6<br>10 18 46   | 5 121713<br>4 492165<br>5 176926 | 132347<br>31057<br>150289  | 25 066<br>5 882<br>28 464  | "               |
| 313             | Bodánál, XXII<br>Narikondá, XXV<br>Durgat                   | 27 15 41<br>84 3 25<br>68 40 54  | 4 670674<br>5 007420<br>4 978978 | 46845<br>10172<br>93275 | 8 872<br>19 266<br>18 044 | 326             | Rápák, XXVI<br>Párikondá, XXVIII<br>Kotá Hill Mark        | 84 19 56<br>17 21 26  | 5 061336<br>4 538159<br>5 054363 | 115169<br>34527<br>113335  | 21 812<br>6 539<br>21 465  | "               |
| 314             | Nárakondá, XXV<br>Bolígattá<br>Durgat                       | 33 47 9<br>64 19 31<br>81 53 20  | 4 460964<br>4 670674<br>4 711453 | 28904<br>46845<br>51458 | 5 474<br>8 872<br>9 746   | 327             | Kaler, XXVII<br>Párikondá, XXVIII<br>Kotá Hill Mark       | 97 10 29<br>29 14 56  | 5 061336<br>4 733708<br>4 970357 | 115169<br>56716<br>92402   | 21 812<br>10 742<br>17 690 | "               |
| 315             | Rápák, XXVI<br>Bolígattá<br>Kondágúram                      | 24 55 41<br>120 56 50<br>34 7 29 | 4 381842<br>4 690371<br>4 506025 | 24090<br>49020<br>32065 | 4 563<br>9 284<br>6 073   | 328             | Nárakondá, XXV<br>Kaler, XXVII<br>Hill Peak No. 4         | 22 29 44<br>127 37 20 | 4 820667<br>5 136663<br>4 935329 | 66171<br>136982<br>86165   | 12 532<br>25 944<br>16 319 | "               |
| 316             | Nárakondá, XXV<br>Rápák, XXVI<br>Kondágúram                 | 41 3 49<br>64 48 32<br>74 7 39   | 4 690371<br>4 829471<br>4 855991 | 49020<br>67526<br>71778 | 9 284<br>12 789<br>13 594 | 329             | Nárakondá, XXV<br>Kánszlúr<br>Hill Peak No. 4             | 9 22 26<br>145 25 34  | 4 594580<br>5 136663<br>5 011906 | 39317<br>136982<br>102779  | 7 446<br>25 944<br>19 466  | "               |
| 317             | Kaler, XXVII<br>Párikondá, XXVIII<br>Bátakondá Hill Mark    | 20 19 23<br>18 19 55             | 4 715456<br>4 672285<br>4 970357 | 51934<br>47031<br>93402 | 9 836<br>8 907<br>17 690  | 330             | Kaler, XXVII<br>Párikondá, XXVIII<br>Mánimkondá Hill Peak | 83 56 53<br>54 19 9   | 5 144679<br>5 056811<br>4 970357 | 139534<br>113975<br>93402  | 26 427<br>21 586<br>17 690 | 86<br>"         |

SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle | Station                                                       | Corrected plane angle           | Distance                         |                            |                            | No. of Triangle | Station                                                                        | Corrected plane angle | Distance                         |                            |                            | Theodolite used       |
|-----------------|---------------------------------------------------------------|---------------------------------|----------------------------------|----------------------------|----------------------------|-----------------|--------------------------------------------------------------------------------|-----------------------|----------------------------------|----------------------------|----------------------------|-----------------------|
|                 |                                                               |                                 | Log. feet                        | Feet                       | Miles                      |                 |                                                                                |                       | Log. feet                        | Feet                       | Miles                      |                       |
| 331             | Kaler, XXVII<br>Singánámá, XXIX<br>Mániámkondá Hill Peak      | 43 57 57<br>73 30 0             | 4 916577<br>5 050811<br>5 023138 | 82523<br>113957<br>105472  | 15 620<br>21 586<br>19 976 | 344             | Pedákondá, XXX<br>Cherú, XXXIV<br>Hill Mark No. 2                              | 38 13 34<br>25 58 24  | 4 951573<br>4 801473<br>5 114440 | 89448<br>63310<br>130149   | 16 941<br>11 991<br>24 649 | Inch 86<br>" "<br>" " |
| 332             | Singánámá, XXIX<br>Pedákondá, XXX<br>Velputasaguttá Hill Peak | 97 58 35<br>40 0 43             | 5 230109<br>5 048506<br>5 065940 | 172230<br>111816<br>116396 | 32 619<br>21 177<br>22 045 | 345             | Pedákondá, XXX<br>Pánchá, XXXI<br>Hill Mark No. 2                              | 91 3 28<br>32 13 43   | 5 074428<br>4 801473<br>4 996676 | 118694<br>63310<br>99238   | 22 480<br>11 991<br>18 795 | " "<br>" "<br>" "     |
| 333             | Kaler, XXVII<br>Singánámá, XXIX<br>Velputasaguttá Hill Peak   | 79 45 20<br>32 5 5              | 5 048506<br>4 780721<br>5 023138 | 111816<br>60356<br>105472  | 21 177<br>11 431<br>19 976 | 346             | Pánchá, XXXI<br>Kaurálbiding, XXXV<br>Bidinghi Hill Mark                       | 56 18 27<br>41 51 7   | 5 113665<br>5 017789<br>5 189109 | 129917<br>104181<br>154564 | 24 665<br>19 731<br>29 274 | " "<br>" "<br>" "     |
| 334             | Kaler, XXVII<br>Pedákondá, XXX<br>Hill Tree                   | 27 37 25<br>38 52 27            | 4 786630<br>4 918121<br>5 082820 | 61183<br>82817<br>121010   | 11 588<br>15 685<br>22 918 | 347             | Pánchá, XXXI<br>Cherú, XXXIV<br>Bidinghi Hill Mark                             | 4 48 6<br>77 34 1     | 3 950856<br>5 017789<br>5 024231 | 8930<br>104181<br>105738   | 1 691<br>19 731<br>20 026  | " "<br>" "<br>" "     |
| 335             | Kaler, XXVII<br>Singánámá, XXIX<br>Hill Tree                  | 33 46 33<br>51 29 34            | 4 769652<br>4 918121<br>5 023138 | 58837<br>82817<br>105472   | 11 143<br>15 685<br>19 976 | 348             | Kaurálbiding, XXXV<br>Kálingkondá, XXXVI<br>Gurumsambar Hill Mark (heliotrope) | 16 8 22<br>96 40 10   | 4 530577<br>5 083621<br>5 051208 | 33929<br>121233<br>112514  | 6 426<br>22 901<br>21 310  | " "<br>" "<br>" "     |
| 336             | Singánámá, XXIX<br>Pedákondá, XXX<br>Margalikondá Hill Tree   | 33 29 57<br>22 6 53             | 4 891234<br>4 725975<br>5 065940 | 77846<br>53098<br>116396   | 14 743<br>10 056<br>22 045 | 349             | Cherú, XXXIV<br>Kaurálbiding, XXXV<br>Gurumsambar Hill Mark (heliotrope)       | 83 19 32<br>12 52 7   | 5 083621<br>4 434326<br>5 084031 | 121233<br>27185<br>121348  | 22 961<br>5 149<br>22 983  | " "<br>" "<br>" "     |
| 337             | Singánámá, XXIX<br>Pánchá, XXXI<br>Supler Hill Tree           | 44 35 23<br>44 4 58             | 4 967622<br>4 963689<br>5 121152 | 92816<br>91979<br>132176   | 17 579<br>17 420<br>25 033 | 350             | Cherú, XXXIV<br>Kálingkondá, XXXVI<br>Kálimámudi Hill                          | 80 10 49<br>68 57 46  | 5 055816<br>5 032269<br>4 772256 | 113715<br>107713<br>59191  | 21 537<br>20 400<br>11 210 | " "<br>" "<br>" "     |
| 338             | Singánámá, XXIX<br>Pedákondá, XXX<br>Supler Hill Tree         | 91 6 55<br>37 53 12             | 5 175367<br>4 963689<br>5 065940 | 149750<br>91979<br>116396  | 28 362<br>17 420<br>22 045 | 351             | Kálingkondá, XXXVI<br>Dhár, XXXIX<br>Kálimámudi Hill                           | 95 32 59<br>55 36 45  | 5 137198<br>5 055816<br>4 822584 | 137151<br>113715<br>66464  | 25 975<br>21 537<br>12 588 | " "<br>" "<br>" "     |
| 339             | Pánchá, XXXI<br>Munás, XXXII<br>Malkangiri (heliotrope)       | 14 18 33<br>100 4 46            | 4 426606<br>5 026883<br>4 993045 | 26706<br>106386<br>98411   | 5 058<br>20 149<br>18 639  | 352             | Kálingkondá, XXXVI<br>Dhár, XXXIX<br>Jeril Hill Mark                           | 123 36 24<br>25 54 4  | 5 037785<br>4 757517<br>4 822584 | 109090<br>57216<br>66464   | 20 661<br>10 836<br>12 588 | " "<br>" "<br>" "     |
| 340             | Pánchá, XXXI<br>Munás, XXXII<br>Malkangiri Rock               | 17 16 57<br>121 55 24           | 4 650782<br>5 106686<br>4 993045 | 44749<br>127846<br>98411   | 8 475<br>24 213<br>18 639  | 353             | Kaurálbiding, XXXV<br>Kálingkondá, XXXVI<br>Jeril Hill Mark                    | 11 47 48<br>11 55 21  | 4 757271<br>4 761813<br>5 051208 | 57184<br>57785<br>112514   | 10 830<br>10 944<br>21 310 | " "<br>" "<br>" "     |
| 341             | Pánchá, XXXI<br>Kaurálbiding, XXXV<br>Malkangiri Rock         | 91 34 40<br>38 57 9             | 5 308095<br>5 106686<br>5 189109 | 293280<br>127846<br>154564 | 38 500<br>24 213<br>29 274 | 354             | Kaurálbiding, XXXV<br>Kap, XXXVIII<br>Yeudriká Hill Mark                       | 55 39 47<br>41 54 28  | 4 066439<br>4 874332<br>5 045796 | 92563<br>74874<br>111121   | 17 531<br>14 181<br>21 046 | " "<br>" "<br>" "     |
| 342             | Pedákondá, XXX<br>Pánchá, XXXI<br>Katamráj                    | 48 4 26<br>28 45 4<br>103 10 30 | 4 879838<br>4 690411<br>4 996676 | 75829<br>49024<br>99238    | 14 362<br>9 285<br>18 795  | 355             | Dhár, XXXIX<br>Sánjib, XLI<br>Buchampettá Hill Mark (heliotrope)               | 41 38 4<br>49 25 29   | 4 853220<br>4 911364<br>5 030733 | 71321<br>81539<br>107333   | 13 508<br>15 443<br>20 328 | 24<br>" "<br>" "      |
| 343             | Pánchá, XXXI<br>Cherú, XXXIV<br>Katamráj                      | 50 0 40<br>45 32 35             | 4 910600<br>4 879838<br>5 024231 | 81395<br>75829<br>105738   | 15 416<br>14 362<br>20 026 | 356             | Dhár, XXXIX<br>Sánjib, XLI<br>Kotákotá Fort (heliotrope)                       | 49 45 31<br>46 59 2   | 4 916459<br>4 897760<br>5 030733 | 82501<br>79024<br>107333   | 15 625<br>14 967<br>20 328 | " "<br>" "<br>" "     |

| No. of triangle | Station                                                          | Corrected plane angle             | Distance                         |                          |                            | No. of triangle | Station                                          | Corrected plane angle         | Distance                         |                         |                         | Theodolite used        |
|-----------------|------------------------------------------------------------------|-----------------------------------|----------------------------------|--------------------------|----------------------------|-----------------|--------------------------------------------------|-------------------------------|----------------------------------|-------------------------|-------------------------|------------------------|
|                 |                                                                  |                                   | Log. feet                        | Feet                     | Miles                      |                 |                                                  |                               | Log. feet                        | Feet                    | Miles                   |                        |
| 357             | Nalákonká, XL<br>Sánjib, XLI<br>Kosulpúrmetá                     | 26 43 11<br>20 46 24<br>132 30 25 | 4.698482<br>4.595456<br>4.913212 | 49944<br>39396<br>81886  | 9.459<br>7.401<br>15.509   | 370             | Yarádá, XLV<br>Dásarmetá<br>Waltair (heliotrope) | 82 55 54<br>59 25 55          | 4.565780<br>4.504109<br>4.354884 | 36794<br>31923<br>22640 | 6.969<br>6.046<br>4.288 | Inch 24<br>" " " " " " |
| 358             | Nalákonká, XL<br>Sánjib, XLI<br>Narsipatam Hospital              | 47 42 19<br>44 56 4               | 4.822725<br>4.762661<br>4.913212 | 60635<br>57898<br>81886  | 11.484<br>10.965<br>15.509 | 371             | Demrú<br>Dásarmetá<br>Meppen                     | 63 2 1<br>51 56 10<br>65 1 49 | 4.424265<br>4.370408<br>4.431637 | 26562<br>23464<br>27017 | 5.031<br>4.444<br>5.117 | 14 24 " " " "          |
| 359             | Sánjib, XLI<br>Kosulpúrmetá<br>Narsipatam Hospital               | 24 9 40<br>102 13 49              | 4.404741<br>4.782725<br>4.698482 | 25395<br>60635<br>49944  | 4.810<br>11.484<br>9.459   | 372             | Dásarmetá<br>Meppen<br>Máripalam House           | 53 8 19<br>34 33 58           | 4.327752<br>4.178470<br>4.424265 | 21269<br>15082<br>26562 | 4.628<br>2.857<br>5.031 | " " " " " "            |
| 360             | Sánjib, XLI<br>Kosulpúrmetá<br>Lingapúram Temple                 | 32 10 7<br>83 31 27               | 4.469942<br>4.740913<br>4.698482 | 29508<br>55070<br>49944  | 5.589<br>10.430<br>9.459   | 373             | Yarádá, XLV<br>Dásarmetá<br>Máripalam House      | 35 19 52<br>84 25 51          | 4.178470<br>4.414262<br>4.354884 | 15082<br>25957<br>22640 | 2.857<br>4.916<br>4.288 | " " " " " "            |
| 361             | Káp, XXXVIII<br>Nalákonká, XL<br>Mádgúl Hill Mark (heliotrope)   | 59 34 35<br>43 24 28              | 4.911428<br>4.812841<br>4.904519 | 81551<br>64989<br>92155  | 15.445<br>12.309<br>17.454 | 374             | Demrú<br>Meppen<br>Timidal Hill Mark             | 17 46 23<br>56 44 22          | 3.871123<br>4.308774<br>4.370408 | 7432<br>20360<br>23464  | 1.408<br>3.856<br>4.444 | 14 24 " " " "          |
| 362             | Káp, XXXVIII<br>Jarákonká, XLII<br>Mádgúl Hill Mark (heliotrope) | 19 29 0<br>57 24 9                | 4.410422<br>4.812841<br>4.875807 | 25729<br>64989<br>75129  | 4.873<br>12.309<br>14.229  | 375             | Demrú<br>Dásarmetá<br>Timidal Hill Mark          | 45 15 38<br>48 44 33          | 4.284149<br>4.308774<br>4.431637 | 19238<br>20360<br>27017 | 3.643<br>3.856<br>5.117 | 14 24 " " " "          |
| 363             | Pothkonká, LXIV<br>Márki, LXVI<br>Márki                          | 9 9 24<br>57 57 16                | 4.194478<br>4.920918<br>4.957096 | 15649<br>83352<br>90593  | 2.964<br>15.786<br>17.158  | 376             | Dásarmetá<br>Meppen<br>Vizagapatam Magazine      | 8 54 12<br>93 43 24           | 3.624579<br>4.433980<br>4.424265 | 4213<br>27163<br>26562  | 0.798<br>5.145<br>5.031 | " " " " " "            |
| 364             | Márki, LXVI<br>Gumrú, LXIX<br>Márki                              | 119 28 55<br>9 51 9               | 4.900971<br>4.194478<br>4.849634 | 79611<br>15649<br>70735  | 15.078<br>2.964<br>13.397  | 377             | Demrú<br>Dásarmetá<br>Vizagapatam Magazine       | 68 52 32<br>43 1 58           | 4.433980<br>4.298241<br>4.431637 | 27163<br>19872<br>27017 | 5.145<br>3.764<br>5.117 | 14 24 " " " "          |
| 365             | Pothkonká, XLIV<br>Yarádá, XLV<br>Demrú                          | 21 17 4<br>76 59 14<br>81 43 42   | 4.520352<br>4.949149<br>4.955906 | 33140<br>88951<br>90345  | 6.277<br>16.847<br>17.111  | 378             | Yarádá, XLV<br>Demrú<br>Waltair Racket Court     | 31 33 25<br>61 41 8           | 4.239836<br>4.465707<br>4.520352 | 17371<br>29222<br>33140 | 3.290<br>5.534<br>6.277 | " 14 " " " "           |
| 366             | Pothkonká, XLIV<br>Gumrú, LXIX<br>Demrú                          | 46 13 8<br>70 31 4<br>63 15 48    | 4.833285<br>4.949149<br>4.925647 | 68122<br>88951<br>84265  | 12.902<br>16.847<br>15.959 | 379             | Demrú<br>Mappen<br>Waltair Racket Court          | 41 22 17<br>47 45 9           | 4.190619<br>4.239836<br>4.370408 | 15510<br>17371<br>23464 | 2.938<br>3.290<br>4.444 | " 24 " " " "           |
| 367             | Yarádá, XLV<br>Demrú<br>Vizagapatam Flagstaff                    | 55 44 38<br>25 0 27               | 4.443293<br>4.152105<br>4.520352 | 27752<br>14194<br>33140  | 5.256<br>2.688<br>6.277    | 380             | Demrú<br>Meppen<br>Vizagapatam Church            | 5 9 8<br>53 25 52             | 3.392542<br>4.344048<br>4.370408 | 2469<br>22082<br>23464  | 0.468<br>4.182<br>4.444 | 14 24 " " " "          |
| 368             | Pothkonká, XLIV<br>Yarádá, XLV<br>Vizagapatam Flagstaff          | 5 57 13<br>132 43 52              | 4.152105<br>5.002248<br>4.955906 | 14194<br>100519<br>90345 | 2.688<br>19.038<br>17.111  |                 |                                                  |                               |                                  |                         |                         |                        |
| 369             | Yarádá, XLV<br>Demrú<br>Dásarmetá                                | 54 3 8<br>42 43 10<br>83 13 42    | 4.431637<br>4.354884<br>4.520352 | 27017<br>22640<br>33140  | 5.117<br>4.288<br>6.277    |                 |                                                  |                               |                                  |                         |                         |                        |

NOTE.—Márki, LXVI, and Gumrú, LXIX, appertain to the East Coast Series.

SECONDARY TRIANGULATION. TRIANGLES.

| No. of Triangle                                                       | Station                                       | Corrected plane angle            | Distance                            |                            |                               | No. of Triangle | Station                                                 | Corrected plane angle          | Distance                            |                            |                               | Theodolite used |
|-----------------------------------------------------------------------|-----------------------------------------------|----------------------------------|-------------------------------------|----------------------------|-------------------------------|-----------------|---------------------------------------------------------|--------------------------------|-------------------------------------|----------------------------|-------------------------------|-----------------|
|                                                                       |                                               |                                  | Log. feet                           | Feet                       | Miles                         |                 |                                                         |                                | Log. feet                           | Feet                       | Miles                         |                 |
| <b>BOLIKONDA-KANDAGATLA TO JUNCTION WITH NIEMAL SECONDARY SERIES.</b> |                                               |                                  |                                     |                            |                               |                 |                                                         |                                |                                     |                            |                               |                 |
| 381                                                                   | Bolikonda, XI<br>Kándagatlá, XII<br>Koilkondá | 61 30 2<br>58 57 30<br>59 32 28  | 5' 223066<br>5' 212040<br>5' 214069 | 167134<br>162945<br>163934 | 31' 654<br>30' 861<br>31' 048 | 392             | Anantagiri<br>Porandlá<br>Tinápúram                     | 85 59 57<br>51 1 58<br>42 58 5 | 5' 197445<br>5' 089209<br>5' 032028 | 157560<br>122803<br>107654 | 29' 841<br>23' 258<br>20' 389 | Inch<br>C.T.I.  |
| 382                                                                   | Yarábali, X<br>Bolikonda, XI<br>Koilkondá     | 56 0 12<br>45 52 14<br>78 7 34   | 5' 212040<br>5' 149433<br>5' 284055 | 162945<br>141069<br>192333 | 30' 861<br>26' 718<br>36' 427 | 393             | Dikondá<br>Timápúram<br>Tátláwayá                       | 49 5 6<br>54 15 17             | 5' 152949<br>5' 043166<br>5' 074181 | 142216<br>110450<br>118626 | 26' 935<br>20' 919<br>22' 467 | "               |
| 383                                                                   | Kándagatlá, XII<br>Koilkondá<br>Udágat        | 60 14 40<br>55 26 24<br>64 18 56 | 5' 206842<br>5' 183928<br>5' 223066 | 161006<br>152731<br>167134 | 30' 494<br>28' 926<br>31' 654 | 394             | Timápúram<br>Tátláwayá<br>Yárgatlá                      | 62 50 5<br>65 0 16             | 5' 204707<br>5' 212758<br>5' 152949 | 160216<br>163214<br>142216 | 30' 344<br>30' 912<br>26' 935 | "               |
| 384                                                                   | Yarábali, X<br>Koilkondá<br>Chinchalkot       | 62 5 6<br>64 58 40<br>52 56 14   | 5' 193720<br>5' 204640<br>5' 149433 | 156214<br>160192<br>141069 | 29' 586<br>30' 339<br>26' 718 | 395             | Kándagatlá, XII<br>Koilkondá<br>Záfargarh Building      | 20 31 35<br>93 50 14           | 4' 808432<br>5' 202558<br>5' 214669 | 64333<br>183062<br>167134  | 12' 184<br>34' 671<br>31' 654 | "               |
| 385                                                                   | Koilkondá<br>Udágat<br>Bhonágir               | 52 22 28<br>64 13 45<br>63 23 47 | 5' 154178<br>5' 209946<br>5' 206842 | 142610<br>162161<br>161006 | 27' 011<br>30' 712<br>30' 494 | 396             | Bolikonda, XI<br>Kándagatlá, XII<br>Záfargarh Building  | 79 46 16<br>38 25 55           | 5' 262598<br>5' 063056<br>5' 214669 | 183062<br>115626<br>163934 | 34' 671<br>21' 899<br>31' 048 | "               |
| 386                                                                   | Koilkondá<br>Chinchalkot<br>Bhonágir          | 49 32 26<br>67 32 52<br>62 54 42 | 5' 125489<br>5' 209946<br>5' 193720 | 133502<br>162161<br>156214 | 25' 285<br>30' 712<br>29' 586 | 397             | Koilkondá<br>Udágat<br>Arwápáli Hill Mark               | 44 56 1<br>57 4 12             | 5' 065424<br>5' 140378<br>5' 206842 | 116258<br>138159<br>101006 | 22' 019<br>26' 166<br>30' 494 | "               |
| 387                                                                   | Yarábali, X<br>Chinchalkot<br>Anantagiri      | 50 3 7<br>72 9 3<br>57 47 50     | 5' 161768<br>5' 255760<br>5' 204640 | 145134<br>180202<br>160192 | 27' 487<br>34' 129<br>30' 339 | 398             | Kándagatlá, XII<br>Koilkondá<br>Arwápáli Hill Mark      | 38 50 14<br>10 30 23           | 5' 140378<br>4' 603929<br>5' 223065 | 138159<br>40173<br>167134  | 26' 166<br>7' 608<br>31' 654  | "               |
| 388                                                                   | Yarábali, X<br>Anantagiri<br>Porandlá         | 36 18 36<br>46 5 17<br>97 36 7   | 5' 032028<br>5' 117171<br>5' 255760 | 107654<br>130970<br>180202 | 20' 389<br>24' 805<br>34' 129 | 399             | Kándagatlá, XII<br>Udágat<br>Muláswámi Hill Pagoda      | 4 54 57<br>115 33 22           | 4' 181423<br>5' 203767<br>5' 183927 | 15185<br>159870<br>152731  | 2' 876<br>30' 278<br>28' 926  | "               |
| 389                                                                   | Yarábali, X<br>Rámgir, XIV<br>Porandlá        | 41 18 9<br>39 10 42<br>99 31 9   | 5' 136202<br>5' 117171<br>5' 310614 | 136837<br>130970<br>204463 | 25' 016<br>24' 805<br>38' 724 | 400             | Kándagatlá, XII<br>Koilkondá<br>Bugá Rámánáguttá Temple | 33 35 20<br>57 53 45           | 4' 966117<br>5' 151137<br>5' 223065 | 92495<br>141624<br>167134  | 17' 518<br>26' 823<br>31' 654 | "               |
| 390                                                                   | Rámgir, XIV<br>Porandlá<br>Dikondá            | 57 41 53<br>65 2 39<br>57 15 28  | 5' 138330<br>5' 168780<br>5' 136202 | 137509<br>147496<br>136837 | 26' 043<br>27' 935<br>25' 916 | 401             | Koilkondá<br>Bhonágir<br>Bugá Rámánáguttá Temple        | 49 55 7<br>34 35 43            | 5' 095675<br>4' 966117<br>5' 209946 | 124645<br>92495<br>162161  | 23' 607<br>17' 518<br>30' 712 | "               |
| 391                                                                   | Porandlá<br>Bolikonda<br>Timápúram            | 46 48 7<br>51 97 445<br>57 40 50 | 5' 074181<br>5' 197445<br>5' 138330 | 118626<br>157560<br>137509 | 22' 467<br>29' 841<br>26' 043 | 402             | Udágat<br>Bhonágir<br>Múshpatlá                         | 64 16 19<br>87 59 21           | 5' 109104<br>4' 822311<br>5' 154178 | 128560<br>66422<br>142619  | 24' 348<br>12' 580<br>27' 011 | "               |
|                                                                       |                                               |                                  |                                     |                            |                               | 403             | Koilkondá<br>Bhonágir<br>Múshpatlá                      | 52 24 16<br>91 56 17           | 5' 109104<br>4' 975817<br>5' 209946 | 128560<br>94584<br>162161  | 24' 348<br>17' 914<br>30' 712 | "               |
|                                                                       |                                               |                                  |                                     |                            |                               | 404             | Udágat<br>Múshpatlá<br>Nellibandá Hill Pagoda           | 85 17 56<br>53 45 10           | 5' 004356<br>4' 912409<br>4' 822311 | 101008<br>81735<br>66422   | 19' 130<br>15' 480<br>12' 580 | "               |

See note to page 30.

| No. or Triangle | Station                                                | Corrected plane angle | Distance                                  |                            |                                           | No. or Triangle | Station                                        | Corrected plane angle             | Distance                                  |                            |                               | Theodolite used     |
|-----------------|--------------------------------------------------------|-----------------------|-------------------------------------------|----------------------------|-------------------------------------------|-----------------|------------------------------------------------|-----------------------------------|-------------------------------------------|----------------------------|-------------------------------|---------------------|
|                 |                                                        |                       | Log. feet                                 | Feet                       | Miles                                     |                 |                                                |                                   | Log. feet                                 | Feet                       | Miles                         |                     |
| 405             | Kándágatlá, XII<br>Udágat<br>Kothhapalí Hill Pagoda    | 20 59 23<br>21 1 34   | 4' 9 12 409<br>4' 9 13 128<br>5' 18 39 27 | 81735<br>81871<br>152731   | 15' 480<br>15' 506<br>28' 926             | 418             | Koilkondá<br>Udágat<br>Kothhapalí Hill Dargáh  | 13 42 25<br>80 45 12              | 4' 58 28 26<br>5' 20 24 79<br>5' 20 68 42 | 38267<br>159396<br>161006  | 7' 248<br>30' 189<br>30' 494  | Inch<br>C.T.I.<br>" |
| 406             | Koilkondá<br>Múshpatlá<br>Chitalúr Singarám Pagoda     | 28 12 16<br>97 3 56   | 4' 73 84 04<br>5' 06 05 82<br>4' 97 58 17 | 54753<br>114969<br>94584   | 10' 370<br>21' 775<br>17' 914             | 419             | Koilkondá<br>Múshpatlá<br>Jídkal Temple        | 51 26 1<br>39 59 3                | 4' 86 09 04<br>4' 78 38 75<br>4' 97 58 17 | 73977<br>60796<br>94584    | 14' 011<br>11' 514<br>17' 914 | "                   |
| 407             | Udágat<br>Múshpatlá<br>Chitalúr Singarám Pagoda        | 42 17 6<br>83 0 26    | 4' 73 84 04<br>4' 90 72 04<br>4' 82 23 11 | 54753<br>80773<br>66422    | 10' 370<br>15' 208<br>12' 580             | 420             | Koilkondá<br>Udágat<br>Jídkal Temple           | 51 24 13<br>21 6 34               | 5' 120 35 3<br>4' 78 38 75<br>5' 20 68 42 | 131933<br>60796<br>161006  | 24' 987<br>11' 514<br>30' 494 | "                   |
| 408             | Udágat<br>Múshpatlá<br>Akinapalí Hill Temple           | 23 0 43<br>13 16 30   | 4' 64 22 06<br>4' 41 11 34<br>4' 82 23 11 | 43974<br>25771<br>66422    | 8' 309<br>4' 881<br>12' 580               | 421             | Koilkondá<br>Chinchalkot<br>Rájpett Palace     | 20 12 51<br>71 1 12               | 4' 73 23 07<br>5' 16 95 43<br>5' 19 37 20 | 53989<br>147755<br>156214  | 10' 225<br>27' 984<br>29' 586 | "                   |
| 409             | Udágat<br>Múshpatlá<br>Podichaid Pagoda                | 14 17 0<br>43 16 33   | 4' 28 81 96<br>4' 73 20 11<br>4' 82 23 11 | 19418<br>53952<br>66422    | 3' 678 <sup>8</sup><br>10' 218<br>12' 580 | 422             | Chinchalkot<br>Bhonágr<br>Kotál                | 42 40 49<br>49 27 58<br>87 51 13  | 4' 95 69 63<br>5' 00 60 19<br>5' 12 54 89 | 90566<br>101536<br>133502  | 17' 153<br>19' 230<br>25' 285 | "                   |
| 410             | Udágat<br>Bhonágr<br>Podichaid Pagoda                  | 78 33 19<br>21 50 39  | 5' 15 26 49<br>4' 73 20 11<br>5' 15 41 78 | 142118<br>53952<br>142019  | 26' 916<br>10' 218<br>27' 011             | 423             | Chinchalkot<br>Kotál<br>Yámalgat               | 73 6 3<br>35 37 55<br>71 16 2     | 5' 01 10 87<br>4' 79 50 10<br>5' 00 60 19 | 102586<br>62461<br>101536  | 19' 429<br>11' 830<br>19' 230 | "                   |
| 411             | Koilkondá<br>Múshpatlá<br>Bujlápúram Hill Pagoda       | 4 26 36<br>76 53 47   | 3' 86 99 48<br>4' 96 93 39<br>4' 97 58 17 | 7412<br>93184<br>94584     | 1' 404<br>17' 648<br>17' 914              | 424             | Kotál<br>Yámalgat<br>Shigúrpáli High Stone     | 16 31 40<br>8 55 0<br>5' 01 10 87 | 4' 83 20 38<br>4' 56 83 12<br>5' 01 10 87 | 67926<br>37009<br>102586   | 12' 865<br>7' 009<br>19' 429  | "                   |
| 412             | Kándágatlá, XII<br>Koilkondá<br>Bujlápúram Hill Pagoda | 33 43 14<br>50 58 0   | 4' 96 93 39<br>5' 11 52 33<br>5' 22 30 65 | 93184<br>139386<br>167134  | 17' 648<br>24' 694<br>31' 654             | 425             | Kotál<br>Yámalgat<br>Kometibandá Pagoda        | 49 13 32<br>42 3 54               | 4' 890 457<br>4' 837 254<br>5' 01 10 87   | 77706<br>68747<br>102586   | 14' 717<br>13' 020<br>19' 429 | "                   |
| 413             | Kándágatlá, XII<br>Koilkondá<br>Motkur Pagoda          | 26 6 18<br>54 12 7    | 4' 87 27 80<br>5' 13 83 75<br>5' 22 30 65 | 74607<br>137523<br>167134  | 14' 130<br>26' 046<br>31' 654             | 426             | Yarábalí, X<br>Porandlá<br>Kothágat Pagoda     | 18 4 29<br>22 15 57               | 4' 797 768<br>4' 88 45 76<br>5' 11 71 71  | 62772<br>76661<br>139970   | 11' 889<br>14' 519<br>24' 805 | "                   |
| 414             | Kándágatlá, XII<br>Múshpatlá<br>Motkur Pagoda          | 8 21 39<br>85 37 33   | 4' 30 22 27<br>5' 13 83 75<br>5' 13 85 90 | 20955<br>137523<br>137591  | 3' 798<br>26' 046<br>26' 059              | 427             | Rámgr, XIV<br>Porandlá<br>Mallangur Battery    | 21 23 24<br>64 43 32              | 4' 699 154<br>5' 09 35 01<br>5' 13 62 02  | 50021<br>124023<br>136837  | 9' 474<br>23' 489<br>25' 916  | "                   |
| 415             | Udágat<br>Múshpatlá<br>Pankábandá Building             | 17 37 38<br>88 38 11  | 4' 32 12 36<br>4' 83 99 25<br>4' 82 23 11 | 20953<br>69171<br>66422    | 3' 968<br>13' 101<br>12' 580              | 428             | Yarábalí, X<br>Porandlá<br>Mallangur Battery   | 17 36 58<br>34 47 37              | 4' 699 154<br>4' 97 45 79<br>5' 11 71 71  | 50021<br>94315<br>139970   | 9' 474<br>17' 863<br>24' 805  | "                   |
| 416             | Koilkondá<br>Bhonágr<br>Dúbágat Mark                   | 40 2 46<br>63 40 5    | 5' 03 09 91<br>5' 17 49 31<br>5' 20 99 46 | 107397<br>149000<br>162161 | 20' 340<br>28' 333<br>30' 712             | 429             | Yarábalí, X<br>Katájpúr, XIII<br>Salurgat Mark | 82 45 0<br>43 11 46               | 5' 28 53 81<br>5' 12 42 23<br>5' 19 70 14 | 192922<br>133114<br>157403 | 36' 538<br>25' 211<br>29' 811 | "                   |
| 417             | Koilkondá<br>Udágat<br>Dúbágat Mark                    | 12 19 42<br>65 3 27   | 4' 54 68 78<br>5' 17 49 31<br>5' 20 68 42 | 35227<br>149000<br>161006  | 6' 672<br>28' 333<br>30' 494              | 430             | Katájpúr, XIII<br>Rámgr, XIV<br>Salurgat Mark  | 25 3 50<br>72 3 1                 | 4' 93 40 37<br>5' 28 53 81<br>5' 30 39 95 | 85909<br>192922<br>201231  | 16' 271<br>36' 538<br>38' 112 | "                   |

\* See note to page 20—D, † Base deduced by two sides and included angle.

SECONDARY TRIANGULATION. TRIANGLES.

| No. of triangle | Station                                          | Corrected plane angle | Distance                         |                            |                            | No. of triangle | Station                                       | Corrected plane angle           | Distance                         |                            |                            | Theodolite used     |
|-----------------|--------------------------------------------------|-----------------------|----------------------------------|----------------------------|----------------------------|-----------------|-----------------------------------------------|---------------------------------|----------------------------------|----------------------------|----------------------------|---------------------|
|                 |                                                  |                       | Log. feet                        | Feet                       | Miles                      |                 |                                               |                                 | Log. feet                        | Feet                       | Miles                      |                     |
| 431             | Rámگیر, XIV<br>Porandlá<br>Yeldev Fort           | 6 39 1<br>21 14 45    | 4 529819<br>5 025230<br>5 136202 | 33870<br>105081<br>136837  | 6 415<br>20 072<br>25 916  | 444             | Dikondá<br>Timápúram<br>Konápúram Hill Mark   | 12 51 10<br>59 29 12            | 4 442373<br>5 030408<br>5 074181 | 27693<br>107253<br>118626  | 5 245<br>20 313<br>22 467  | Inch<br>C.T.I.<br>" |
| 432             | Rámگیر, XIV<br>Porandlá<br>Karímnagar Building   | 12 11 31<br>101 48 37 | 4 500147<br>5 166187<br>5 136202 | 31634<br>146618<br>136837  | 5 991<br>27 739<br>25 916  | 445             | Dikondá<br>Tátláwayá<br>Konápúram Hill Mark   | 63 48 27<br>56 44 41            | 5 061025<br>5 030408<br>5 043166 | 115087<br>107253<br>110450 | 21 797<br>20 313<br>20 919 | "                   |
| 433             | Anantagiri<br>Porandlá<br>Manskundur Fort        | 7 14 41<br>76 50 22   | 4 142230<br>5 016738<br>5 032028 | 13875<br>103929<br>107654  | 2 628<br>19 684<br>20 389  | 446             | Dikondá<br>Konápúram Hill Mark<br>Jaktial     | 27 13 24<br>108 12 22           | 4 713066<br>4 898918<br>5 030408 | 51649<br>79235<br>107253   | 9 782<br>15 007<br>20 313  | "                   |
| 434             | Anantagiri<br>Porandlá<br>Ailgandal Mosque       | 30 39 27<br>35 49 22  | 4 777185<br>4 837059<br>5 032028 | 59867<br>68716<br>107654   | 11 338<br>13 014<br>20 389 | 447             | Dikondá<br>Tátláwayá<br>Jaktial               | 36 35 3<br>45 14 34<br>98 10 23 | 4 822848<br>4 898918<br>5 043166 | 66504<br>79235<br>110450   | 12 595<br>15 007<br>20 919 | "                   |
| 435             | Anantagiri<br>Timápúram<br>Ailgandal Mosque      | 55 20 30<br>34 1 24   | 5 004402<br>4 837059<br>5 089209 | 101019<br>68716<br>122803  | 19 132<br>13 014<br>23 258 | 448             | Dikondá<br>Tátláwayá<br>Konápúram Hill Mark   | 71 20 41<br>10 59 35            | 5 023623<br>4 327380<br>5 043166 | 105590<br>21251<br>110450  | 19 998<br>4 025<br>20 919  | "                   |
| 436             | Anantagiri<br>Timápúram<br>Sirsalla Fort         | 26 3 39<br>17 26 57   | 4 894103<br>4 728234<br>5 089209 | 78361<br>53485<br>122803   | 14 841<br>10 130<br>23 258 | 449             | Rámگیر, XIV<br>Dikondá<br>Konápúram Hill Mark | 8 16 34<br>79 12 51             | 4 327380<br>5 161456<br>5 168780 | 21251<br>145029<br>147496  | 4 025<br>27 408<br>27 935  | "                   |
| 437             | Anantagiri<br>Porandlá<br>Rám Madágu Hill Mark   | 43 43 14<br>77 23 36  | 4 939050<br>5 088884<br>5 032028 | 86906<br>122711<br>107654  | 16 459<br>23 241<br>20 389 | 450             | Dikondá<br>Tátláwayá<br>Kaperikápett Fort     | 72 9 35<br>20 19 51             | 5 022175<br>4 384457<br>5 043166 | 105238<br>38411<br>110450  | 19 932<br>7 275<br>20 919  | "                   |
| 438             | Anantagiri<br>Timápúram<br>Rám Madágu Hill Mark  | 42 16 43<br>68 48 19  | 4 947146<br>5 088884<br>5 089209 | 88541<br>122711<br>122803  | 16 769<br>23 241<br>23 258 | 451             | Dikondá<br>Tátláwayá<br>Kambampáli Hill Mark  | 43 31 50<br>22 54 37            | 4 919020<br>4 671236<br>5 043166 | 82989<br>46907<br>110450   | 15 718<br>8 884<br>20 919  | "                   |
| 439             | Rámگیر, XIV<br>Porandlá<br>Katkenápáli Hill Mark | 52 6 37<br>57 26 24   | 5 059174<br>5 087730<br>5 136202 | 114597<br>122385<br>136837 | 21 704<br>23 179<br>25 916 | 452             | Dikondá<br>Tátláwayá<br>Bolicherú Hill Mark   | 25 22 56<br>23 42 37            | 4 796886<br>4 769125<br>5 043166 | 62645<br>58766<br>110450   | 11 865<br>11 130<br>20 919 | "                   |
| 440             | Porandlá<br>Timápúram<br>Katkenápáli Hill Mark   | 54 24 22<br>45 43 27  | 5 114447<br>5 059174<br>5 197445 | 130151<br>114597<br>157560 | 24 650<br>21 704<br>29 841 | 453             | Dikondá<br>Tátláwayá<br>Yenkatropett Fort     | 55 11 30<br>42 44 0             | 4 961712<br>4 878940<br>5 043166 | 91561<br>75673<br>110450   | 17 341<br>14 332<br>20 919 | "                   |
| 441             | Porandlá<br>Timápúram<br>Telikuntá Hill Mark     | 59 43 31<br>30 44 2   | 5 133781<br>4 905924<br>5 197445 | 136076<br>80524<br>157560  | 25 772<br>15 251<br>29 841 | 454             | Dikondá<br>Tátláwayá<br>Periamallá Hill Mark  | 59 13 17<br>63 24 36            | 5 051843<br>5 069224<br>5 043166 | 112679<br>117280<br>110450 | 21 341<br>22 212<br>20 919 | "                   |
| 442             | Porandlá<br>Telikuntá Hill Mark<br>Pedápáli      | 31 13 9<br>49 11 30   | 4 741477<br>5 020774<br>4 905924 | 55141<br>104900<br>80524   | 10 443<br>19 867<br>15 251 | 455             | Dikondá<br>Timápúram<br>Malaupúram Pagoda     | 54 35 7<br>83 3 52              | 5 156886<br>5 242550<br>5 074181 | 143511<br>174803<br>118626 | 27 180<br>33 107<br>22 467 | "                   |
| 443             | Porandlá<br>Katkenápáli Hill Mark<br>Pedápáli    | 36 32 18<br>79 21 13  | 4 841496<br>5 020774<br>5 059175 | 69422<br>104900<br>114597  | 13 148<br>19 867<br>21 704 | 456             | Timápúram<br>Tátláwayá<br>Malaupúram Pagoda   | 33 58 46<br>73 51 37            | 4 921680<br>5 156886<br>5 152949 | 83499<br>143511<br>142216  | 15 814<br>27 180<br>26 935 | "                   |

\* See note to page 20—D.

| No. of triangle                           | Station                                             | Corrected plane angle              | Distance                         |                         |                           | Theodolite used | No. of triangle | Station                                         | Corrected plane angle            | Distance                         |                         |                          | Theodolite used |
|-------------------------------------------|-----------------------------------------------------|------------------------------------|----------------------------------|-------------------------|---------------------------|-----------------|-----------------|-------------------------------------------------|----------------------------------|----------------------------------|-------------------------|--------------------------|-----------------|
|                                           |                                                     |                                    | Log. feet                        | Feet                    | Miles                     |                 |                 |                                                 |                                  | Log. feet                        | Feet                    | Miles                    |                 |
| <b>COAST LINE *<br/>SECONDARY SERIES.</b> |                                                     |                                    |                                  |                         |                           |                 |                 |                                                 |                                  |                                  |                         |                          |                 |
| 457                                       | Pothkondá, XLIV<br>Yaradá, XLV<br>Thandikondá       | 0 48 54 25<br>33 27 2              | 4 836947<br>4 701104<br>4 955906 | 68698<br>50246<br>90345 | 13 011<br>9 516<br>17 111 | Inch<br>24<br>" | 468             | Wathará<br>Yamagiri<br>Poláram                  | 79 3 59<br>43 24 23<br>57 31 38  | 4 572123<br>4 417142<br>4 506240 | 37336<br>26130<br>32080 | 7 071<br>4 949<br>6 076  | "<br>"<br>"     |
| 458                                       | Pánchdarlá, XLIII<br>Pothkondá, XLIV<br>Thandikondá | 0 30 0 35<br>25 46 8               | 4 701104<br>4 640238<br>4 919444 | 50246<br>43676<br>83070 | 9 516<br>8 272<br>15 733  | "<br>"          | 470             | Poláram<br>Gumalur<br>Rájpeta                   | 52 25 22<br>09 1 41<br>58 32 57  | 4 540146<br>4 611363<br>4 572123 | 34685<br>40866<br>37336 | 6 569<br>7 740<br>7 071  | "<br>"<br>"     |
| 459                                       | Yaradá, XLV<br>Thandikondá<br>Kutkondá              | 0 51 36 15<br>42 34 39<br>85 49 6  | 4 732276<br>4 668428<br>4 836947 | 53985<br>46605<br>68698 | 10 224<br>8 827<br>13 011 | 8<br>"          | 472             | Thandikondá<br>Thanthadi<br>Pedakondá           | 73 27 22<br>29 23 33<br>77 9 5   | 4 667748<br>4 377005<br>4 675097 | 46532<br>23823<br>47326 | 8 813<br>4 512<br>8 963  | "<br>"<br>"     |
| 460                                       | Thandikondá<br>Kutkondá<br>Thanthadi                | 0 54 16 2<br>57 54 59<br>67 48 59  | 4 675097<br>4 693699<br>4 732276 | 47326<br>49397<br>53985 | 8 963<br>9 355<br>10 224  | "<br>"          | 473             | Thandikondá<br>Thanthadi<br>Apikondá Pagoda     | 57 24 19<br>64 19 29<br>75 41 13 | 4 689577<br>4 718858<br>4 693699 | 48930<br>52345<br>49397 | 9 267<br>9 913<br>9 355  | "<br>"<br>"     |
| 461                                       | Pánchdarlá, XLIII<br>Thandikondá<br>Thanthadi       | 0 78 37 13<br>41 17 29<br>60 5 18  | 4 693699<br>4 521792<br>4 640238 | 49397<br>33250<br>43676 | 9 355<br>6 297<br>8 272   | 24<br>8<br>"    | 474             | Yaradá, XLV<br>Thandikondá<br>Apikondá Pagoda   | 49 37 30<br>39 26 22<br>38 7 51  | 4 718858<br>4 639958<br>4 836947 | 52343<br>43647<br>68698 | 9 913<br>8 267<br>13 011 | "<br>"<br>"     |
| 462                                       | Pánchdarlá, XLIII<br>Thanthadi<br>Pánchdarlá        | 0 98 19 53<br>34 44 38<br>46 55 29 | 4 633590<br>4 414003<br>4 521792 | 45039<br>25942<br>33250 | 8 530<br>4 913<br>6 297   | 24<br>8<br>"    | 475             | Pánchdarlá<br>Rámbhil<br>Pointed Rock           | 38 7 51<br>89 59 53<br>67 35 26  | 4 379570<br>4 588961<br>4 606430 | 23965<br>38812<br>40405 | 4 539<br>7 351<br>5 782  | "<br>"<br>"     |
| 463                                       | Pánchdarlá, XLIII<br>Thanthadi<br>Rámbhil           | 0 61 24 15<br>75 23 2<br>43 12 43  | 4 629796<br>4 672005<br>4 521792 | 42638<br>46990<br>33250 | 8 075<br>8 900<br>6 297   | 24<br>8<br>"    | 476             | Pánchdarlá, XLIII<br>Pánchdarlá<br>Pointed Rock | 74 14 39<br>46 3 38<br>86 6 26   | 4 588961<br>4 521546<br>4 663166 | 38812<br>33231<br>46043 | 7 351<br>6 294<br>8 720  | "<br>"<br>"     |
| 464                                       | Thanthadi<br>Pánchdarlá<br>Rámbhil                  | 0 40 38 24<br>65 27 1<br>73 54 35  | 4 484729<br>4 629796<br>4 633590 | 30530<br>42638<br>45039 | 5 782<br>8 075<br>8 530   | "<br>"<br>"     | 477             | Pánchdarlá<br>Yamagiri<br>Wathará Pagoda        | 28 7 47<br>62 51 54<br>54 40 28  | 4 245642<br>4 521546<br>4 456148 | 17605<br>33231<br>30042 | 5 334<br>6 294<br>5 690  | "<br>"<br>"     |
| 465                                       | Pánchdarlá<br>Rámbhil<br>Wathará                    | 0 38 46 33<br>88 41 2<br>52 32 25  | 4 381793<br>4 584913<br>4 484729 | 24088<br>38452<br>30530 | 4 562<br>7 282<br>5 782   | "<br>"<br>"     | 478             | Yamagiri<br>Poláram<br>Wathará Pagoda           | 59 1 51<br>24 23 31<br>95 39 47  | 4 506240<br>4 477728<br>4 417142 | 34205<br>30042<br>26130 | 6 478<br>5 690<br>4 949  | "<br>"<br>"     |
| 466                                       | Rámbhil<br>Wathará<br>Yamagiri                      | 0 40 52 5<br>109 42 22<br>29 25 33 | 4 506239<br>4 664240<br>4 381793 | 32080<br>46157<br>24088 | 6 076<br>8 742<br>4 562   | "<br>"<br>"     | 479             | Wathará<br>Yamagiri<br>Opalam Village Pagoda    | 24 23 31<br>95 39 47<br>24 23 31 | 4 095778<br>4 477728<br>4 417142 | 12467<br>30042<br>26130 | 2 361<br>5 690<br>4 949  | "<br>"<br>"     |
| 467                                       | Pánchdarlá<br>Wathará<br>Yamagiri                   | 0 52 0 12<br>57 9 58<br>70 49 50   | 4 506240<br>4 534094<br>4 584913 | 32080<br>34205<br>38452 | 6 076<br>6 478<br>7 282   | "<br>"<br>"     | 480             | Wathará<br>Poláram<br>Opalam Village Pagoda     | 24 23 31<br>95 39 47<br>24 23 31 | 4 095778<br>4 477728<br>4 417142 | 12467<br>30042<br>26130 | 2 361<br>5 690<br>4 949  | "<br>"<br>"     |

\* The continuation of this Series will be found in the Synopsis of Results of the Madras Coast Series.



| No. of triangle                    | Station                               | Corrected plane angle            | Distance                         |                         |                         | No. of triangle | Station                                              | Corrected plane angle          | Distance                         |                         |                         | Theodolite used     |
|------------------------------------|---------------------------------------|----------------------------------|----------------------------------|-------------------------|-------------------------|-----------------|------------------------------------------------------|--------------------------------|----------------------------------|-------------------------|-------------------------|---------------------|
|                                    |                                       |                                  | Log. feet                        | Feet                    | Miles                   |                 |                                                      |                                | Log. feet                        | Feet                    | Miles                   |                     |
| <b>VIZAGAPATAM TO BIMLIPATAM †</b> |                                       |                                  |                                  |                         |                         |                 |                                                      |                                |                                  |                         |                         |                     |
| <b>SECONDARY SERIES.</b>           |                                       |                                  |                                  |                         |                         |                 |                                                      |                                |                                  |                         |                         |                     |
| 481                                | Yaradá, XLV<br>Waltair<br>Semachilem  | 0 27 31<br>87 17 22<br>46 15 7   | 4 409129<br>4 548379<br>4 407635 | 25652<br>35349<br>25564 | 4 858<br>6 695<br>4 842 | 7<br>"<br>"     | Opadá<br>Anandpúr<br>Bimlipatam                      | 62 9 42<br>57 26 15<br>60 24 3 | 4 409546<br>4 388689<br>4 402232 | 25677<br>24473<br>25248 | 4 863<br>4 635<br>4 782 | Inch<br>"<br>"<br>" |
| 482                                | Waltair<br>Semachilem<br>Rusi         | 83 31 38<br>57 47 31<br>38 40 51 | 4 610485<br>4 540693<br>4 409129 | 40784<br>34729<br>25652 | 7 724<br>6 577<br>4 858 | "<br>"<br>"     | Waltair<br>Rusi<br>Dhair (heliotrope)                | 32 19 43<br>21 24 55           | 4 362323<br>4 196594<br>4 540693 | 23032<br>15725<br>34729 | 4 362<br>2 978<br>6 577 | "<br>"<br>"         |
| 483                                | Semachilem<br>Rusi<br>Pedákondá No. 2 | 45 48 22<br>64 2 3<br>70 9 35    | 4 492570<br>4 590816<br>4 610485 | 31086<br>38980<br>40784 | 5 888<br>7 383<br>7 724 | "<br>"<br>"     | Anandpúr<br>Bimlipatam<br>Sea Coast Staff No. 7      | 60 10 12<br>70 22 18           | 4 467042<br>4 502771<br>4 409546 | 29312<br>31825<br>25677 | 5 551<br>6 028<br>4 863 | "<br>"<br>"         |
| 484                                | Rusi<br>Pedákondá No. 2<br>Opadá      | 52 0 45<br>44 19 7<br>83 40 8    | 4 391833<br>4 339485<br>4 492570 | 24651<br>21852<br>31086 | 4 669<br>4 139<br>5 888 | "<br>"<br>"     | Pedákondá No. 2<br>Anandpúr<br>Sea Coast Staff No. 7 | 78 35 55<br>60 42 48           | 4 502771<br>4 452035<br>4 325635 | 31825<br>28316<br>21166 | 6 028<br>5 363<br>4 009 | "<br>"<br>"         |
| 485                                | Pedákondá No. 2<br>Opadá<br>Anandpúr  | 66 22 31<br>50 10 44<br>63 26 45 | 4 402232<br>4 325635<br>4 391833 | 25248<br>21166<br>24651 | 4 782<br>4 009<br>4 669 | "<br>"<br>"     | Opadá<br>Anandpúr<br>Opadá Staff                     | 60 21 47<br>14 29 10           | 4 356704<br>3 815789<br>4 402232 | 22735<br>6543<br>25248  | 4 306<br>1 239<br>4 782 | "<br>"<br>"         |

† The continuation of this Series will be found in the Synopsis of Results of the East Coast Series. \* Base deduced from ray trace.

June 1877.

J. B. N. HENNESSEY,

In charge of Computing Office.

**AZIMUTHS OF SURROUNDING STATIONS AND POINTS, AT PRINCIPAL,  
PRINCIPAL-AUXILIARY, AND SECONDARY STATIONS.**

**BIDER LONGITUDINAL SERIES.**

The following table contains, in the first column, the name of each Principal, Principal-Auxiliary, or Secondary Station, at which azimuths of surrounding Points have been measured; immediately followed by those azimuths. The second column contains the number of the triangle which gives the distance between the Station and the Point.

| Name of station with azimuths of surrounding points                                             | No. of triangle giving distance                     | Name of station with azimuths of surrounding points                                                                                                             | No. of triangle giving distance               | Name of station with azimuths of surrounding points | No. of triangle giving distance                                                                                         |
|-------------------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| ADALGAR, XV<br>Kándagatá, XII<br>Rólkondá, XI<br>Páncs Pandol, XVII                             | 0 ' "<br>74 53 39.87<br>106 10 12.99<br>217 4 44.85 | AVANTAGIRI h.s.<br>Timápúram<br>Bám Medágu Hill Mark<br>Ailgandal Mosque<br>Manakundur Fort<br>Porandlá<br>Yarábali, X<br>Chinchalkot                           | 21<br>21<br>22<br>127<br>127                  | h.s.<br>h.s.<br>h.s.<br>h.s.<br>h.s.<br>" " " " "   | 0 ' "<br>165 25 5<br>207 41 48<br>220 45 35<br>244 10 21<br>251 25 2<br>297 30 19<br>355 18 9                           |
| AIGARDAL h.s.<br>Mallángur<br>Gadrál                                                            | h.s.<br>" "                                         | ANASAGAR, VIII<br>Chinchalkot, VI<br>Gobaríguttá<br>Dásáram<br>Náláguttá No. 2<br>Ráanganáikullú No. 1<br>Maláná, IV<br>Gondáram Fort                           | 485<br>486<br>491<br>485<br>489               | h.s.<br>" " " " "                                   | 0 ' "<br>36 35 40<br>275 42 40<br>318 39 45<br>333 8 55<br>335 52 52                                                    |
| ÁWANDPUB h.s.<br>Pedakondá No. 2<br>Bimlipatam<br>Opadá Staff<br>Opadá<br>Sea Coast Staff No. 7 | h.s.<br>" " " "                                     | ANASAGAR, VIII<br>Bijenkiguttá<br>Ravalápad Village Tower<br>Nársimúguttá<br>Yarábali, X<br>Gadrál<br>Wúltá<br>Bonthá<br>Badipargí Village Temple<br>Devarguttá | 892<br>487<br>434<br>433<br>888<br>887<br>887 | h.s.<br>" " " " "                                   | 0 ' "<br>214 21 51<br>251 37 30<br>288 2 1<br>291 22 3.88<br>303 7 39<br>304 34 16<br>315 35 25<br>336 45 6<br>351 31 0 |
| AVANTAGIRI h.s.<br>Sirsalla Fort                                                                | 139 21 26                                           | BACHAPALI, XLI*<br>Dúdálá, XLIV*<br>Burgidá<br>Botmili, I<br>Chittal<br>Nársulá, II                                                                             | 9<br>122<br>195<br>120<br>112<br>9<br>143     | h.s.<br>" " " " "                                   | 0 ' "<br>1 11 50.49<br>249 40 35<br>251 47 46.29<br>297 44 57<br>297 45 3.34                                            |

\* Of the Great Arc Meridional Series—Section 18° to 24°.

AZIMUTHS OF STATIONS AND INTERSECTED POINTS.

| Name of station with azimuths of surrounding points                                                                                                                     | No. of triangle giving distance                                | Name of station with azimuths of surrounding points                                                                                                                                                                                                                                                                                                                                          | No. of triangle giving distance                                                         | Name of station with azimuths of surrounding points                                               | No. of triangle giving distance |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------|
| BALL, XXXIII<br>Pánchá, XXXI<br>Munás, XXXII<br>Kauráibiding, XXXV                                                                                                      | 41<br>41<br>42                                                 | BOLABOIN h.s.<br>Nilíguttá<br>Borá Gattú, III<br>Boráguttá<br>Madikuntá Village Tower<br>Maláná, IV                                                                                                                                                                                                                                                                                          | 106<br>105<br>107<br>108<br>105                                                         | BORAGUTTA h.s.<br>Madikuntá Village Tower<br>Maláná, IV<br>Bolíboin<br>Chokáredipett Village Flag | 109<br>107<br>107<br>110        |
| BEGAMPETT s.<br>Deogat<br>Wadápáilí<br>Pirmulo, V                                                                                                                       | 96<br>108<br>96                                                | BOLIKONDA, XI<br>Kándagatá, XII<br>Vánakondá, IX<br>Koilkondá<br>Zafargarh Building<br>Yarábali, X<br>Rángasháhipett Hill Mark<br>Warangal Fort<br>Girmáipett Hill Pagoda<br>Shaiámápett Hill Mark<br>Katsjúpúr, XIII<br>Shilkábúgat Hill Mark<br>Chetupáli Hill Mark<br>Pánch Pandol, XVII<br>Pánch Pandol<br>Kandikondá Pagoda<br>Gunigat<br>Gudúr<br>Isompáli Hill Pagoda<br>Adáligat, XV | 812<br>815<br>814<br>311<br>311                                                         | BORAGUTTA h.s.<br>Madikuntá Village Tower<br>Maláná, IV<br>Bolíboin<br>Chokáredipett Village Flag | 109<br>107<br>107<br>110        |
| BHADRACHALLAM h.s.<br>Elíguttá<br>Korápilí Hill Mark<br>Singáwaram, XXIII<br>Eragúntá<br>Devarpiliguttá<br>Kindarsainguttá<br>Rájaguttá, XXIV                           | 308<br>309<br>300<br>305<br>301<br>302<br>300                  | BONTRA h.s.<br>Maláná No. 3<br>Kháthá<br>Kánganáikullú No. 2<br>Grandípáilí Village Tower<br>Anáságar, VIII<br>Degalá<br>Wúltá<br>Antakápett Hill Mark<br>Katkúr Village Tower<br>Sáralá<br>Pangirí<br>Yarábali, X<br>Seváráná                                                                                                                                                               | 154<br>156<br>158<br>163<br>146<br>152<br>147<br>160<br>170<br>168<br>150<br>146<br>149 | BORAGUTTA h.s.<br>Madikuntá Village Tower<br>Maláná, IV<br>Bolíboin<br>Chokáredipett Village Flag | 109<br>107<br>107<br>110        |
| BHONAGIR h.s.<br>Kotál<br>Chinchalkot<br>Koilkondá<br>Bugá Rámságuttá Temple<br>Múshpatlá<br>Podichaid Pagoda<br>Udágat<br>Dúbagat Mark                                 | 422<br>386<br>385<br>401<br>402<br>410<br>385<br>416           | BONTRA h.s.<br>Maláná No. 3<br>Kháthá<br>Kánganáikullú No. 2<br>Grandípáilí Village Tower<br>Anáságar, VIII<br>Degalá<br>Wúltá<br>Antakápett Hill Mark<br>Katkúr Village Tower<br>Sáralá<br>Pangirí<br>Yarábali, X<br>Seváráná                                                                                                                                                               | 154<br>156<br>158<br>163<br>146<br>152<br>147<br>160<br>170<br>168<br>150<br>146<br>149 | BORAGUTTA h.s.<br>Madikuntá Village Tower<br>Maláná, IV<br>Bolíboin<br>Chokáredipett Village Flag | 109<br>107<br>107<br>110        |
| BIJENKIGUTTA h.s.<br>Anáságar, VIII<br>Gondáram Fort<br>Rámanchágullá Temple<br>Tangúlpáilí Village Tower<br>Gadrál<br>Nársimúguttá                                     | 137<br>142<br>141<br>140<br>137<br>138                         | BONTRA h.s.<br>Maláná No. 3<br>Kháthá<br>Kánganáikullú No. 2<br>Grandípáilí Village Tower<br>Anáságar, VIII<br>Degalá<br>Wúltá<br>Antakápett Hill Mark<br>Katkúr Village Tower<br>Sáralá<br>Pangirí<br>Yarábali, X<br>Seváráná                                                                                                                                                               | 154<br>156<br>158<br>163<br>146<br>152<br>147<br>160<br>170<br>168<br>150<br>146<br>149 | BORAGUTTA h.s.<br>Madikuntá Village Tower<br>Maláná, IV<br>Bolíboin<br>Chokáredipett Village Flag | 109<br>107<br>107<br>110        |
| BILPATAM h.s.<br>Sea Coast Staff No. 7<br>Opadá<br>Opadá Staff<br>Anandpúr                                                                                              | 489<br>486<br>491<br>486                                       | BONTRA h.s.<br>Maláná No. 3<br>Kháthá<br>Kánganáikullú No. 2<br>Grandípáilí Village Tower<br>Anáságar, VIII<br>Degalá<br>Wúltá<br>Antakápett Hill Mark<br>Katkúr Village Tower<br>Sáralá<br>Pangirí<br>Yarábali, X<br>Seváráná                                                                                                                                                               | 154<br>156<br>158<br>163<br>146<br>152<br>147<br>160<br>170<br>168<br>150<br>146<br>149 | BORAGUTTA h.s.<br>Madikuntá Village Tower<br>Maláná, IV<br>Bolíboin<br>Chokáredipett Village Flag | 109<br>107<br>107<br>110        |
| BODANALI, XXII<br>Singáwaram, XXIII<br>Nálábelí<br>Dumagudem<br>Ratánguttá<br>Maláwaram, XIX<br>Kaler<br>Somán Devarguttá, XX<br>Nárakondá, XXV<br>Durgat<br>Tunkiguttá | 27<br>290<br>292<br>284<br>26<br>283<br>26<br>28<br>313<br>297 | BONTRA h.s.<br>Maláná No. 3<br>Kháthá<br>Kánganáikullú No. 2<br>Grandípáilí Village Tower<br>Anáságar, VIII<br>Degalá<br>Wúltá<br>Antakápett Hill Mark<br>Katkúr Village Tower<br>Sáralá<br>Pangirí<br>Yarábali, X<br>Seváráná                                                                                                                                                               | 154<br>156<br>158<br>163<br>146<br>152<br>147<br>160<br>170<br>168<br>150<br>146<br>149 | BORAGUTTA h.s.<br>Madikuntá Village Tower<br>Maláná, IV<br>Bolíboin<br>Chokáredipett Village Flag | 109<br>107<br>107<br>110        |

\* Of the Great Arc Meridional Series—Section 16° to 25°.



| Name of station with azimuths of surrounding points                                                                                                       | No. of triangle giving distance                             | Name of station with azimuths of surrounding points                                                                                                                                                                                                                                                                          | No. of triangle giving distance                             | Name of station with azimuths of surrounding points                                                                                                                                                                                                                                                                          | No. of triangle giving distance                             | Name of station with azimuths of surrounding points                                                                                                                                                                                                                                                                          | No. of triangle giving distance                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| DUMAGUDEM s.<br>Katanguttá<br>Bodánali, XXII<br>Yalágúram Hill Mark<br>Singawáram, XXIII                                                                  | 292<br>292<br>294<br>298                                    | GOBARIGUTTA h.s.<br>Anásagar, VIII<br>Kátárpáli Village Tower<br>Devarguttá<br>Nársimúlguttá<br>Bedipargi Village Temple<br>Gadrál<br>Ranganáikullú No. 2<br>Makdúmpúr Tower                                                                                                                                                 | 122<br>185<br>199<br>183<br>131<br>125<br>166               | DOBARIGUTTA h.s.<br>Anásagar, VIII<br>Kátárpáli Village Tower<br>Devarguttá<br>Nársimúlguttá<br>Bedipargi Village Temple<br>Gadrál<br>Ranganáikullú No. 2<br>Makdúmpúr Tower                                                                                                                                                 | 122<br>185<br>199<br>183<br>131<br>125<br>166               | HANIMKONDA h.s.<br>Vánakondá, IX<br>Yarábali, X<br>Chandrágiri<br>Katájpúr, XIII<br>Pedápúram Hill Temple<br>Warangal Fort                                                                                                                                                                                                   | 228<br>228<br>232<br>229<br>238<br>237                                                                  |
| DUMPAIPAILI s.<br>Niliguttá<br>Maláná, IV<br>Maláná No. 2                                                                                                 | 119<br>118<br>118                                           | GOBAINKONDA h.s.<br>Midikondá Hill Mark<br>Koilkondá<br>Vánáakondá, IX<br>Davarópálá Hill Mark                                                                                                                                                                                                                               | 217<br>216<br>216<br>220                                    | GOBAINKONDA h.s.<br>Midikondá Hill Mark<br>Koilkondá<br>Vánáakondá, IX<br>Davarópálá Hill Mark                                                                                                                                                                                                                               | 217<br>216<br>216<br>220                                    | ILASAGAR s.<br>Yelchal Hill Mark<br>Rámger, XIV<br>Kistáspett Hill Mark                                                                                                                                                                                                                                                      | 251<br>251<br>252                                                                                       |
| DURGANGUTTA h.s.<br>Lachipúram<br>Mutalámásguttá                                                                                                          | 289<br>289                                                  | GUUR s.<br>Nársiwellett Hill Pagoda<br>Bolikondá, XI<br>Kandikondá Pagoda<br>Gunigat<br>Isompáli Hill Pagoda                                                                                                                                                                                                                 | 271<br>269<br>269<br>270<br>274                             | GUUR s.<br>Nársiwellett Hill Pagoda<br>Bolikondá, XI<br>Kandikondá Pagoda<br>Gunigat<br>Isompáli Hill Pagoda                                                                                                                                                                                                                 | 271<br>269<br>269<br>270<br>274                             | INKURI s.<br>Kándágatlá, XII<br>Kandífkondá Pagoda<br>Gunigat                                                                                                                                                                                                                                                                | 267<br>268<br>267                                                                                       |
| DURGAT h.s.<br>Bodánali, XXII<br>Naráakondá, XXV<br>Bolgattá                                                                                              | 313<br>313<br>314                                           | GUMLUZ h.s.<br>Rájpüttá<br>Yámágeri<br>Poláram                                                                                                                                                                                                                                                                               | 470<br>469<br>469                                           | GUMLUZ h.s.<br>Rájpüttá<br>Yámágeri<br>Poláram                                                                                                                                                                                                                                                                               | 470<br>469<br>469                                           | JAKTAL s.<br>Konápúram Hill Mark<br>Tátáláwayá<br>Dikondá                                                                                                                                                                                                                                                                    | 446<br>447<br>446                                                                                       |
| ELIGUTTA h.s.<br>Korspáli Hill Mark<br>Bhadráchallam<br>Erágtúttá                                                                                         | 810<br>808<br>808                                           | GUMBUR, LXIX*<br>Pothkondá, XLIV<br>Márki<br>Márki, LXVI*<br>Demrd<br>Yarádá, XLV                                                                                                                                                                                                                                            | 55<br>864<br>55<br>868<br>60                                | GUMBUR, LXIX*<br>Pothkondá, XLIV<br>Márki<br>Márki, LXVI*<br>Demrd<br>Yarádá, XLV                                                                                                                                                                                                                                            | 55<br>864<br>55<br>868<br>60                                | JARAKONDA, XLIII<br>Naláakondá, XL<br>Mádgl Hill Mark (heliotrope)<br>Káp, XXVIII<br>Márki, LXVI*<br>Pothkondá, XLIV                                                                                                                                                                                                         | 52<br>362<br>52<br>54<br>53                                                                             |
| ERAGUTTA h.s.<br>Eliguttá<br>Bhadráchallam<br>Bhadráchallam Temple<br>Singawáram, XXIII<br>Tunkiguttá                                                     | 808<br>805<br>806<br>304<br>304                             | GUNIGAT h.s.<br>Kándágatlá, XII<br>Nársiwellett Hill Pagoda<br>Isompáli Hill Pagoda<br>Gudur<br>Inkúrti<br>Bolikondá, XI<br>Kandikondá Pagoda<br>Páneh Pandol<br>Haidarsháhipett                                                                                                                                             | 264<br>271<br>573<br>270<br>267<br>268<br>265<br>268<br>275 | GUNIGAT h.s.<br>Kándágatlá, XII<br>Nársiwellett Hill Pagoda<br>Isompáli Hill Pagoda<br>Gudur<br>Inkúrti<br>Bolikondá, XI<br>Kandikondá Pagoda<br>Páneh Pandol<br>Haidarsháhipett                                                                                                                                             | 264<br>271<br>573<br>270<br>267<br>268<br>265<br>268<br>275 | KALER, XXVII<br>Rápák, XXVI<br>Kotá Hill Mark<br>Hill Mark No. 1<br>Naráakondá, XXV<br>Velputsguttá Hill Peak<br>Hill Peak No. 1<br>Hill Peak No. 2<br>Hill Peak No. 3<br>Singanáiná, XXIX<br>Hill Tree<br>Mániámkondá Hill Peak<br>Pedáakondá, XXX<br>Pápkondá, XXVIII<br>Hill Peak No. 4<br>Kánsúr<br>Bátáakondá Hill Mark | 84<br>327<br>324<br>34<br>333<br>322<br>321<br>328<br>35<br>384<br>380<br>36<br>37<br>328<br>320<br>317 |
| GADKOL h.s.<br>Burgdá<br>Yaláma'devgat                                                                                                                    | 71<br>71                                                    | HAI DARSHAHIPETT s.<br>Gunigat<br>Kandikondá Pagoda                                                                                                                                                                                                                                                                          | 275<br>275                                                  | HAI DARSHAHIPETT s.<br>Gunigat<br>Kandikondá Pagoda                                                                                                                                                                                                                                                                          | 275<br>275                                                  | KALER, XXVII<br>Rápák, XXVI<br>Kotá Hill Mark<br>Hill Mark No. 1<br>Naráakondá, XXV<br>Velputsguttá Hill Peak<br>Hill Peak No. 1<br>Hill Peak No. 2<br>Hill Peak No. 3<br>Singanáiná, XXIX<br>Hill Tree<br>Mániámkondá Hill Peak<br>Pedáakondá, XXX<br>Pápkondá, XXVIII<br>Hill Peak No. 4<br>Kánsúr<br>Bátáakondá Hill Mark | 84<br>327<br>324<br>34<br>333<br>322<br>321<br>328<br>35<br>384<br>380<br>36<br>37<br>328<br>320<br>317 |
| GADRAL h.s.<br>Gobariguttá<br>Sigandápúram Tower<br>Devarguttá<br>Anásagar, VIII<br>Nársimúlguttá<br>Bijeniguttá<br>Ailgandal<br>Mallángur<br>Yarábali, X | 125<br>136<br>128<br>124<br>138<br>137<br>127<br>126<br>124 | KALER, XXVII<br>Rápák, XXVI<br>Kotá Hill Mark<br>Hill Mark No. 1<br>Naráakondá, XXV<br>Velputsguttá Hill Peak<br>Hill Peak No. 1<br>Hill Peak No. 2<br>Hill Peak No. 3<br>Singanáiná, XXIX<br>Hill Tree<br>Mániámkondá Hill Peak<br>Pedáakondá, XXX<br>Pápkondá, XXVIII<br>Hill Peak No. 4<br>Kánsúr<br>Bátáakondá Hill Mark | 264<br>271<br>573<br>270<br>267<br>268<br>265<br>268<br>275 | KALER, XXVII<br>Rápák, XXVI<br>Kotá Hill Mark<br>Hill Mark No. 1<br>Naráakondá, XXV<br>Velputsguttá Hill Peak<br>Hill Peak No. 1<br>Hill Peak No. 2<br>Hill Peak No. 3<br>Singanáiná, XXIX<br>Hill Tree<br>Mániámkondá Hill Peak<br>Pedáakondá, XXX<br>Pápkondá, XXVIII<br>Hill Peak No. 4<br>Kánsúr<br>Bátáakondá Hill Mark | 264<br>271<br>573<br>270<br>267<br>268<br>265<br>268<br>275 | KALER, XXVII<br>Rápák, XXVI<br>Kotá Hill Mark<br>Hill Mark No. 1<br>Naráakondá, XXV<br>Velputsguttá Hill Peak<br>Hill Peak No. 1<br>Hill Peak No. 2<br>Hill Peak No. 3<br>Singanáiná, XXIX<br>Hill Tree<br>Mániámkondá Hill Peak<br>Pedáakondá, XXX<br>Pápkondá, XXVIII<br>Hill Peak No. 4<br>Kánsúr<br>Bátáakondá Hill Mark | 84<br>327<br>324<br>34<br>333<br>322<br>321<br>328<br>35<br>384<br>380<br>36<br>37<br>328<br>320<br>317 |
| GOBARIGUTTA h.s.<br>Chinchalkot, VI<br>Náláaguttá No. 2<br>Iganágram Fort                                                                                 | 128<br>122<br>130                                           | KALER, XXVII<br>Rápák, XXVI<br>Kotá Hill Mark<br>Hill Mark No. 1<br>Naráakondá, XXV<br>Velputsguttá Hill Peak<br>Hill Peak No. 1<br>Hill Peak No. 2<br>Hill Peak No. 3<br>Singanáiná, XXIX<br>Hill Tree<br>Mániámkondá Hill Peak<br>Pedáakondá, XXX<br>Pápkondá, XXVIII<br>Hill Peak No. 4<br>Kánsúr<br>Bátáakondá Hill Mark | 264<br>271<br>573<br>270<br>267<br>268<br>265<br>268<br>275 | KALER, XXVII<br>Rápák, XXVI<br>Kotá Hill Mark<br>Hill Mark No. 1<br>Naráakondá, XXV<br>Velputsguttá Hill Peak<br>Hill Peak No. 1<br>Hill Peak No. 2<br>Hill Peak No. 3<br>Singanáiná, XXIX<br>Hill Tree<br>Mániámkondá Hill Peak<br>Pedáakondá, XXX<br>Pápkondá, XXVIII<br>Hill Peak No. 4<br>Kánsúr<br>Bátáakondá Hill Mark | 264<br>271<br>573<br>270<br>267<br>268<br>265<br>268<br>275 | KALER, XXVII<br>Rápák, XXVI<br>Kotá Hill Mark<br>Hill Mark No. 1<br>Naráakondá, XXV<br>Velputsguttá Hill Peak<br>Hill Peak No. 1<br>Hill Peak No. 2<br>Hill Peak No. 3<br>Singanáiná, XXIX<br>Hill Tree<br>Mániámkondá Hill Peak<br>Pedáakondá, XXX<br>Pápkondá, XXVIII<br>Hill Peak No. 4<br>Kánsúr<br>Bátáakondá Hill Mark | 84<br>327<br>324<br>34<br>333<br>322<br>321<br>328<br>35<br>384<br>380<br>36<br>37<br>328<br>320<br>317 |

| Name of station with azimuths of surrounding points                                                                                                                                                                                                                                                                                                                                         | No. of triangle giving distance                                                                           | Name of station with azimuths of surrounding points                                                                                                                                                                                     | No. of triangle giving distance                                                                                                                                                                                                                                                                                                                                                                                                                                   | Name of station with azimuths of surrounding points                                                           | No. of triangle giving distance                                                                                                                                                                                                | Name of station with azimuths of surrounding points                                                                                                                                                                                                                                                                                                                                                                                                               | No. of triangle giving distance                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| KALINGKONDA, XXXVI<br>Pándavála, XXXVII<br>Kálmánudi Hill<br>Gurumambar Hill Mark (helio.)<br>Cherú, XXXIV<br>Jeril Hill Mark<br>Kaurálbiding, XXXV<br>Káp, XXXVIII<br>Dhar, XXXIX                                                                                                                                                                                                          | 49<br>850<br>348<br>46<br>352<br>46<br>47<br>48                                                           | 30 37 28 73<br>36 55 28<br>93 1 16<br>105 53 14 27<br>177 46 5<br>189 41 26 05<br>248 1 3 30<br>301 22 29 32                                                                                                                            | KATAJUR, XIII<br>Bolikondá, XI<br>Pedápúram Hill Temple<br>Warangal Fort<br>Rágnáshippett Hill Mark<br>Girnáshippett Hill Pagoda<br>Háninkondá<br>Márikondá Temple<br>Yarábali, X<br>Chandrágiri<br>Salurgat Mark<br>Rámgar, XIV<br>Yelchal Hill Mark<br>Partabgiri, XVI<br>Yalápúram, XVIII<br>Páneh Pandol, XVII<br>Páneh Pandol<br>Shilkaugat Hill Mark                                                                                                        | 15<br>238<br>236<br>280<br>258<br>229<br>234<br>15<br>233<br>429<br>17<br>240<br>18<br>19<br>16<br>255<br>261 | 2 58 10 68<br>46 8 10<br>50 35 59<br>53 38 56<br>56 22 26<br>64 24 13<br>64 28 24<br>81 29 29 79<br>91 45 7<br>124 41 16<br>149 45 5 98<br>155 12 55<br>168 28 54 52<br>257 31 17 94<br>307 53 47 76<br>309 36 24<br>314 36 52 | KATAMBAJ h.s.<br>Pedakondá, XXX<br>Pánchá, XXXI<br>Cherú, XXXIV<br>Kaurálbiding, XXXV<br>Kálingkondá, XXXVI<br>Jeril Hill Mark<br>Gurumambar Hill Mark (helio.)<br>Cherú, XXXIV<br>Bidinghi Hill Mark<br>Pánchá, XXXI<br>Munás, XXXII<br>Malkangiri Rock<br>Báli, XXXIII<br>Yendrika Hill Mark<br>Káp, XXXVIII                                                                                                                                                    | 46<br>358<br>348<br>43<br>346<br>42<br>45<br>341<br>42<br>354<br>47 |
| KANDAGATLA, XII<br>Nellibandá Hill Pagoda<br>Malaswami Hill Pagoda<br>Udágat<br>Arwápali Hill Mark<br>Bujilápúram Hill Pagoda<br>Bugá Rámánágguttá Temple<br>Motkur Pagoda<br>Vánákkondá, IX<br>Koilkondá<br>Záfargarh Building<br>Bolikondá, XI<br>Inkúrti<br>Narsiwelpett Hill Pagoda<br>Kandikondá Pagoda<br>Gunnigat<br>Adálgat, XV                                                     | 405<br>399<br>388<br>398<br>412<br>400<br>413<br>20<br>381<br>395<br>20<br>267<br>272<br>265<br>264<br>21 | 62 1 19<br>78 5 45<br>83 0 42<br>h.s.<br>104 25 8<br>109 32 8<br>109 40 2<br>117 9 4<br>142 24 24 08<br>h.s.<br>143 15 22<br>163 46 57<br>202 12 52 49<br>s.<br>204 54 15<br>216 44 4<br>239 16 52<br>252 18 5<br>254 48 12 26          | KATAMBAJ h.s.<br>Pedakondá, XXX<br>Pánchá, XXXI<br>Cherú, XXXIV<br>Kaurálbiding, XXXV<br>Kálingkondá, XXXVI<br>Jeril Hill Mark<br>Gurumambar Hill Mark (helio.)<br>Cherú, XXXIV<br>Bidinghi Hill Mark<br>Pánchá, XXXI<br>Munás, XXXII<br>Malkangiri Rock<br>Báli, XXXIII<br>Yendrika Hill Mark<br>Káp, XXXVIII                                                                                                                                                    | 842<br>842<br>848                                                                                             | 79 54 59<br>183 5 29<br>267 32 14                                                                                                                                                                                              | KATAMBAJ h.s.<br>Pedakondá, XXX<br>Pánchá, XXXI<br>Cherú, XXXIV<br>Kaurálbiding, XXXV<br>Kálingkondá, XXXVI<br>Jeril Hill Mark<br>Gurumambar Hill Mark (helio.)<br>Cherú, XXXIV<br>Bidinghi Hill Mark<br>Pánchá, XXXI<br>Munás, XXXII<br>Malkangiri Rock<br>Báli, XXXIII<br>Yendrika Hill Mark<br>Káp, XXXVIII                                                                                                                                                    | 46<br>358<br>348<br>43<br>346<br>42<br>45<br>341<br>42<br>354<br>47 |
| KANSLUR h.s.<br>Nárákkondá, XXXV<br>Kaler, XXVII<br>Singánamá, XIX<br>Hill Peak No. 4<br>KAP, XXXVIII<br>Dhar, XXXIX<br>Kálingkondá, XXXVI<br>Kaurálbiding, XXXV<br>Yendrika Hill Mark<br>Jarákkondá, XLII<br>Mádgül Hill Mark (heliotrope)<br>Nalákkondá, XL<br>KARCHILA h.s.<br>Naraulá, II<br>Metkur<br>Chetipali Hill Temple<br>Kúnúr Village Tower<br>Malaná No. 1                     | 319<br>320<br>319<br>329<br>48<br>47<br>47<br>354<br>52<br>361<br>51<br>67<br>66<br>70<br>69<br>66        | 112 44 31<br>158 46 50<br>193 55 35<br>327 18 57<br>32 58 51 11<br>68 6 43 97<br>127 37 24 75<br>169 31 53<br>247 27 46 86<br>266 56 47<br>326 31 21 75<br>224 2 19<br>241 35 25<br>h.s.<br>257 28 35<br>276 53 21<br>h.s.<br>283 58 48 | KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building | 197<br>198<br>197<br>208<br>208<br>209<br>210                                                                 | 3 22 0<br>205 22 31<br>259 7 32                                                                                                                                                                                                | KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building | 197<br>198<br>197<br>208<br>208<br>209<br>210                       |
| KONDALAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building | 208<br>208<br>209<br>210                                                                                  | 105 30 31<br>153 50 55<br>182 31 50<br>230 19 19                                                                                                                                                                                        | KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building | 208<br>208<br>209<br>210                                                                                      | 105 30 31<br>153 50 55<br>182 31 50<br>230 19 19                                                                                                                                                                               | KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building | 208<br>208<br>209<br>210                                            |
| KONDALAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building | 208<br>208<br>209<br>210                                                                                  | 105 30 31<br>153 50 55<br>182 31 50<br>230 19 19                                                                                                                                                                                        | KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building | 208<br>208<br>209<br>210                                                                                      | 105 30 31<br>153 50 55<br>182 31 50<br>230 19 19                                                                                                                                                                               | KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Dásarám<br>Chinchalkot, VI<br>KONDAPOCHAMA h.s.<br>Maisamá, VII<br>Rediguttá<br>Koni<br>Sidenghi Hill Building | 208<br>208<br>209<br>210                                            |

AZIMUTHS OF STATIONS AND INTERSECTED POINTS.

| Name of station with azimuths of surrounding points                                                                                                                                                                                                                                    | No. of triangle giving distance | Name of station with azimuths of surrounding points                    | No. of triangle giving distance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Name of station with azimuths of surrounding points                                                | No. of triangle giving distance                                                                                                                                                                                                 | Name of station with azimuths of surrounding points                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | No. of triangle giving distance                                                                                                                                                                                                                                                                                                                                                                          |                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| <b>KONI</b> h.s.<br>Nágaram Temple<br>Kodavátúr Hill Mark<br>Kodavátúr Hill Building<br>Sidenghi Hill Building<br>Kúlpák                                                                                                                                                               | 214<br>204<br>202<br>210<br>206 | 243 9 0<br>254 58 57<br>261 36 26<br>315 30 0<br>s. 333 8 56           | <b>MALAYAMA, VII</b><br>Usánrálá<br>Túrkápaillí<br>Pirmulo, V<br>Tirmalápur<br>Kondá Pochamá<br>Rediguttá<br>Chinchalkot, VI<br>Renkuntá<br>Koni<br>Bondágullá Village Temple<br>Kodavátúr Hill Building<br>Kúlpák<br>Vánákkondá, IX<br>Kondalámá                                                                                                                                                                                                                                                                                                                                                                        | 193<br>192<br>12<br>190<br>197<br>184<br>12<br>188<br>199<br>185<br>201<br>206<br>13<br>208        | 92 58 30<br>s. 94 31 56<br>133 26 18.87<br>h.s. 140 56 49<br>" 183 21 46<br>" 188 38 24<br>201 41 31.21<br>214 57 15<br>" 215 26 24<br>" 223 2 28<br>228 59 35<br>s. 254 38 21<br>275 44 8.54<br>h.s. 285 28 29                 | <b>MALAWARAM, XIX</b><br>Páñch Pandol, XVII<br>Yalápúram, XVIII<br>Somán Devarguttá, XX<br>Bodánálí, XXI<br>Singáwáram, XXIII<br>Pállunchá, XXI<br><br><b>MALLANGUR</b> h.s.<br>Gadrál<br>Ailgandal<br>Yarábalí, X<br><br><b>MANGALGADDA</b> s.<br>Koni<br>Chinchalkot, VI<br>Dásáram<br>Nágaram Temple<br><br><b>MANGALORUTTA</b> h.s.<br>Metkúr<br>Narsulá, II<br>Malárpettá Temple<br>Isanápáilí Temple<br>Konápur Village Temple<br>Ráilápur Village Tower<br>Niládrisámí<br>Borá Gattú, III<br><br><b>MANTANI</b> s.<br>Kámگیر<br>Kámگیر, XIV<br>Malánágguttá Hill Mark<br>Pamánur Pagoda<br>Godam Ishwar Pagoda<br>Pargandi Hill Mark | 78 37 57.06<br>137 25 44.78<br>201 17 41.08<br>245 18 35.20<br>295 49 1.03<br>351 38 40.15<br><br>h.s. 56 51 59<br>" 114 52 27<br>351 33 54<br><br>h.s. 6 9 26<br>48 48 17<br>" 99 42 6<br>302 39 59<br><br>h.s. 40 36 7<br>52 55 30<br>215 18 17<br>240 48 22<br>247 7 33<br>270 22 47<br>h.s. 277 37 27<br>316 11 13<br><br>s. 56 11 10<br>65 13 43<br>175 46 37<br>191 16 1<br>221 20 22<br>298 55 19 | 24<br>24<br>25<br>26<br>27<br>30             |
| <b>KOSULPURMETA</b> h.s.<br>Lingapúram Temple<br>Narsipatnam Hospital<br>Nalákkondá, XL<br>Sánjib, XLI                                                                                                                                                                                 | 360<br>359<br>357<br>357        | 81 26 7<br>100 8 29<br>225 24 15<br>357 54 40                          | <b>MALANA, IV</b><br>Pirmulo, V<br>Dúbhák<br>Borá Gattú, III<br>Nilágguttá<br>Botmilí, I<br>Boláboin<br>Borágguttá<br>Madikuntá Village Tower<br>Chokáredipett Village Flag<br>Anáságar, VIII<br>Ranganákkullú No. 1<br>Nalágguttá No. 2<br>Chinchalkot, VI<br>Maláná No. 2<br>Chelápur Village Tower<br>Dúmpalpaillí<br><br><b>MALANA No. 1</b> h.s.<br>Karohilá<br>Narsulá, II<br>Chetipáilí Hill Temple<br>Metkúr<br><br><b>MALANA No. 2</b> h.s.<br>Nilágguttá<br>Dúmpalpaillí<br>Dúbhák<br>Chelápur Village Tower<br>Maláná, IV<br>Ranganákkullú No. 1<br><br><b>MALANA No. 3</b> h.s.<br>Wúltá<br>Degalá<br>Bonthá | 6<br>115<br>6<br>106<br>7<br>105<br>107<br>108<br>110<br>9<br>111<br>121<br>8<br>113<br>117<br>118 | 13 36 34.97<br>s. 13 47 4<br>51 0 15.37<br>62 58 29<br>94 59 1.38<br>125 53 54<br>214 40 27<br>216 59 14<br>267 25 43<br>274 29 31.12<br>h.s. 286 42 33<br>" 321 7 13<br>323 14 13.42<br>327 24 11<br>340 10 32<br>s. 349 55 25 | 66<br>65<br>70<br>65<br><br>113<br>116<br>118<br>117<br>113<br>114                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 104 1 13<br>h.s. 129 29 49<br>152 52 10<br>" 176 25 22<br><br>h.s. 105 56 2<br>s. 116 15 45<br>" 117 14 51<br>142 40 23<br>147 25 10<br>h.s. 256 40 59                                                                                                                                                                                                                                                   | 246<br>242<br>242<br>245<br>244<br>243       |
| <b>KOTAL</b> h.s.<br>Kometibandá Pagoda<br>Shigúrpáilí High Stone<br>Yámalgat<br>Chinchalkot<br>Bhonágir                                                                                                                                                                               | 425<br>424<br>423<br>423<br>422 | 145 42 26<br>178 24 18<br>s. 194 55 58<br>h.s. 230 33 53<br>" 318 25 6 | <b>MALAKA, V</b><br>Kutkonda s.<br>Thanthadhi<br>Thandikondá<br>Pedákkondá<br>Yarádá, XLV<br><br><b>LACHIPURAM</b> s.<br>Mutalámágguttá<br>Durganguttá<br>Somán Devarguttá, XX<br>Kaler<br>Batanguttá<br><br><b>MAHADROPUR</b> s.<br>Bhupalpatnam Hill Mark<br>Sománur Hill Mark<br>Partábgirí, XVI                                                                                                                                                                                                                                                                                                                      | 206<br>207<br>206<br>221<br>219<br>219<br>224<br>226<br>222                                        | 74 41 38<br>h.s. 122 23 37<br>" 153 10 1<br><br>14 9 33<br>32 20 54<br>Vánákkondá, IX<br>80 40 42<br>h.s. 133 59 25<br>" 334 31 23<br>355 6 15                                                                                  | 460<br>459<br>471<br>459                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | h.s. 73 53 35<br>" 131 48 34<br>" 147 20 57<br>217 37 40                                                                                                                                                                                                                                                                                                                                                 | 78<br>79<br>89<br>88<br>86<br>84<br>82<br>78 |
| <b>KUTKONDA</b> s.<br>Thanthadhi<br>Thandikondá<br>Pedákkondá<br>Yarádá, XLV<br><br><b>LACHIPURAM</b> s.<br>Mutalámágguttá<br>Durganguttá<br>Somán Devarguttá, XX<br>Kaler<br>Batanguttá<br><br><b>MAHADROPUR</b> s.<br>Bhupalpatnam Hill Mark<br>Sománur Hill Mark<br>Partábgirí, XVI | 288<br>289<br>286<br>286<br>287 | 8 13 33<br>h.s. 47 56 23<br>" 184 27 28<br>" 269 5 47<br>" 315 11 22   | <b>MARKE, LXVI</b> *<br>Pothkondá, XLIV<br>Márki<br>Jarákkondá, XLII<br>Gumrú, LXIX *<br><br><b>MARKE</b> h.s.<br>Márki, LXVI *<br>Gumrú, LXIX *<br>Pothkondá, XLIV                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 113<br>118<br>116<br>117<br>113<br>114                                                             | 105 56 2<br>s. 116 15 45<br>" 117 14 51<br>142 40 23<br>147 25 10<br>h.s. 256 40 59                                                                                                                                             | 54<br>863<br>54<br>55                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 7 35 41.18<br>65 32 57<br>84 30 48.64<br>306 4 2.65                                                                                                                                                                                                                                                                                                                                                      | 246<br>242<br>242<br>245<br>244<br>243       |
| <b>MAHADROPUR</b> s.<br>Bhupalpatnam Hill Mark<br>Sománur Hill Mark<br>Partábgirí, XVI                                                                                                                                                                                                 | 281<br>282<br>281               | 262 46 36<br>270 32 31<br>350 3 6                                      | <b>MARKE</b> h.s.<br>Márki, LXVI *<br>Gumrú, LXIX *<br>Pothkondá, XLIV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 155<br>154<br>154                                                                                  | 199 20 35<br>216 33 49<br>277 47 19                                                                                                                                                                                             | 868<br>364<br>868                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 245 32 11<br>296 12 7<br>358 25 31                                                                                                                                                                                                                                                                                                                                                                       | 868<br>364<br>868                            |

\* Of the East Coast Series.

| Name of station with azimuths of surrounding points                                                                                                                                                                                     | No. of triangle giving distance                                           | Name of station with azimuths of surrounding points                                                                                  | No. of triangle giving distance                                                                                             | Name of station with azimuths of surrounding points                                                                                                                                                              | No. of triangle giving distance                                             | Name of station with azimuths of surrounding points                                                                                                                                                                     | No. of triangle giving distance                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MEPPEN h.s.<br>Désarmetá<br>Timidal Hill Mark<br>Máripalam House<br>Demnú<br>Vizagapatam Magazine<br>Waltair Racket Court<br>Vizagapatam Church                                                                                         | 871<br>374<br>372<br>371<br>376<br>379<br>380                             | h.s.<br>h.s.<br>h.s.<br>h.s.<br>h.s.<br>h.s.<br>h.s.                                                                                 | 83 21 8<br>133 45 16<br>161 36 32<br>332 7 34<br>346 43 7<br>141 9 12<br>240 14 31<br>272 54 34<br>324 33 59                | NALAGUTTA No. 1 h.s.<br>Narsulá, II<br>Borá Gattú, III<br>Niládirámí<br>Pirmulo, V<br>Deogst<br>NALAGUTTA No. 2 h.s.<br>Maláná, IV<br>Anásagar, VIII<br>Gobariguttá<br>Chinchalkot, VI                           | 80<br>80<br>83<br>81<br>91<br>121<br>120<br>122<br>120                      | NARSIMULGUTTA h.s.<br>Kátúrpalli Village Tower<br>Anásagar, VIII<br>Gondáram Fort<br>Ravalápad Village Tower<br>Bijentkuttá<br>Rámachagullá Temple<br>Tangúlpalli Village Tower<br>Gadrál                               | 37 37 33<br>108 2 50<br>149 10 55<br>156 32 25<br>174 49 11<br>207 50 43<br>265 42 56<br>313 33 33                                                               |
| METKUR h.s.<br>Kúknúr Village Tower<br>Karchilá<br>Narsulá, II<br>Botmili, I<br>Mángálorguttá<br>Borá Gattú, III<br>Maláná No. 1                                                                                                        | 68<br>66<br>68<br>78<br>64<br>65                                          | h.s.<br>h.s.<br>h.s.<br>h.s.<br>h.s.<br>h.s.<br>h.s.                                                                                 | 18 42 31.61<br>45 25 43<br>66 24 51<br>89 33 5.15<br>146 34 2.90<br>189 58 31<br>190 0 23.85<br>255 30 1.22<br>308 17 28.51 | NALAKONDA, XL<br>Sanjib, XLI<br>Kosulpúrmeté<br>Narsipatam Hospital<br>Dhar, XXXIX<br>Káp, XXXVIII<br>Mádagúl Hill Mark (heliotrope)<br>Jarákondá, XLII<br>Pothkondá, XLIV<br>Pánchdarilá, XLIII                 | 56<br>57<br>358<br>51<br>51<br>361<br>52<br>58<br>57                        | NARSIMULGUTTA h.s.<br>Karchilá<br>Dúdálá, XLIV*<br>Báchapáli, XLI*<br>Botmili, I<br>Medak Mosque<br>Mángálorguttá<br>Borá Gattú, III<br>Metkúr<br>Nálaguttá No. 1<br>Pirmulo, V<br>Kúknúr Village Tower<br>Maláná No. 1 | 44 3 4<br>84 21 19.74<br>117 51 58.29<br>169 12 17.04<br>182 33 8<br>232 52 14<br>248 8 35.75<br>253 47 18<br>263 15 58<br>284 54 28.26<br>307 38 55<br>309 28 9 |
| MUNAS, XXXVII<br>Pánchá, XXXI<br>Singánámá, XXIX<br>Malkangiri (heliotrope)<br>Malkangiri Rock<br>Báli, XXXIII<br>Kaurálbiding, XXXV                                                                                                    | 41<br>44<br>339<br>340<br>41<br>45                                        | 7 17 38.82<br>56 6 50.86<br>107 22 25<br>129 13 3<br>255 46 27.11<br>298 6 40.43                                                     | h.s.<br>h.s.<br>h.s.<br>h.s.<br>h.s.<br>h.s.                                                                                | NARAKONDA, XXV<br>Bolígattá<br>Kondágúram<br>Durgat<br>Singáwáram, XXIII<br>Bodánálí, XXII<br>Hill Peak No. 1<br>Singánámá, XXIX<br>Kaler, XXVII<br>Hill Mark No. 1<br>Kánslúr<br>Hill Peak No. 4<br>Bápak, XXVI | 311<br>316<br>313<br>28<br>28<br>321<br>35<br>34<br>325<br>319<br>328<br>29 | NIADIRRAMI h.s.<br>Borá Gattú, III<br>Mángálorguttá<br>Konápúr Village Temple<br>Malárpettá Temple<br>Isanápalli Temple<br>Ráilápúr Village Tower<br>Nálaguttá No. 1                                                    | 37 35 40<br>97 38 47<br>145 50 57<br>150 57 55<br>155 36 38<br>157 8 17<br>341 35 58                                                                             |
| MUSHPATLA h.s.<br>Akinaipáli Hill Temple<br>Udgat<br>Bhonágr<br>Pankábándá Building<br>Jítkal Temple<br>Koilkondá<br>Motkur Pagoda<br>Bujilápáram Hill Pagoda<br>Chitálúr Singáram Pagoda<br>Nelilbandá Hill Pagoda<br>Podichald Pagoda | 408<br>402<br>402<br>415<br>419<br>403<br>414<br>411<br>406<br>404<br>409 | 5 21 11<br>18 37 41<br>106 37 2<br>107 15 52<br>158 34 16<br>198 33 19<br>203 3 13<br>275 27 6<br>295 37 15<br>324 52 31<br>335 21 8 | h.s.<br>h.s.<br>h.s.<br>h.s.<br>h.s.<br>h.s.<br>h.s.<br>h.s.<br>h.s.<br>h.s.<br>h.s.                                        | NARSIMULA h.s.<br>Sordápalí Village Tower<br>Goláram Village Tower<br>Seváráná<br>Valer Village Tower<br>Sáralá<br>Yarábalí Village Tower<br>Malkánúr Village Tower<br>Yársbalí, X                               | 177<br>175<br>173<br>178<br>179<br>178<br>181<br>174                        | OPADA h.s.<br>Rusi<br>Pedakondá No. 2<br>Anandpúr<br>Opadá Staff<br>Bimlipatam                                                                                                                                          | 19 18 39<br>102 58 47<br>153 9 31<br>213 31 18<br>215 19 13                                                                                                      |
| MUTALAKAGUTTA h.s.<br>Durganguttá<br>Lechilápáram<br>Ratanguttá<br>NALABELI h.s.<br>Katanguttá<br>Bodánálí, XXII<br>Singáwáram, XXIII<br>NALAGUTTA No. 1 h.s.<br>Chítárgat No. 1                                                        | 289<br>288<br>288<br>290<br>290<br>291<br>90                              | h.s.<br>h.s.<br>h.s.<br>h.s.<br>h.s.<br>h.s.<br>h.s.                                                                                 | 26 40 57<br>31 32 48<br>88 54 49<br>108 44 52<br>138 28 10<br>158 15 24<br>179 12 52<br>188 26 30<br>33 27 25<br>34 29 23   | NARSIMULGUTTA h.s.<br>Gobariguttá<br>Sígandilápáram Tower                                                                                                                                                        | 183<br>186                                                                  | PALUNCHA, XXI<br>Pánch Pandol, XVII<br>Maláwáram, XIX<br>Singáwáram, XXIII<br>Rájágguttá, XXIV                                                                                                                          | 115 12 53.97<br>171 39 29.69<br>228 18 52.88<br>285 52 34.34                                                                                                     |

\* Of the Great Arc Meridional Series - Section 18° to 24°.



| Name of station with azimuths of surrounding points                                                                                                                                                                                                 | No. of triangle giving distance                                            | Name of station with azimuths of surrounding points                                                                                                                            | No. of triangle giving distance                                                                                                                                                                            | Name of station with azimuths of surrounding points                                                                                      | No. of triangle giving distance                                                                    |                                                                                                                                                                                                                                                                                                                     |                                                                                          |                                                                                           |                                                                                                                                             |                                     |                                                                                                                                                                                                                                                                                                    |                                                                                             |                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PANCHA, XXXI</b><br>Katamraj<br>Pedakondá, XXX<br>Singánámá, XIX<br>Supler Hill Tree<br>Malkangiri Rock<br>Malkangiri (heliotrope)<br>Munás, XXXII<br>Báli, XXXIII<br>Kauribiding, XXXV<br>Cherú, XXXIV<br>Bidinghi Hill Mark<br>Hill Mark No. 2 | 842<br>39<br>39<br>337<br>340<br>339<br>41<br>41<br>42<br>40<br>346<br>345 | ° ' "<br>h.s.<br>3 5 44<br>31 50 47 52<br>90 11 3 35<br>134 16 1<br>170 0 1<br>172 58 25<br>187 16 58 35<br>224 37 30 48<br>261 34 41 78<br>313 5 3 28<br>317 53 9<br>359 37 5 | ° ' "<br>159 50 7 50<br>210 35 49 41<br>258 4 41 10<br>h.s.<br>37 0 29<br>65 24 53<br>95 27 49<br>153 32 39<br>h.s.<br>65 16 32<br>78 10 30<br>93 22 4<br>115 37 25<br>118 53 52<br>250 47 33<br>339 52 54 | ° ' "<br>h.s.<br>7 19 45<br>44 15 23<br>76 48 16 02<br>128 21 6 88<br>197 17 41 64<br>227 18 17<br>253 6 18 46<br>305 55 30<br>336 39 57 | ° ' "<br>h.s.<br>15 23 30<br>21 20 4<br>67 23 42<br>224 14 27<br>271 9 56<br>298 29 6<br>336 36 57 | <b>PANDAWALA, XXXVII</b><br>Cherú, XXXIV<br>Kálingkondá, XXXVI<br>Dhár, XXXIX<br><b>PANDOLMARGU s.</b><br>Chitárgat No. 2<br>Pirmuto, V<br>Kámarám<br>Timakpáli Village Tower<br><b>PANGIRI h.s.</b><br>Bonthá<br>Gaudipáli Village Tower<br>Degalá<br>Wúltá<br>Antakápett Hill Mark<br>Kothákonká Rock<br>Seváráná | 49<br>49<br>50<br>94<br>93<br>93<br>100<br>150<br>162<br>153<br>151<br>160<br>171<br>150 | ° ' "<br>103 47 45 82<br>121 9 12<br>132 4 13<br>150 24 7 36<br>204 43 16<br>218 15 10 89 | <b>PARIKONDA, XXVIII</b><br>Rápák, XXVI<br>Kotá Hill Mark<br>Bátákonká Hill Mark<br>Kaler, XXVII<br>Mániámkondá Hill Peak<br>Pedákonká, XXX | 37<br>326<br>317<br>37<br>330<br>38 | <b>PARTABGIRI, XVI</b><br>Katájpúr, XIII<br>Yelchal Hill Mark<br>Rámúir<br>Rámúir, XIV<br>Gunjápárgá Building<br>Malánágguttá Hill Mark<br>Kistúápett Hill Mark<br>Chimú Temple<br>Sironcha Fort<br>Mahádeopúr<br>Bhupalpatnam Hill Mark<br>Sománur Hill Mark<br>Rájenágguttá<br>Yaláspúram, XVIII | 17<br>239<br>247<br>17<br>248<br>241<br>250<br>253<br>254<br>281<br>280<br>282<br>276<br>18 | ° ' "<br>18 32 24 10<br>51 23 20<br>82 8 1<br>84 2 3 07<br>99 5 28<br>109 39 32<br>151 33 58<br>137 15 15<br>168 13 41<br>170 3 25<br>248 14 13<br>250 17 40<br>312 13 53<br>322 10 3 14 | <b>PEDAKONDA, XXX</b><br>Katamraj<br>Cherú, XXXIV<br>Hill Mark No. 2<br><b>PEDAKONDA h.s.</b><br>Thanthadí<br>Thandikondá<br>Kutkondá<br><b>PEDAKONDA No. 2 h.s.</b><br>Dbair (heliotrope)<br>Semachilem<br>Anandpúr<br>Opadá<br>Sea Coast Staff No. 7<br>Rusi<br><b>PEDAPALI s.</b><br>Porandlá<br>Telikuntá Hill Mark<br>Katkenápáli Hill Mark<br><b>PRMULO, V</b><br>Begampett<br>Wadapáli<br>Deogat<br>Chitárgat No. 1<br>Narsulá, II<br>Borá Gattá, III<br>Nálágguttá No. 1<br>Rámáram<br>Tirmalápúr Village Tower<br>Maláná, IV<br>Timakpáli Village Tower<br>Rámáságar Village Tower<br>Pandalomárgú<br>Chinchalkot, VI<br>Rediguttá<br>Májsamá, VII<br>Chitárgat No. 2<br><b>POTARAM s.</b><br>Rájpéttá<br>Gumlar<br>Opalam Village Pagoda<br>Yámagiri<br>Wathará<br>Wathará Pagoda | 842<br>40<br>344<br>471<br>472<br>471<br>487<br>483<br>485<br>484<br>490<br>488<br>442<br>442<br>443<br>96<br>103<br>91<br>90<br>5<br>5<br>92<br>97<br>6<br>99<br>101<br>93<br>8<br>183<br>12<br>94<br>470<br>469<br>480<br>468<br>468<br>478 |

| Name of station with azimuths of surrounding points                                                                                                                                                                                                                                       | No. of triangles or distance                                                                   | Name of station with azimuths of surrounding points                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | No. of triangles or distance                                                                                                                        | Name of station with azimuths of surrounding points                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | No. of triangles or distance                                                                                                                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| PORANDLA h.s.<br>Anantagiri<br>Ailgandal Mosque<br>Timápúram<br>Karimnagar Building<br>Manakundur Fort<br>Rám Madágu Hill Mark<br>Dikondá<br>Katkenápáli Hill Mark<br>Telikuntá Hill Mark<br>Yeldev Fort<br>Pedápáli<br>Rámgr, XIV<br>Mallángur Battery<br>Kothágat Pagoda<br>Yarábali, X | 388<br>434<br>391<br>432<br>433<br>437<br>439<br>441<br>431<br>442<br>389<br>427<br>426<br>388 | RAJIPETA h.s.<br>Poláram<br><br>RAMARAM s.<br>Deogat<br>Tirmalápúr Village Tower<br>Timakpáli Village Tower<br>Pandolmargú<br>Rámáságar Village Tower<br>Pirmulo, V<br><br>RAMBHIL h.s.<br>Wathará<br>Yámagiri<br>Pánehdarlá, XLIII<br>Thanthadi<br>Pointed Kook                                                                                                                                                                                                                                                                     | 470<br><br><br>92<br>97<br>99<br>93<br>101<br>92<br><br>465<br>466<br>464<br>463<br>468<br>475                                                      | RAJIPETA h.s.<br>Poláram<br><br>RAMARAM s.<br>Deogat<br>Tirmalápúr Village Tower<br>Timakpáli Village Tower<br>Pandolmargú<br>Rámáságar Village Tower<br>Pirmulo, V<br><br>RAMBHIL h.s.<br>Wathará<br>Yámagiri<br>Pánehdarlá, XLIII<br>Thanthadi<br>Pointed Kook                                                                                                                                                                                                                                                                     | 470<br><br><br>92<br>97<br>99<br>93<br>101<br>92<br><br>465<br>466<br>464<br>463<br>468<br>475                                                      |
| POTHKONDA, XLIV<br>Pánehdarlá, XLIII<br>Nalákondá, XL<br>Jarákondá, XLII<br>Márki<br>Márki, LXXVI*<br>Gumrú, LXXIX*<br>Demrú<br>Vizagapatam Flagstaff<br>Yarábá, XLV<br>Thandikondá                                                                                                       | 58<br>58<br>53<br>363<br>54<br>55<br>365<br>368<br>59<br>457                                   | RAMGUR, XIV<br>Yarábali, X<br>Mallángur Battery<br>Salúrgat Mark<br>Porandá<br>Yeldev Fort<br>Karimnagar Building<br>Katkenápáli Hill Mark<br>Dikondá<br>Kondápúram Hill Mark<br>Kistnápétt Hill Mark<br>Gunjápárgá Building<br>Malanáguttá Hill Mark<br>Chinúr Temple<br>Pámánur Pagoda<br>Sironcha Fort<br>Godam Ishwar Pagoda<br>Mantáni<br>Iláságar<br>Pargandi Hill Mark<br>Partábágrí, XVI<br>Rámgr<br>Yelchal Hill Mark<br>Katájpur, XIII<br><br>RAMGIE s.<br>Rámgr, XIV<br>Gunjápárgá Building<br>Mantáni<br>Partábágrí, XVI | 28<br>427<br>430<br>389<br>431<br>432<br>439<br>390<br>449<br>250<br>248<br>241<br>253<br>245<br>244<br>242<br>251<br>243<br>17<br>246<br>239<br>17 | RAMGUR, XIV<br>Yarábali, X<br>Mallángur Battery<br>Salúrgat Mark<br>Porandá<br>Yeldev Fort<br>Karimnagar Building<br>Katkenápáli Hill Mark<br>Dikondá<br>Kondápúram Hill Mark<br>Kistnápétt Hill Mark<br>Gunjápárgá Building<br>Malanáguttá Hill Mark<br>Chinúr Temple<br>Pámánur Pagoda<br>Sironcha Fort<br>Godam Ishwar Pagoda<br>Mantáni<br>Iláságar<br>Pargandi Hill Mark<br>Partábágrí, XVI<br>Rámgr<br>Yelchal Hill Mark<br>Katájpur, XIII<br><br>RAMGIE s.<br>Rámgr, XIV<br>Gunjápárgá Building<br>Mantáni<br>Partábágrí, XVI | 28<br>427<br>430<br>389<br>431<br>432<br>439<br>390<br>449<br>250<br>248<br>241<br>253<br>245<br>244<br>242<br>251<br>243<br>17<br>246<br>239<br>17 |
| RAJAGUTTA, XXIV<br>Pálungá, XXI<br>Bhadráchallam<br>Kindarsainguttá<br>Singáwáram, XXIII<br>Devarpilliguttá<br>Bolígattá<br>Rápák, XXVI                                                                                                                                                   | 32<br>300<br>302<br>32<br>299<br>312<br>33                                                     | RATANGUTTA h.s.<br>Mutalaináguttá<br>Lachipúram<br>Kaler<br>Bodánali, XXII<br>Nálábeli<br>Singáwáram, XXIII<br>Dunagudem                                                                                                                                                                                                                                                                                                                                                                                                             | 288<br>287<br>284<br>284<br>290<br>285<br>292                                                                                                       | RATANGUTTA h.s.<br>Mutalaináguttá<br>Lachipúram<br>Kaler<br>Bodánali, XXII<br>Nálábeli<br>Singáwáram, XXIII<br>Dunagudem                                                                                                                                                                                                                                                                                                                                                                                                             | 288<br>287<br>284<br>284<br>290<br>285<br>292                                                                                                       |
| RAJENAGUTTA s.<br>Yalápúram, XXIII<br>Partábágrí, XVI<br>Nágáram Flag<br>Ramenagudiam Tree<br>Mangampeth Fort                                                                                                                                                                             | 276<br>276<br>279<br>278<br>277                                                                | REDIGUTTA h.s.<br>Maimaná, VII<br>Tirmalápúr<br>Pirmulo, V<br>Chinohalkot, VI<br>Bondágullá Village Temple<br>Bondágullá Hill Building<br>Sidenághi Hill Building<br>Kúlpák<br>Kondalámá<br>Benkuntá                                                                                                                                                                                                                                                                                                                                 | 184<br>190<br>183<br>183<br>186<br>187<br>211<br>207<br>208<br>188                                                                                  | REDIGUTTA h.s.<br>Maimaná, VII<br>Tirmalápúr<br>Pirmulo, V<br>Chinohalkot, VI<br>Bondágullá Village Temple<br>Bondágullá Hill Building<br>Sidenághi Hill Building<br>Kúlpák<br>Kondalámá<br>Benkuntá                                                                                                                                                                                                                                                                                                                                 | 184<br>190<br>183<br>183<br>186<br>187<br>211<br>207<br>208<br>188                                                                                  |
| RAJIPETA h.s.<br>Gumrú                                                                                                                                                                                                                                                                    | 470                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                     |

\* Of the East Coast Series.

AZIMUTHS OF STATIONS AND INTERSECTED POINTS.

| Name of station with azimuths of surrounding points | ° ' "          | No. of triangle | Name of station with azimuths of surrounding points | ° ' "          | No. of triangle | Name of station with azimuths of surrounding points | ° ' "          | No. of triangle |
|-----------------------------------------------------|----------------|-----------------|-----------------------------------------------------|----------------|-----------------|-----------------------------------------------------|----------------|-----------------|
| <b>BENKUNTA</b> h.s.                                |                |                 | <b>SINGANAMA, XXIX</b>                              |                |                 | <b>TATLAWAYA</b> h.s.                               |                |                 |
| Maisaná, VII                                        | 34 58 5        | 188             | Kánsiúr                                             | h.s. 13 57 14  | 319             | Kambampáli Hill Mark                                | 298 51 50      | 451             |
| Tirnalápúr                                          | h.s. 66 59 27  | 191             | Kaler, XXVII                                        | 22 29 0 45     | 35              | Kaperlápütt Fort                                    | 301 6 36       | 450             |
| Rediguttá                                           | " 164 24 23    | 188             | Hill Mark No. 1                                     | 46 9 27        | 324             | Kondápúram Hill Mark                                | 310 26 52      | 448             |
| Chunchalkot, VI                                     | " 195 42 36    | 189             | Velputraguttá Hill Peak                             | 54 34 5        | 332             | Dikondá                                             | h.s. 321 26 27 | 393             |
|                                                     |                |                 | Nárakondá, XXV                                      | 56 28 13 13    | 35              |                                                     |                |                 |
| <b>RUST</b> h.s.                                    |                |                 | Hill Peak No. 3                                     | 59 6 42        | 323             |                                                     |                |                 |
| Waltair                                             | h.s. 44 34 37  | 482             | Hill Peak No. 2                                     | 70 6 48        | 322             | <b>THANDIKONDA</b> h.s.                             |                |                 |
| Dhair (heliotrope)                                  | 65 59 32       | 487             | Supler Hill Tree                                    | 225 28 35      | 337             | Thanthadi                                           | h.s. 6 2 29    | 460             |
| Seenuchilem                                         | " 83 15 28     | 482             | Munás, XXXII                                        | 255 59 2 27    | 44              | Páncdarlá, XLIII                                    | 47 19 58       | 458             |
| Pedákondá No. 2                                     | " 147 17 31    | 483             | Páncá, XXXI                                         | 270 3 58 29    | 39              | Pothkondá, XLIV                                     | 171 33 15      | 457             |
| Opadá                                               | " 199 18 16    | 484             | Marjalikondá Hill Tree                              | 283 5 34       | 336             | Yarád, XLV                                          | 269 11 48      | 457             |
|                                                     |                |                 | Mániámkondá Hill Peak                               | 308 59 0       | 331             | Pedákondá                                           | h.s. 300 9 8   | 472             |
|                                                     |                |                 | Pedákondá, XXX                                      | 316 35 30 59   | 36              | Apikondá Pagoda                                     | 308 38 10      | 473             |
|                                                     |                |                 | Hill Tree                                           | 330 59 26      | 335             | Kutkondá                                            | s. 311 46 27   | 469             |
| <b>SANIB, XLI</b>                                   |                |                 |                                                     |                |                 |                                                     |                |                 |
| Buchampettá Hill Mark (heliotrope)                  | 86 12 48       | 355             | <b>SINGAWARAM, XXIII</b>                            |                |                 | <b>THANTHADI</b> h.s.                               |                |                 |
| Dhair, XXXIX                                        | 135 38 17 28   | 56              | Bhadráchallam                                       | h.s. 28 32 10  | 300             | Kámbhil                                             | h.s. 50 33 52  | 463             |
| Jangapúram Temple                                   | 145 44 38      | 360             | Bhadráchallam Temple                                | 28 40 6        | 306             | Páncdarlá                                           | " 91 12 16     | 462             |
| Narsipatam Hospital                                 | 153 45 5       | 358             | Páluca, XXI                                         | 48 22 40 31    | 31              | Páncdarlá, XLIII                                    | " 125 56 54    | 461             |
| Kosulpurmetá                                        | h.s. 177 54 45 | 357             | Maláwáram, XIX                                      | 115 53 40 06   | 27              | Thandikondá                                         | " 186 2 12     | 460             |
| Kotákotá Fort (heliotrope)                          | 182 37 19      | 356             | Dunugudem                                           | 156 43 37      | 293             | Pedákondá                                           | " 224 27 38    | 471             |
| Naláakondá, XL                                      | 198 41 9 40    | 56              | Rataniguttá                                         | h.s. 160 5 51  | 285             | Apikondá Pagoda                                     | h.s. 250 21 41 | 473             |
| Páncdarlá, XLIII                                    | 256 43 17 06   | 57              | Nalábelí                                            | " 175 42 33    | 291             | Kutkondá                                            | s. 253 51 11   | 460             |
|                                                     |                |                 | Podánilí, XXII                                      | 185 2 33 97    | 27              |                                                     |                |                 |
| <b>SARAJA</b> h.s.                                  |                |                 | Yalágúram Hill Mark                                 | 211 11 28      | 294             |                                                     |                |                 |
| Seváráná                                            | h.s. 15 6 47   | 167             | Nárakondá, XXV                                      | 249 3 7 77     | 28              | <b>TIMAPURAM</b> h.s.                               |                |                 |
| Bonthá                                              | " 55 42 37     | 168             | Dágavine                                            | h.s. 252 8 25  | 295             | Sirsalla Fort                                       | h.s. 2 50 13   | 436             |
| Katkúr Village Tower                                | 59 53 1        | 169             | Tunkiguttá                                          | 286 0 44       | 296             | Yairgatlá                                           | 132 49 30      | 394             |
| Wúltá                                               | " 94 5 53      | 167             | Rápák, XXVI                                         | " 288 13 30 61 | 29              | Malapúram Pagoda                                    | 161 40 49      | 455             |
| Malakúúr Village Tower                              | 256 49 42      | 181             | Devarpiliguttá                                      | 325 22 22      | 298             | Konápúram Hill Mark                                 | 185 15 29      | 444             |
| Yarábalí, X                                         | 286 0 0        | 182             | Kragúntá                                            | 330 49 7       | 304             | Tátiáwáyá                                           | 195 39 35      | 393             |
| Narsimulá                                           | 318 26 54      | 173             | Rájáguttá, XXIV                                     | 344 14 51 73   | 32              | Dikondá                                             | " 244 44 41    | 391             |
| Kothákondá Rock                                     | " 325 1 49     | 172             |                                                     |                |                 | Katkenápáli Hill Mark                               | " 256 41 44    | 440             |
|                                                     |                |                 |                                                     |                |                 | Telikuntá Hill Mark                                 | 271 41 9       | 441             |
| <b>SEMACHILEM</b> h.s.                              |                |                 | <b>SOMAN DEVARGUTTA, XX</b>                         |                |                 | Rám Madágu Hill Mark                                | 276 34 57      | 438             |
| Yarád, XLV                                          | 7 15 58        | 481             | Lachipúram                                          | s. 4 27 38     | 286             | Ponudlá                                             | h.s. 302 25 11 | 391             |
| Pedákondá No. 2                                     | h.s. 217 24 58 | 483             | Maláwáram, XIX                                      | 21 19 39 48    | 25              | Ailgandal Mosque                                    | 311 21 52      | 435             |
| Rusi                                                | " 263 13 20    | 482             | Yalápúram, XVIII                                    | 102 21 38 88   | 25              | Anantagiri                                          | " 345 23 16    | 392             |
| Waltair                                             | " 321 0 51     | 481             | Bodáwalí, XXII                                      | 310 21 10 26   | 26              |                                                     |                |                 |
|                                                     |                |                 | Kaler                                               | h.s. 326 53 48 | 283             |                                                     |                |                 |
| <b>SEYARANA</b> h.s.                                |                |                 |                                                     |                |                 | <b>TIRMALAPUR</b> h.s.                              |                |                 |
| Bonthá                                              | h.s. 90 10 0   | 149             |                                                     |                |                 | Usánrád                                             | h.s. 10 2 18   | 193             |
| Wúltá                                               | " 126 12 1     | 148             | <b>TATLAWAYA</b> h.s.                               |                |                 | Rediguttá                                           | " 203 45 35    | 190             |
| Pangiri                                             | " 159 53 9     | 150             | Jaktiál                                             | s. 6 41 1      | 447             | Renkuntá                                            | " 246 58 6     | 191             |
| Sáralá                                              | " 195 6 24     | 167             | Timápúram                                           | h.s. 15 41 44  | 393             | Mánsamá, VII                                        | s. 320 56 18   | 190             |
| Kothákondá Rock                                     | " 214 27 19    | 171             | Konápúram Hill Mark                                 | 18 11 8        | 445             | Türkápáli                                           | s. 353 24 45   | 192             |
| Yarábalí, X                                         | 239 48 13      | 148             | Yairgatlá                                           | " 80 42 0      | 394             |                                                     |                |                 |
| Yarábalí Village Tower                              | 246 36 55      | 179             | Malapúram Pagoda                                    | 89 33 21       | 456             |                                                     |                |                 |
| Narsimulá                                           | h.s. 268 53 10 | 173             | Periámalá Hill Mark                                 | 258 1 51       | 454             |                                                     |                |                 |
| Goláram Village Tower                               | 302 46 55      | 175             | Yenkatropett Fort                                   | 278 42 27      | 453             | <b>TUNKIGUTTA</b> h.s.                              | h.s. 7 30 17   | 298             |
|                                                     |                |                 | Bolicherú Hill Mark                                 | 297 43 50      | 452             | Devarpiliguttá                                      |                |                 |

| Name of station with azimuths of surrounding points                                                                                                                                                                                                                                                  | No. of Triangle or distance                                                                    | Name of station with azimuths of surrounding points                                                                                                                                                                                                                       | No. of Triangle or distance                                                                           | Name of station with azimuths of surrounding points                                                                                                                                                                                                                      | No. of Triangle or distance                                                                         | Name of station with azimuths of surrounding points                                                                                                                                                                                                                      | No. of Triangle or distance                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| TUNKIGUTTA h.s.<br>Erágúntá<br>Singarwaram, XXIII<br>Bodásali, XXII<br>Dégálvine                                                                                                                                                                                                                     | 304<br>296<br>297<br>296                                                                       | WADAPALI s.<br>Deogat<br>Pirnulo, V                                                                                                                                                                                                                                       | 104<br>103                                                                                            | YALAMALDEYGAT h.s.<br>Narsingpett Mosque<br>Burgidá<br>Gadkol                                                                                                                                                                                                            | 75<br>71<br>71                                                                                      | YALAMALDEYGAT h.s.<br>Narsingpett Mosque<br>Burgidá<br>Gadkol                                                                                                                                                                                                            | 75<br>71<br>71                                                                                      |
| TURKAPALI s.<br>Usáráls<br>Tirnalápúr<br>Maisaná, VII                                                                                                                                                                                                                                                | 194<br>192<br>192                                                                              | WALTAR h.s.<br>Yarádá, XLV<br>Semachilem<br>Dhair (ueliotrope)<br>Rusi                                                                                                                                                                                                    | 481<br>481<br>488<br>482                                                                              | YALAPURAM, XVIII<br>Páneh Pandol<br>Páneh Pandol, XVII<br>Katájpúr, XIII<br>Partábgiri, XVI<br>Bhupalpatnam Hill Mark<br>Rájenágttá<br>Nágráram Flag<br>Ramenágrudiam Tree<br>Mangampeth Fort<br>Soman Devarágttá, XX<br>Maláwáram, XIX                                  | 255<br>19<br>18<br>18<br>280<br>276<br>279<br>278<br>277<br>25<br>24                                | YALAPURAM, XVIII<br>Páneh Pandol<br>Páneh Pandol, XVII<br>Katájpúr, XIII<br>Partábgiri, XVI<br>Bhupalpatnam Hill Mark<br>Rájenágttá<br>Nágráram Flag<br>Ramenágrudiam Tree<br>Mangampeth Fort<br>Soman Devarágttá, XX<br>Maláwáram, XIX                                  | 255<br>19<br>18<br>18<br>280<br>276<br>279<br>278<br>277<br>25<br>24                                |
| UDAGAT h.s.<br>Muláswámí Hill Pagoda<br>Kothápáli Hill Dargáh<br>Dúbágt Mark<br>Bhonágr<br>Jidkal Temple<br>Pankábandá Building<br>Kóilkondá<br>Múshpatlá<br>Podichaid Pagoda<br>Akinájpáli Hill Temple<br>Chitílur Singarám Pagoda<br>Arwápáli Hill Mark<br>Kándágtlá, XII<br>Nelibandá Hill Pagoda | 399<br>414<br>417<br>385<br>420<br>415<br>383<br>402<br>409<br>408<br>407<br>397<br>383<br>404 | WATHARA h.s.<br>Poláram<br>Opalam Village Pagoda<br>Yámágrí<br>Pánehdarlá<br>Kámbhil                                                                                                                                                                                      | 468<br>479<br>466<br>465<br>465                                                                       | YAMAGIRI h.s.<br>Poláram<br>Opalam Village Pagoda<br>Gumkur<br>Pánehdarlá<br>Kámbhil<br>Wathárá<br>Wathárá Pagoda                                                                                                                                                        | 468<br>479<br>469<br>467<br>466<br>466<br>477                                                       | YAMAGIRI h.s.<br>Poláram<br>Opalam Village Pagoda<br>Gumkur<br>Pánehdarlá<br>Kámbhil<br>Wathárá<br>Wathárá Pagoda                                                                                                                                                        | 468<br>479<br>469<br>467<br>466<br>466<br>477                                                       |
| USAREALA h.s.<br>Tirnalápúr<br>Türkápáli<br>Maisaná, VII                                                                                                                                                                                                                                             | 193<br>194<br>193                                                                              | WOLAMADI h.s.<br>Yanákkondá, IX<br>Kóilkondá<br>Káshú                                                                                                                                                                                                                     | 226<br>227<br>226                                                                                     | YAMALGAT s.<br>Kotál<br>Shigúrpáli High Stone<br>Kometibandá Pagoda<br>Chinchalkot                                                                                                                                                                                       | 423<br>424<br>425<br>423                                                                            | YAMALGAT s.<br>Kotál<br>Shigúrpáli High Stone<br>Kometibandá Pagoda<br>Chinchalkot                                                                                                                                                                                       | 423<br>424<br>425<br>423                                                                            |
| VANAKONDA, IX<br>Goláinkondá<br>Maisaná, VII<br>Chinchalkot, VI<br>Kóilkondá<br>Midíkkondá Hill Mark<br>Gabetá Hill Mark<br>Yarábali, X<br>Háimkkondá<br>Kúshú<br>Bólkondá, XI<br>Wolánadi<br>Pogákkondá Hill Mark<br>Kándágtlá, XII                                                                 | 216<br>13<br>11<br>215<br>217<br>225<br>11<br>228<br>219<br>14<br>226<br>223<br>20             | WULTA h.s.<br>Degalá<br>Maláú No. 3<br>Chinchalkot, VI<br>Kháthá<br>Kánganáikullú No 2<br>Aknájpáli Village Tower<br>Anáságar, VIII<br>Sáralá<br>Yarábali, X<br>Antakápett Hill Mark<br>Pangiri<br>Katkúr Village Tower<br>Seváráná<br>Bonthá<br>Gandíjpáli Village Tower | 152<br>155<br>144<br>156<br>158<br>164<br>144<br>167<br>145<br>161<br>151<br>169<br>148<br>147<br>162 | YARABALI, X<br>Yanákkondá, IX<br>Kóilkondá<br>Narsinulá<br>Sordájpáli Village Tower<br>Goláram Village Tower<br>Yarábali Village Tower<br>Valer Village Tower<br>Kodavátúr Hill Mark<br>Koni<br>Seváráná<br>Chinchalkot, VI<br>Chinchalkot<br>Bonthá<br>Dásáram<br>Wúltá | 11<br>215<br>174<br>177<br>176<br>180<br>178<br>203<br>200<br>148<br>10<br>384<br>146<br>196<br>145 | YARABALI, X<br>Yanákkondá, IX<br>Kóilkondá<br>Narsinulá<br>Sordájpáli Village Tower<br>Goláram Village Tower<br>Yarábali Village Tower<br>Valer Village Tower<br>Kodavátúr Hill Mark<br>Koni<br>Seváráná<br>Chinchalkot, VI<br>Chinchalkot<br>Bonthá<br>Dásáram<br>Wúltá | 11<br>215<br>174<br>177<br>176<br>180<br>178<br>203<br>200<br>148<br>10<br>384<br>146<br>196<br>145 |
| WADAPALI s.<br>Kúknúr Hill Pagoda<br>Ambojipett Mosque<br>Chittial                                                                                                                                                                                                                                   | 103<br>77<br>74<br>72                                                                          | YALAMALDEYGAT h.s.<br>Kúknúr Hill Pagoda<br>Ambojipett Mosque<br>Chittial                                                                                                                                                                                                 | 77<br>74<br>72                                                                                        | YALAMALDEYGAT h.s.<br>Kúknúr Hill Pagoda<br>Ambojipett Mosque<br>Chittial                                                                                                                                                                                                | 77<br>74<br>72                                                                                      | YALAMALDEYGAT h.s.<br>Kúknúr Hill Pagoda<br>Ambojipett Mosque<br>Chittial                                                                                                                                                                                                | 77<br>74<br>72                                                                                      |

| Name of station with azimuths of surrounding points | No. of triangle giving distance | Name of station with azimuths of surrounding points | No. of triangle giving distance | Name of station with azimuths of surrounding points | No. of triangle giving distance |
|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|-----------------------------------------------------|---------------------------------|
| YARABALI, X<br>Sáralá                               | 182                             | YARABALI, X<br>Chandrágiri                          | 232                             | YARADA, XLV<br>Thandikondá                          | 457                             |
| Gadrál                                              | 124                             | Katáppúr, XIII                                      | 15                              | Pothkondá, XLIV                                     | 59                              |
| Anáságar, VIII                                      | 10                              | Hánimkondá                                          | 228                             | Dásarmetá                                           | 369                             |
| Anantagiri                                          | 387                             | Rángásáhípett Hill Mark                             | 231                             | Gumrú, LXIX*                                        | 60                              |
| Porandlá                                            | 388                             | Márikondá Temple                                    | 234                             | Máripalam House                                     | 373                             |
| Malkánúr Village Tower                              | 182                             | Bolikondá, XI                                       | 14                              | Semachilem                                          | 481                             |
| Mallángur Battery                                   | 428                             | YARADA, XLV<br>Kutkondá                             | 459                             | Demrú                                               | 865                             |
| Mallángur                                           | 126                             | Apikondá Pagoda                                     | 474                             | Waltair (heliotrope)                                | 870                             |
| Kothágat Pagoda                                     | 426                             | Pánchdarlá, XLIII                                   | 59                              | Waltair Racket Court                                | 378                             |
| Salurgat Mark                                       | 429                             |                                                     |                                 | Waltair                                             | 481                             |
| Bámágir, XIV                                        | 23                              |                                                     |                                 | Vizagapatam Flagstaff                               | 367                             |

\* Of the East Coast Series.

J. B. N. HENNESSEY,  
In charge of Computing Office.

July 1877.

## CO-ORDINATES AND DESCRIPTIONS OF ALL STATIONS AND POINTS.

## BIDER LONGITUDINAL SERIES.

The following table gives the co-ordinates of all the stations and other fixed points, arranged in alphabetical order, also the descriptions of the secondary and intersected (or unvisited) points, and references to the preceding pages where the descriptions of the principal stations are given. In certain instances numbers are added which have reference to the given data of the triangles by which the station or point has been fixed; when these numbers are omitted it is to be understood that no triangles are given.

NOTE.— $\lambda$  stands for Latitude North; L for Longitude East of Greenwich; H for Height of station in feet above mean sea level determined trigonometrically, and  $h$  for height of station pillar. For visited stations and for other points of superior accuracy the values of  $\lambda$  and L are given to two places of decimals; for well determined objects to one place, and for the remaining points to the nearest second. Principal stations are distinguished by the Roman numerals I, II, &c.; secondary stations by the letters, h.s. and s.

| Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                          | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Adáligat, XV.<br/>(Fide page 6—D.)</p> <p><math>\lambda</math> 17 22 17'31<br/>L 79 58 3'69<br/>H 977<br/><math>h^{\circ}</math> 4<br/>No. 21</p>                                                                                                 | <p>Akanápaikí Village Tower,<br/>(Hyderabad, Deccan) Flag: in táluk Ailgandal.</p> <p><math>\lambda</math> 18 4 45'1<br/>L 79 6 32'5<br/>No. 164</p> <p>Akinaipáikí Hill Temple.<br/>(Hyderabad, Deccan) In táluk Nalgondá.</p> <p><math>\lambda</math> 17 17 36'4<br/>L 79 16 36'3<br/>No. 408</p> <p>Ambojipett Mosque,<br/>(Hyderabad, Deccan) North minaret: in táluk Medak.</p> <p><math>\lambda</math> 17 59 33'7<br/>L 78 25 52'8<br/>No. 74</p> <p>Ánandpúr h.s.<br/>(Vizagapatam) On a single detached hill at junction of two roads from Vizagapatam to Barhampúr and Palkondá: denoted by a pillar 2 feet high.</p> <p><math>\lambda</math> 17 53 48'20<br/>L 83 24 47'35<br/>No. 485</p> | <p>Anantagiri h.s.<br/>(Hyderabad, Deccan) Is one of Colonel Lambton's principal stations, on a fortified hill not the highest of a range running nearly N.W. and S.E., about 10 miles S.E. of Sirsalla, and 12 miles S.W. of Ailgandal: the village of Anantagiri is close on the S.W. side of the hill, in táluk Ailgandal. The station is on the ruins of the highest bastion, denoted by a platform having a mark-stone in its centre.</p> <p><math>\lambda</math> 18 16 37'80<br/>L 78 57 13'27<br/>H 1783<br/>No. 387</p> <p>Anáságar, VIII.<br/>(Fide page 5—D.)</p> <p><math>\lambda</math> 18 11 46'10<br/>L 79 1 3'27<br/>H 1904<br/><math>h</math> 1<br/>No. 9</p> <p>Anáságar Village Flag,<br/>(Hyderabad, Deccan) On tree: in táluk Ailgandal.</p> <p><math>\lambda</math> 18 10 59<br/>L 79 2 38</p> |
| <p>Ailgandal h.s.<br/>(Hyderabad, Deccan) On hill about <math>\frac{1}{2}</math> a mile to N.W. of the town of Ailgandal: marked by a masonry pillar 1 foot high.</p> <p><math>\lambda</math> 18 26 2'96<br/>L 79 4 48'81<br/>H 1147<br/>No. 127</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p>Ailgandal Mosque.<br/>(Hyderabad, Deccan)</p> <p><math>\lambda</math> 18 25 13'7<br/>L 79 4 59'3<br/>Nos. 434, 435</p>                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Name of station, district, description,<br>co-ordinates &c.                                                                                                               | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                    | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ankiredipaili Village Flag.</b><br>(Hyderabad, Deccan) In taluk Ailgandal.<br>λ 18 10 12<br>L 79 3 4                                                                   | <b>Bandrau Village Flag,</b><br>(Upper Godavari) On tree. " "<br>λ 17 43 45<br>L 81 8 29                                                                                                                                                                                                       | <b>Bhupalpatnam Hill Mark.</b><br>(Upper Godavari).<br>λ 18 46 23.66<br>L 80 24 5.32<br>No. 280                                                                                                                                                                                                                                                                                                                                                               |
| <b>Antakapett Hill Mark.</b><br>(Hyderabad, Deccan) Denoted by a pole in centre of a pile of stones: in taluk Warangal.<br>λ 18 2 58.60<br>L 79 15 52.06<br>Nos. 160, 161 | <b>Baswapuram Village Flag,</b><br>(Hyderabad, Deccan) On tree: in taluk Ailgandal.<br>λ 18 6 2<br>L 79 6 0                                                                                                                                                                                    | <b>Bidinghi Hill Mark.</b><br>(Jaipur)<br>λ 17 51 32.79<br>L 82 10 2.06<br>Nos. 346, 347                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Apikondá Pagoda.</b><br>(Visagapatam)<br>λ 17 34 31.8<br>L 83 12 57.4<br>Nos. 473, 474                                                                                 | <b>Batakondá Hill Mark.</b><br>(Upper Godavari) On peak; denoted by a pile of stones.<br>λ 17 40 35.73<br>L 81 29 29.70<br>Nos. 317, 318                                                                                                                                                       | <b>Bijenkiguttá h.s.</b><br>(Hyderabad, Deccan) On a low hill overhanging the village of Bijenkí, in taluk Ailgandal: denoted by a masonry pillar about 1 foot high containing two marks, the lower engraved on the rock <i>in situ</i> .<br>λ 18 14 54.48<br>L 79 3 18.10<br>Nos. 137, 138                                                                                                                                                                   |
| <b>Argundá Turret.</b><br>(Hyderabad, Deccan) In taluk Medak.<br>λ 18 13 45.9<br>L 78 19 19.2<br>No. 76                                                                   | <b>Bathrazpaili Village Flag.</b><br>(Hyderabad, Deccan) In taluk Medak.<br>λ 18 5 40<br>L 78 33 11                                                                                                                                                                                            | <b>Bijenkiguttá Hill Temple,</b><br>(Hyderabad, Deccan) Spire: in taluk Ailgandal.<br>λ 18 14 52.7<br>L 79 3 19.5                                                                                                                                                                                                                                                                                                                                             |
| <b>Arwapali Hill Mark.</b><br>(Hyderabad, Deccan) In taluk Nalgondá.<br>λ 17 19 10.39<br>L 79 33 2.29<br>Nos. 397, 398                                                    | <b>Begampett s.</b><br>(Hyderabad, Deccan) On the house of the patail of the village of Begampett, in pargana Gajvil, taluk Medak. The station is indicated by a ⊙ engraved on the roof.<br>λ 17 50 59.33<br>L 78 36 43.75<br>No. 96                                                           | <b>Bijenkiguttá Stone Pillar.</b><br>(Hyderabad, Deccan) On a hill: in taluk Ailgandal.<br>λ 18 14 54.4<br>L 79 3 18.4                                                                                                                                                                                                                                                                                                                                        |
| <b>Bachapali, XLI.*</b><br>(Vide page 8—D.)<br>λ 18 9 35.30<br>L 77 55 19.38<br>H 1608<br>h 1<br>No. 73                                                                   | <b>Bhadrachallam City.</b><br>(Upper Godavari) The central prong of highest temple in city.<br>λ 17 39 57<br>L 80 55 29                                                                                                                                                                        | <b>Bimlipatam h.s.</b><br>(Visagapatam) On a low hill on the sea coast, the town of Binlipatam being at the foot of it.<br>λ 17 53 22.82<br>L 83 29 11.94<br>No. 486                                                                                                                                                                                                                                                                                          |
| <b>Badipargi Village Temple.</b><br>(Hyderabad, Deccan) Spire of higher of two temples: in taluk Ailgandal.<br>λ 18 6 58.85<br>L 79 3 12.32<br>Nos. 131, 132              | <b>Bhadrachallam h.s.</b><br>(Upper Godavari) On the hill immediately above the town of Bhadrachallam and alongside of a small temple on its summit: a paká pillar 1 foot high containing two marks, denotes the station.<br>λ 17 39 51.00<br>L 80 55 35.07<br>H 296<br>Nos. 800, 301          | <b>Bodanali, XXII.</b><br>(Vide page 8—D.)<br>λ 17 59 29.24<br>L 80 59 55.42<br>H 1139<br>h 3<br>No. 26                                                                                                                                                                                                                                                                                                                                                       |
| <b>Bali, XXXIII.</b><br>(Vide page 10—D.)<br>λ 18 25 7.50<br>L 82 19 30.49<br>H 3522<br>h 2<br>No. 41                                                                     | <b>Bhadrachallam Temple.</b><br>(Upper Godavari) On hill.<br>λ 17 39 51.65<br>L 80 55 34.44<br>Nos. 306, 307                                                                                                                                                                                   | <b>Boláhoi h.s.</b><br>(Hyderabad, Deccan) On a hill about 2 miles N.E. of the village of Kothapaili, and the same distance W. of that of Mocharlá, in pargana Gajvil, taluk Medak. It is denoted by a masonry pillar about 1 foot high containing two marks, the lower on a stone imbedded in the masonry filling up a crevice which extends along the entire length of the rock on which the station is built.<br>λ 18 16 13.20<br>L 78 38 52.51<br>No. 105 |
| <b>Bandá Pasanpaili Village Flag,</b><br>(Hyderabad, Deccan) On tree.<br>λ 17 56 47<br>L 78 22 14                                                                         | <b>Bhonágir h.s.</b><br>(Hyderabad Deccan) Is one of Colonel Lambton's principal stations, on top of the old palace of Kutabsháh in the hill fort of Bhonágir: marked by a ⊙ cut in the plaster of the terrace: in taluk Bhonágir.<br>λ 17 30 52.73<br>L 78 56 5.47<br>H 2046<br>Nos. 385, 386 |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

\* Of the Great Arc Meridional Series—Section 18° to 24°.

| Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                      | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                             | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Bolcherú Hill Mark.</b><br/>(Hyderabad, Deccan) In táluk Ailgandal.</p> <p>λ 18 54 4.21<br/>L 79 8 9.30<br/>No. 452</p>                                                                                                                                                                                                                                    | <p><b>Boráguttá h.s.</b><br/>(Hyderabad, Deccan) On a low hillock, about 1 mile S. of the village of Mustabad, and 2 miles E. of that of Morápaillí, in pargana Katkúr, táluk Ailgandal: the station is denoted by a masonry pillar about 1 foot high containing two mark-stones, the lower being cut on the rock <i>in situ</i>.</p> <p>λ 18 15 27.65<br/>L 78 45 4.67<br/>No. 107</p> | <p><b>Cherál Village Flag,</b><br/>(Hyderabad, Deccan) On tree: in táluk Bhonágír.</p> <p>λ 17 55 23<br/>L 79 0 47</p>                                                                                                                                                                                                                                                                                                                                            |
| <p><b>Bolígattá h.s.</b><br/>(Upper Godávárí) On a hill, about a mile N.W. of the small village Táltlanká, in thána and tahsil Bhadráchallam. A paká pillar 1 foot high containing two marks, denotes the station, the lower is cut on the rock <i>in situ</i>.</p> <p>λ 17 42 10.98<br/>L 81 12 31.94<br/>Nos. 311, 312</p>                                     | <p><b>Botmilí, I.</b><br/>(Vide page 4—D.)</p> <p>λ 18 15 30.18<br/>L 78 14 11.87<br/>H 2199<br/>h 4<br/>Nos. 2, 3</p>                                                                                                                                                                                                                                                                  | <p><b>Cherú, XXXIV.</b><br/>(Vide page 10—D.)</p> <p>λ 17 52 22.84<br/>L 82 11 18.34<br/>H 4729<br/>h 2<br/>Nos. 40, 43</p>                                                                                                                                                                                                                                                                                                                                       |
| <p><b>Bolíguttá Hill Mark.</b><br/>(Hyderabad, Deccan) In táluk Nalgondá.</p> <p>λ 17 14 2.52<br/>L 79 14 38.19</p>                                                                                                                                                                                                                                              | <p><b>Buchampettá Hill Mark (heliotrope).</b><br/>(Godávárí)</p> <p>λ 17 30 31.60<br/>L 82 31 36.04<br/>No. 355</p>                                                                                                                                                                                                                                                                     | <p><b>Chetípailí Hill Temple.</b><br/>(Hyderabad, Deccan) In táluk Medak.</p> <p>λ 17 57 14.5<br/>L 78 21 20.6<br/>No. 70</p>                                                                                                                                                                                                                                                                                                                                     |
| <p><b>Bolíkondá, XI.</b><br/>(Vide page 6—D.)</p> <p>λ 17 42 35.82<br/>L 79 50 25.16<br/>H 1370<br/>h 6<br/>No. 14</p>                                                                                                                                                                                                                                           | <p><b>Bugá Rámánáguttá Temple.</b><br/>(Hyderabad, Deccan) In táluk Nalgondá.</p> <p>λ 17 25 22.6<br/>L 79 16 46.5<br/>Nos. 400, 401</p>                                                                                                                                                                                                                                                | <p><b>Chetupáilí Hill Mark.</b><br/>(Hyderabad, Deccan) In táluk Kham-ma-met.</p> <p>λ 17 47 16.07<br/>L 80 17 46.81<br/>No. 262</p>                                                                                                                                                                                                                                                                                                                              |
| <p><b>Bondágullá Hill Building.</b><br/>(Hyderabad, Deccan) In táluk Bhonágír.</p> <p>λ 17 45 53.0<br/>L 79 0 42.2<br/>No. 187</p>                                                                                                                                                                                                                               | <p><b>Bujilápúram Hill Pagoda.</b><br/>(Hyderabad, Deccan) In táluk Nalgondá.</p> <p>λ 17 24 42.5<br/>L 79 18 34.8<br/>Nos. 411, 412</p>                                                                                                                                                                                                                                                | <p><b>Chúkod Village Flag,</b><br/>(Hyderabad, Deccan) On tree: in táluk Medak.</p> <p>λ 18 12 42<br/>L 78 40 41</p>                                                                                                                                                                                                                                                                                                                                              |
| <p><b>Bondágullá Village Temple.</b><br/>(Hyderabad, Deccan) In táluk Bhonágír.</p> <p>λ 17 46 6.0<br/>L 79 0 24.4<br/>Nos. 185, 186</p>                                                                                                                                                                                                                         | <p><b>Burgidá h.s.</b><br/>(Hyderabad, Deccan) On the middle one of three flat-topped heights, about 4 miles S.E. of Lingampett and immediately S. of the hamlet of Burgidá, in táluk Medak: a platform 9 feet high having a mark-stone at top and another at bottom, marks the station.</p> <p>λ 18 16 5.22<br/>L 78 13 43.86<br/>H 2223</p>                                           | <p><b>Chilápúram Village Flag,</b><br/>(Hyderabad, Deccan) On tree: in táluk Ailgandal.</p> <p>λ 18 14 17<br/>L 79 2 26</p>                                                                                                                                                                                                                                                                                                                                       |
| <p><b>Bonthá h.s.</b><br/>(Hyderabad, Deccan) On a conically shaped hill, about 1½ miles S.E. of Gandípailí village, and 4 miles E. of Rámaram village, in táluk Warangal: denoted by a masonry pillar about 1 foot high containing two marks, the lower being engraved on the rock <i>in situ</i>.</p> <p>λ 17 59 38.03<br/>L 79 13 28.26<br/>Nos. 146, 147</p> | <p><b>Chandrágirí h.s.</b><br/>(Hyderabad, Deccan) On the southern of two high peaks: on the surrounding group of hills are a number of massive temples which are now the only remains of the large village called Chandrágirí, in tahsil Ambal, táluk Warangal: a masonry pillar 1 foot high marks the station.</p> <p>λ 18 7 3.16<br/>L 79 40 18.83<br/>H 1514<br/>Nos. 232, 233</p>  | <p><b>Chinchalkot, VI.</b><br/>(Vide page 5—D.)</p> <p>λ 17 52 43.41<br/>L 78 59 16.39<br/>H 2047<br/>h 5<br/>No. 8</p>                                                                                                                                                                                                                                                                                                                                           |
| <p><b>Borá Gattú, III.</b><br/>(Vide page 4—D.)</p> <p>λ 18 3 24.50<br/>L 78 30 51.43<br/>H 2080<br/>h 6<br/>No. 4</p>                                                                                                                                                                                                                                           | <p><b>Chelápúr Village Tower,</b><br/>(Hyderabad, Deccan) Flag: in táluk Medak.</p> <p>λ 18 11 39.2<br/>L 78 43 55.5<br/>No. 117</p>                                                                                                                                                                                                                                                    | <p><b>Chinchalkot h.s.</b><br/>(Hyderabad, Deccan) Is one of Colonel Lambton's principal stations, about a mile W. of village so called, and 4 miles S. of Chiriál, in táluk Bhonágír: the station is on a huge rock and was originally marked by a circle and dot.</p> <p>λ 17 52 43.69<br/>L 78 59 16.34<br/>H 2037<br/>No. 384</p> <p><b>Chinchalkot Village Flag,</b><br/>(Hyderabad, Deccan) On tree: in táluk Bhonágír.</p> <p>λ 17 52 25<br/>L 79 0 25</p> |



| Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                                                                                                                                | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Chinúr Temple.</b><br/>(Hyderabad, Deccan) In táluk Rámgr.</p> <p>λ 18 51 20'8<br/>L 79 50 9'3<br/>No. 253</p>                                                                                                                                                                                                                                                                                                                                                                       | <p><b>Dágalvine h.s.</b><br/>(Upper Godávri) On a hill, about 2 miles N. of Chúrpi village, in táluk Bhadráchallam: a paká pillar 1 foot high containing two marks, denotes the station.</p> <p>λ 17 47 10'43<br/>L 81 5 5'48<br/>No. 295</p>                                                                                                                                                                                                                                                                                                             | <p><b>Demrú h.s.</b><br/>(Vizagapatam)</p> <p>λ 17 45 14'47<br/>L 83 19 40'81<br/>Nos. 365, 368</p>                                                                                                                                                                                                                                                                                                                    |
| <p><b>Chitálúr Singarám Pagoda.</b><br/>(Hyderabad, Deccan) On a hill: in táluk Nalgondá.</p> <p>λ 17 20 54'6<br/>L 79 25 48'3<br/>Nos. 406, 407</p>                                                                                                                                                                                                                                                                                                                                       | <p><b>Darmápúr Village Flag.</b><br/>(Hyderabad, Deccan) On tree: in táluk Warangal.</p> <p>λ 17 34 54<br/>L 79 25 28</p>                                                                                                                                                                                                                                                                                                                                                                                                                                 | <p><b>Deogat h.s.</b><br/>(Hyderabad, Deccan) On a hill, about a mile S.E. of the village of Machimpail, and 1½ miles W. of that of Wadapail, in pargana Tupren, táluk Medak: a masonry pillar about 1 foot high with two marks, indicates the station, the lower being cut on the rock in sitá.</p> <p>λ 17 52 58'86<br/>L 78 36 7'67<br/>No. 91</p>                                                                  |
| <p><b>Chítárgat No. 1 h.s.</b><br/>(Hyderabad, Deccan) On a low hill, about 1½ miles S.W. of the village of Girpail, and 3 miles S.E. of that of Wadapail, in pargana Tupren, táluk Medak: a masonry pillar about 1 foot high with two marks, denotes the station, the lower is engraved on the rock in sitá.</p> <p>λ 17 54 23'50<br/>L 78 32 20'70<br/>No. 90</p>                                                                                                                        | <p><b>Darmarám Village Flag.</b><br/>(Hyderabad, Deccan) On tree: in táluk Medak.</p> <p>λ 18 3 34<br/>L 78 32 29</p>                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p><b>Devarguttá h.s.</b><br/>(Hyderabad, Deccan) On a small hill, about a mile to E. of Kátúrpaill village, in táluk Ailgandal: a masonry pillar 1 foot high with two marks, indicates the station, the lower being engraved on the rock in sitá.</p> <p>λ 18 8 4'34<br/>L 79 1 37'87<br/>Nos. 128, 129</p>                                                                                                           |
| <p><b>Chítárgat No. 2 h.s.</b><br/>(Hyderabad, Deccan) On a low range of hills, about 2 miles W. of the village of Pothanápail, and 1½ miles S.W. of that of Chandápett, in pargana Tupren, táluk Medak: the station is indicated by a masonry pillar about 1 foot high containing two marks, the lower being engraved on the rock in sitá.</p> <p>λ 17 51 33'52<br/>L 78 39 13'69<br/>Nos. 94, 95</p>                                                                                     | <p><b>Dásáram h.s.</b><br/>(Hyderabad, Deccan) On the higher of two isolated hills, about a mile N.W. of the village of Komarwili, and 1½ miles N. E. of that of Rasúlábád, in táluk Bhonágr: it is denoted by a masonry pillar about 1 foot high containing two marks, the lower being cut on the rock in sitá.</p> <p>λ 17 55 26'84<br/>L 78 56 12'37<br/>Nos. 195, 196</p>                                                                                                                                                                             | <p><b>Devarpilíguttá h.s.</b><br/>(Hyderabad, Deccan) On a hill, about ¼ of a mile E. of Devarpil village, in táluk Kham-ma-net: a paká pillar 1 foot high with two mark-stones imbedded therein, indicates the station.</p> <p>λ 17 38 18'59<br/>L 81 3 32'77<br/>Nos. 298, 299</p>                                                                                                                                   |
| <p><b>Chittalá Fort.</b><br/>(Hyderabad, Deccan) S.W. angle: in táluk Medak.</p> <p>λ 18 15 30<br/>L 78 17 26</p>                                                                                                                                                                                                                                                                                                                                                                          | <p><b>Dásarmetá h.s.</b><br/>(Vizagapatam)</p> <p>λ 17 43 10'41<br/>L 83 15 33'04<br/>No. 369</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p><b>Dhair (heliotrope).</b><br/>(Vizagapatam) On Referring Mark platform.</p> <p>λ 17 45 7'44<br/>L 83 21 52'91<br/>Nos. 487, 488</p>                                                                                                                                                                                                                                                                                |
| <p><b>Chittial h.s.</b><br/>(Hyderabad, Deccan) Is one of Colonel Lambton's principal stations, on the highest part of a mass of well known hills, and about 5 miles S. of Medak; the village of Chittial is nearly 3 miles N., and the fortified village of Yalmákaní 4 miles S: the station is marked by a circle cut on rock on which the stump of a large tree was set up, supported in position by a pile of stones.</p> <p>λ 17 58 20'29<br/>L 78 17 37'55<br/>H 1993<br/>No. 72</p> | <p><b>Dátápailí Village Flag.</b><br/>(Hyderabad, Deccan) On tree: in táluk Bhonágr.</p> <p>λ 17 39 28<br/>L 78 55 51</p>                                                                                                                                                                                                                                                                                                                                                                                                                                 | <p><b>Dhár, XXXIX.</b><br/>(Vide page 11—D.)</p> <p>λ 17 43 59'10<br/>L 82 30 54'99<br/>H 4093<br/>h 2<br/>Nos. 48, 50</p>                                                                                                                                                                                                                                                                                             |
| <p><b>Chokáredípett Village Flag.</b><br/>(Hyderabad, Deccan) In táluk Medak.</p> <p>λ 18 13 11'6<br/>L 78 45 21'0<br/>No. 110</p>                                                                                                                                                                                                                                                                                                                                                         | <p><b>Davarupalá Hill Mark.</b><br/>(Hyderabad, Deccan) On a hill in táluk Nalgondá: a pole surrounded by a pile of stones denotes the site.</p> <p>λ 17 32 3'24<br/>L 79 25 27'32<br/>Nos. 220, 221</p> <p><b>Degalá h.s.</b><br/>(Hyderabad, Deccan) On a low range of hills, about 1½ miles N.E. of Rámarám village, and 2 miles N. of Gandípailí village, in táluk Warangal: denoted by a masonry pillar about 1 foot high having two marks, the lower being engraved on the rock in sitá.</p> <p>λ 18 2 5'76<br/>L 79 11 42'23<br/>Nos. 152, 153</p> | <p><b>Dikondá h.s.</b><br/>(Hyderabad, Deccan) Is one of Colonel Lambton's principal stations, on the highest part of a mass of hills, about 2½ miles S. of Golákotá, and 5 miles S.E. of Chelákodúr: in táluk Rámgr. It derives its name from a well known fortress on W. side of the hill, and is marked by a circle engraved on the rock in sitá.</p> <p>λ 18 44 36'82<br/>L 79 10 28'22<br/>H 1765<br/>No. 390</p> |

| Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                    | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                                                                                                                          | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Dúbágat Mark,<br/>(Hyderabad, Deccan) On a hill known also as Rám-páli: in táluk Bhonágir.</p> <p>λ 17 18 25.79<br/>L 79 9 15.87<br/>Nos. 416, 417</p>                                                                                                                                                                                                                      | <p>Durgat h.s.<br/>(Upper Godávart) On a hill, about 1 mile N. of Baudrau, the only village in the vicinity, in thána and tahsil Bhadráchallam: a paká pillar 1 foot high with two marks, denotes the station.</p> <p>λ 17 44 43.16<br/>L 81 8 18.53<br/>Nos. 313, 314</p>                                                                                                                                                                                                           | <p>Ganpáram Village Flag,<br/>(Hyderabad, Deccan) On tree: in táluk Kham-ma-met.</p> <p>λ 17 38 31<br/>L 81 1 44</p>                                                                                                                                                                                                                                                      |
| <p>Dúbák s.<br/>(Hyderabad, Deccan) Is on the eastern gateway of the village of Dúbák, in táluk Medak: a ⊙ engraved on the roof denotes the station.</p> <p>λ 18 10 16.98<br/>L 78 42 38.97<br/>Nos. 115, 116</p>                                                                                                                                                              | <p>Elíguttá h.s.<br/>(Hyderabad, Deccan) On a hill, about 3 miles S.W. of Nagram village, in táluk Kham-ma-met: a paká pillar 1 foot high marks the station.</p> <p>λ 17 35 4.56<br/>L 80 54 5.96<br/>No. 308</p>                                                                                                                                                                                                                                                                    | <p>Girmájipett Hill Pagoda.<br/>(Hyderabad, Deccan) In táluk Warangal.</p> <p>λ 17 58 29.5<br/>L 79 38 48.0<br/>Nos. 257, 258</p>                                                                                                                                                                                                                                         |
| <p>Dúdálá, XLIV.*<br/>(Iide page 4—D.)</p> <p>λ 17 56 10.76<br/>L 77 55 1.81<br/>H 1926<br/>h 3<br/>No. 1</p>                                                                                                                                                                                                                                                                  | <p>Erágúntá h.s.<br/>(Upper Godávart) On a small hill, 1 mile E. of the village of Kondápilli, and about 3 miles N.E. of that of Erágúntá, in thána and tahsil of Bhadráchallam: a paká pillar 1 foot high with two mark-stones imbedded therein, denotes the station.</p> <p>λ 17 40 52.68<br/>L 81 1 6.35<br/>Nos. 304, 305</p>                                                                                                                                                    | <p>Girpaili Village Flag,<br/>(Hyderabad, Deccan) On tree: in táluk Medak.</p> <p>λ 17 52 18<br/>L 78 40 15</p>                                                                                                                                                                                                                                                           |
| <p>Dumagudem s.<br/>(Hyderabad, Deccan) On eastern band of the canal, very close to the work-shop, and N. of Dumagudem village: in táluk Kham-ma-met. A paká pillar 1 foot high with two marks imbedded therein, indicates the station. A station of the Topographical survey is a short distance to S.</p> <p>λ 17 51 19.69<br/>L 80 55 50.33<br/>H 202<br/>Nos. 292, 293</p> | <p>Gabetá Hill Mark.<br/>(Hyderabad, Deccan) A pole surrounded by a pile of stones denotes the site: in táluk Warangal.</p> <p>λ 17 43 14.97<br/>L 79 24 38.64<br/>Nos. 224, 225</p>                                                                                                                                                                                                                                                                                                 | <p>Gobak Village Flag,<br/>(Hyderabad, Deccan) On tree: in táluk Kham-ma-met.</p> <p>λ 17 56 56<br/>L 80 56 0</p>                                                                                                                                                                                                                                                         |
| <p>Dumárguttá Rock,<br/>(Hyderabad, Deccan) On hill: in táluk Kham-ma-met.</p> <p>λ 17 39 54<br/>L 81 7 30</p>                                                                                                                                                                                                                                                                 | <p>Gadkol h.s.<br/>(Hyderabad, Deccan) On the S.W. extremity of an extensive range of mountains E. of Bimgal; Gadkol village is about 2 miles to the N.W. and Kundápúram the same distance to the S.W.: in táluk Nirmal. The station is on the highest part of the mountain, on a low mound between two very deep pits, and about 80 feet N.W. of a large tree: it is marked by a large stone having a circle engraved thereon.</p> <p>λ 18 31 19.73<br/>L 78 30 0.45<br/>H 2209</p> | <p>Gobaríguttá h.s.<br/>(Hyderabad, Deccan) On a low rocky hill, about ½ of a mile S.E. of Rájágopálpett village, and 2 miles S.W. of Pálámoklá village, in táluk Mallángur: it is indicated by a masonry pillar about 1 foot high, containing two marks, the lower being engraved on the rock <i>in situ</i>.</p> <p>λ 18 5 5.71<br/>L 78 59 37.83<br/>Nos. 122, 123</p> |
| <p>Dúmpalpaili s.<br/>(Hyderabad, Deccan) On the south-western bastion of a ruined fort in the village so called, in táluk Medak: denoted by a masonry pillar about 1 foot high having two mark-stones, the lower being cut on the rock <i>in situ</i>.</p> <p>λ 18 9 32.93<br/>L 78 44 2.21<br/>Nos. 118, 119</p>                                                             | <p>Gadrál h.s.<br/>(Hyderabad, Deccan) On a low hill, about 1½ miles from village so called, and 2 miles S. of Koyadá village, in tahsil Mánákondúr, táluk Mallángur: denoted by a masonry pillar 1 foot high containing 2 marks, the lower being engraved on the rock <i>in situ</i>.</p> <p>λ 18 8 20.14<br/>L 79 6 33.26<br/>H 1447<br/>Nos. 124, 125</p>                                                                                                                         | <p>Godam Ishwar Pagoda.<br/>(Hyderabad, Deccan) In táluk Rámgr.</p> <p>λ 18 40 10.2<br/>L 79 43 22.1<br/>No. 244</p>                                                                                                                                                                                                                                                      |
| <p>Durgamguttá h.s.<br/>(Hyderabad, Deccan) On a hill, about 3 miles N.N.E. of Kamantogh village, in thána Rámanjáram, táluk Kham-ma-met: a masonry pillar 1 foot high with two marks, denotes the station, the lower being cut on the rock.</p> <p>λ 17 56 46.34<br/>L 80 43 50.95<br/>No. 289</p>                                                                            | <p>Gadrál h.s.<br/>(Hyderabad, Deccan) On a low hill, about 1½ miles from village so called, and 2 miles S. of Koyadá village, in tahsil Mánákondúr, táluk Mallángur: denoted by a masonry pillar 1 foot high containing 2 marks, the lower being engraved on the rock <i>in situ</i>.</p> <p>λ 18 8 20.14<br/>L 79 6 33.26<br/>H 1447<br/>Nos. 124, 125</p>                                                                                                                         | <p>Godávarí River, E. Flag.<br/>(Upper Godávart) On island.</p> <p>λ 18 45 59<br/>L 80 3 38</p>                                                                                                                                                                                                                                                                           |
| <p>Durgamguttá h.s.<br/>(Hyderabad, Deccan) On a hill, about 3 miles N.N.E. of Kamantogh village, in thána Rámanjáram, táluk Kham-ma-met: a masonry pillar 1 foot high with two marks, denotes the station, the lower being cut on the rock.</p> <p>λ 17 56 46.34<br/>L 80 43 50.95<br/>No. 289</p>                                                                            | <p>Gandípaili Village Tower,<br/>(Hyderabad, Deccan) Flag: in táluk Warangal.</p> <p>λ 18 0 31.0<br/>L 79 12 10.5<br/>Nos. 162, 163</p>                                                                                                                                                                                                                                                                                                                                              | <p>Godávarí River, W. Flag.<br/>(Upper Godávart) On island.</p> <p>λ 18 46 18<br/>L 80 2 49</p>                                                                                                                                                                                                                                                                           |
|                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>Golágurá Village Flag,<br/>(Hyderabad, Deccan) On tree: in táluk Kham-ma-met.</p> <p>λ 17 39 13<br/>L 81 1 21</p>                                                                                                                                                                                                                                                      |

\* Of the Great Arc Meridional Series—Section 18° to 24°.

| Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                    | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                     | Name of station, district, description,<br>co-ordinates &c.                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Golainkondá h.s.</b><br/>(Hyderabad, Deccan) On a small hill, formed of one entire rock, which overhangs the village of Golainkondá, in táluk Bhonágir: it is denoted by a masonry pillar about 1 foot high containing two marks, the lower being cut on the rock <i>in situ</i>.</p> <p>λ 17 35 32.76<br/>L 79 10 38.06<br/>No. 216</p> | <p><b>Gumrú, LXIX.*</b><br/>(<i>vide page 12—D.</i>)</p> <p>o ' "</p> <p>λ 17 56 5.91<br/>L 83 16 34.57<br/>H 14.49<br/>h 2<br/>Nos. 55, 60</p>                                                                                                                                                                                                                 | <p><b>Hill Peak No. 1.</b><br/>(Upper Godávart)</p> <p>o ' "</p> <p>λ 18 0 47.8<br/>L 81 15 42.2<br/>No. 321</p>                                   |
| <p><b>Goláram Village Tower,</b><br/>(Hyderabad, Deccan) Flag: in táluk Warangal.</p> <p>λ 17 57 18.0<br/>L 79 22 47.9<br/>Nos. 175, 176</p>                                                                                                                                                                                                   | <p><b>Gunigat h.s.</b><br/>(Hyderabad, Deccan) Is one of Colonel Lambton's principal stations, on a hill about 4 miles W. of Haidarsháhipett, in táluk Kham-ma-met: a platform carrying a stone with circle thereon, denotes the station which is not on the highest part of the hill.</p> <p>λ 17 23 42.02<br/>L 79 59 57.30<br/>H 12.07<br/>Nos. 263, 264</p> | <p><b>Hill Peak No. 2.</b><br/>(Upper Godávart)</p> <p>λ 17 57 51.3<br/>L 81 16 21.7<br/>No. 322</p>                                               |
| <p><b>Gondáram Fort.</b><br/>(Hyderabad, Deccan) Flag on village fort: in táluk Ailgandal.</p> <p>λ 18 14 32.6<br/>L 79 1 26.1<br/>Nos. 142, 143</p>                                                                                                                                                                                           | <p><b>Gunjápargá Building.</b><br/>(Hyderabad, Deccan) East of a pagoda: in táluk Rámگیر.</p> <p>λ 18 41 57.4<br/>L 79 38 47.7<br/>Nos. 248, 249</p>                                                                                                                                                                                                            | <p><b>Hill Peak No. 3.</b><br/>(Jaipur) Tree on a low isolated hill.</p> <p>λ 17 58 9.2<br/>L 81 24 17.3<br/>No. 323</p>                           |
| <p><b>Gondáredípailí Village Flag,</b><br/>(Hyderabad, Deccan) On tower: in táluk Ailgandal.</p> <p>λ 18 8 58<br/>L 79 3 58</p>                                                                                                                                                                                                                | <p><b>Gurumsambar Hill Mark (heliotrope).</b><br/>(Jaipur) Denoted by a mark covered over by a pile of stones.</p> <p>λ 17 50 0.07<br/>L 82 15 17.08<br/>Nos. 348, 349</p>                                                                                                                                                                                      | <p><b>Hill Peak No. 4.</b><br/>(Upper Godávart) Single tree.</p> <p>λ 17 38 36.6<br/>L 81 33 32.3<br/>Nos. 328, 329</p>                            |
| <p><b>Gubagurtí Hill Mark.</b><br/>(Hyderabad, Deccan) In táluk Kham-ma-met.</p> <p>λ 17 18 3.42<br/>L 80 21 48.06</p>                                                                                                                                                                                                                         | <p><b>Haidarsháhipett s.</b><br/>(Hyderabad, Deccan) In táluk Kham-ma-met.</p> <p>λ 17 23 55.86<br/>L 80 1 43.47<br/>No. 275</p>                                                                                                                                                                                                                                | <p><b>Hill Tree.</b><br/>(Jaipur) Single tree on an isolated hill.</p> <p>λ 17 55 52.1<br/>L 81 40 4.0<br/>Nos. 334, 335</p>                       |
| <p><b>Gudial Hill Pagoda.</b><br/>(Hyderabad, Deccan) In táluk Nilgondá.</p> <p>λ 17 30 10.6<br/>L 79 19 48.6</p>                                                                                                                                                                                                                              | <p><b>Hánimkondá h.s.</b><br/>(Hyderabad, Deccan) On a hill close to the village of Hánimkondá, in tahsil Warangal: a masonry pillar 1 foot high with a ⊙ inscribed thereon, marks the station.</p> <p>λ 17 59 54.36<br/>L 79 36 52.19<br/>H 11.77<br/>Nos. 228, 229</p>                                                                                        | <p><b>Igánágram Fort,</b><br/>(Hyderabad, Deccan) S.E. bastion of mud fort: in táluk Mallángur.</p> <p>λ 18 8 51.2<br/>L 78 59 7.1<br/>No. 180</p> |
| <p><b>Gudur Fort.</b><br/>(Hyderabad, Deccan) N.W. angle of tiled building: in táluk Kham-ma-met.</p> <p>λ 17 30 10.5<br/>L 79 55 18.8</p>                                                                                                                                                                                                     | <p><b>Hánimkondá h.s.</b><br/>(Hyderabad, Deccan) On a hill close to the village of Hánimkondá, in tahsil Warangal: a masonry pillar 1 foot high with a ⊙ inscribed thereon, marks the station.</p> <p>λ 17 59 54.36<br/>L 79 36 52.19<br/>H 11.77<br/>Nos. 228, 229</p>                                                                                        | <p><b>Iráságar s.</b><br/>(Hyderabad, Deccan) In táluk Rámگیر.</p> <p>λ 18 40 5.84<br/>L 79 53 10.93<br/>Nos. 251, 252</p>                         |
| <p><b>Gudur s.</b><br/>(Hyderabad, Deccan) On a rock: in táluk Kham-ma-met.</p> <p>λ 17 30 41.53<br/>L 79 55 39.08<br/>Nos. 269, 270</p>                                                                                                                                                                                                       | <p><b>Hill Mark No. 1.</b><br/>(Upper Godávart) Pole on rock.</p> <p>λ 17 49 12.65<br/>L 81 18 40.33<br/>Nos. 324, 325</p>                                                                                                                                                                                                                                      | <p><b>Inkúrtí s.</b><br/>(Hyderabad, Deccan) In a fort so called: in táluk Warangal.</p> <p>λ 17 40 3.01<br/>L 79 50 38.73<br/>Nos. 267, 268</p>   |
| <p><b>Gumlur h.s.</b><br/>(Vizagapatam) On a single detached hill known also by the name of Mádákondá; the village of Gumlur is at the foot to N.E. and that of Nákáipilí about 2 miles to S.: the station is denoted by a ⊙ engraved on the rock <i>in situ</i>.</p> <p>λ 17 25 49.58<br/>L 82 46 7.67<br/>No. 469</p>                        | <p><b>Hill Mark No. 2.</b><br/>(Jaipur) A pole surrounded by a pile of stones denotes the site.</p> <p>λ 17 44 42.61<br/>L 81 58 6.86<br/>Nos. 344, 345</p>                                                                                                                                                                                                     | <p><b>Iránápett Village Flag,</b><br/>(Hyderabad, Deccan) On tree: in táluk Bhonágir.</p> <p>λ 17 52 6<br/>L 79 2 0</p>                            |
|                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                 | <p><b>Irvínur Village Flag,</b><br/>(Hyderabad, Deccan) On tree: in táluk Warangal.</p> <p>λ 17 41 18<br/>L 79 24 51</p>                           |
|                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                 | <p><b>Isanáipailí Temple.</b><br/>(Hyderabad, Deccan) In táluk Medak.</p> <p>λ 18 7 43.9<br/>L 78 31 26.7<br/>No. 88</p>                           |

\* Of the East Coast Series.

| Name of station, district, description,<br>co-ordinates &c.                                                                                     | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                          | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Isnúr Village Flag,<br/>(Hyderabad, Deccan) On tree: in táluk Warangal.</p> <p>λ 17 37 52<br/>L 79 27 5</p>                                  | <p>Kaler, XXVII.<br/>(Vide page 8—D.)</p> <p>o i "</p> <p>λ 17 48 15'90<br/>L 81 28 10'96<br/>H 823<br/>h 1</p> <p>No. 34</p>                                                                                                                                                                        | <p>Kánslúr h.s.<br/>(Upper Godávart) Denoted by a ⊙ engraved on the rock in situ.</p> <p>o i "</p> <p>λ 17 44 4'73<br/>L 81 29 52'77<br/>H 1332</p> <p>Nos. 319, 320</p>                                                                                                                                                                                                      |
| <p>Isompáli Hill Pagoda.<br/>(Hyderabad, Deccan) In táluk Kham-ma-met.</p> <p>λ 17 28 6'1<br/>L 79 56 11'5</p> <p>Nos. 273, 274</p>             | <p>Kaler h.s.<br/>(Upper Godávart) On a small hill and within the walls of an old fort, a short distance N. of Kaler vil- lage, in táluk Kham-ma-met: a paká pillar 1 f. ot high with two mark-stones imbedded therein, denotes the station.</p> <p>λ 18 1 28'93<br/>L 80 54 1'48</p> <p>No. 283</p> | <p>Kántápili Village Flag,<br/>(Hyderabad, Deccan) On tree: in táluk Kham-ma- met.</p> <p>λ 17 59 1<br/>L 80 54 42</p>                                                                                                                                                                                                                                                        |
| <p>Jaktiál s.<br/>(Hyderabad, Deccan) In a fort so called: in táluk Ailgandal.</p> <p>λ 18 47 58'66<br/>L 78 57 11'24</p> <p>Nos. 446, 447</p>  | <p>Kálímámudí Hill,<br/>(Jaipur) Centre knoll.</p> <p>λ 17 34 40'8<br/>L 82 9 21'6</p> <p>Nos. 350, 351</p>                                                                                                                                                                                          | <p>Káp, XXXVIII.<br/>(Vide page 11—D.)</p> <p>λ 17 56 50'07<br/>L 82 39 36'96<br/>H 5213<br/>h 1</p> <p>No. 47</p>                                                                                                                                                                                                                                                            |
| <p>Jangaum Fort.<br/>(Hyderabad, Deccan) In táluk Rámgr.</p> <p>λ 18 46 15<br/>L 79 34 5</p>                                                    | <p>Kálingkondá, XXXVI.<br/>(Vide page 10—D.)</p> <p>λ 17 49 42'44<br/>L 82 21 7'85<br/>H 4634<br/>h 2</p> <p>No. 46</p>                                                                                                                                                                              | <p>Kaperlápett Fort,<br/>(Hyderabad, Deccan) S.W. angle: in táluk Rámgr.</p> <p>λ 18 49 53'7<br/>L 79 14 9'9</p> <p>No. 450</p>                                                                                                                                                                                                                                               |
| <p>Jangaum Pagoda.<br/>(Hyderabad, Deccan) In táluk Rámgr.</p> <p>λ 18 48 36'9<br/>L 79 31 25'0</p>                                             | <p>Kámáreddípett Idgáh,<br/>(Hyderabad, Deccan) N. Minaret: in táluk Medak.</p> <p>λ 18 19 18'3<br/>L 78 22 41'0</p>                                                                                                                                                                                 | <p>Karchilá h.s.<br/>(Hyderabad, Deccan) On the highest part of a flat- topped range of hills, about 2 miles S. of the vil- lage of Amsanpúli, in táluk Medak: a masonry pillar about 1 foot high with two mark-stones imbedded therein, indicates the station, the lower being en- graved on the rock in situ.</p> <p>λ 17 55 56'18<br/>L 78 15 11'75</p> <p>Nos. 66, 67</p> |
| <p>Jangaum Tree.<br/>(Hyderabad, Deccan) In táluk Rámgr.</p> <p>λ 18 47 7<br/>L 79 32 24</p>                                                    | <p>Kambampáli Hill Mark.<br/>(Hyderabad, Deccan) In táluk Rámgr.</p> <p>λ 18 52 20'06<br/>L 79 11 11'07</p> <p>No. 451</p>                                                                                                                                                                           | <p>Karimnagar Building,<br/>(Hyderabad, Deccan) Turret, in the pettá: in táluk Ailgandal.</p> <p>λ 18 25 49'3<br/>L 79 10 50'9</p> <p>No. 432</p>                                                                                                                                                                                                                             |
| <p>Jarákondá, XLII.<br/>(Vide page 11—D.)</p> <p>λ 18 1 35'20<br/>L 82 51 36'12<br/>H 4179<br/>h 0</p> <p>No. 52</p>                            | <p>Kándágotlá, XII.<br/>(Vide page 6—D.)</p> <p>λ 17 17 31'31<br/>L 79 39 43'95<br/>H 1653<br/>h 2</p> <p>No. 20</p>                                                                                                                                                                                 | <p>Katájpúr, XIII.<br/>(Vide page 6—D.)</p> <p>λ 18 6 43'47<br/>L 79 51 43'52<br/>H 1606<br/>h 1</p> <p>No. 15</p>                                                                                                                                                                                                                                                            |
| <p>Jeril Hill Mark.<br/>(Jaipur)</p> <p>λ 17 59 8'98<br/>L 82 20 44'77</p> <p>Nos. 352, 353</p>                                                 | <p>Kandí Kondá Pagoda.<br/>(Hyderabad, Deccan) Or Drug mark: in táluk Kham-ma-met.</p> <p>λ 17 29 20'1<br/>L 80 0 28'9</p> <p>Nos. 265, 266</p>                                                                                                                                                      | <p>Katamráj h.s.<br/>(Jaipur)</p> <p>λ 17 51 48'68<br/>L 81 57 16'27</p> <p>Nos. 342, 343</p>                                                                                                                                                                                                                                                                                 |
| <p>Jídkal Building.<br/>(Hyderabad, Deccan) In táluk Bhonágir.</p> <p>λ 17 36 23<br/>L 79 12 8</p>                                              |                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                               |
| <p>Jídkal Temple,<br/>(Hyderabad, Deccan) Spire, on hillock: in táluk Bhonágir.</p> <p>λ 17 36 12'15<br/>L 79 12 39'10</p> <p>Nos. 419, 420</p> |                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                               |

| Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                               |
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| <b>Katkenápáli Hill Mark.</b><br><i>(Hyderabad, Deccan)</i> In táluk Rámgr.<br>$\lambda$ 18 41 11.67<br>$L$ 79 13 49.41<br>Nos. 439, 440                                                                                                                                                                                                   | <b>Kodavátúr Hill Mark.</b><br><i>(Hyderabad, Deccan)</i> " " "<br>$\lambda$ 17 50 9.97<br>$L$ 79 5 56.23<br>Nos. 203, 204                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Kondalámá h.s.</b><br><i>(Hyderabad, Deccan)</i> On hill, about $\frac{1}{4}$ a mile S. of the village of Másnibpett, and $1\frac{1}{4}$ miles N.E. of Sidápúr village, in táluk Bhonágír: it is denoted by a masonry pillar about 1 foot high containing two marks, the lower being engraved on the rock <i>in situ</i> .<br>$\lambda$ 17 37 22.89<br>$L$ 79 0 19.07<br>Nos. 208, 209 |
| <b>Katkúr Village Tower,</b><br><i>(Hyderabad, Deccan)</i> Flag: in táluk Warangal.<br>$\lambda$ 18 2 9.3<br>$L$ 79 16 48.6<br>Nos. 169, 170                                                                                                                                                                                               | <b>Koilkondá h.s.</b><br><i>(Hyderabad, Deccan)</i> Is one of Colonel Lambton's principal stations, on the northernmost of three granite peaks, and within a mile of Koilkondá village, and about $1\frac{1}{4}$ miles S.E. of Rámchandrápúram village, in táluk Warangal: it was originally marked by a $\odot$ engraved on the rock <i>in situ</i> and which is now surmounted by a masonry pillar about 1 foot high and carrying a mark in its upper surface.<br>$\lambda$ 17 39 38.46<br>$L$ 79 22 29.83<br>H 1559<br>Nos. 215, 381, 382 | <b>Kondávilí Village Flag,</b><br><i>(Hyderabad, Deccan)</i> On tree: in táluk Kham-ma-met.<br>$\lambda$ 17 40 51<br>$L$ 81 0 9                                                                                                                                                                                                                                                           |
| <b>Kátúrpaílí Village Tower.</b><br><i>(Hyderabad, Deccan)</i> Centre of tower: in táluk Ailgandal.<br>$\lambda$ 18 6 46.8<br>$L$ 79 0 18.8<br>No. 135                                                                                                                                                                                     | <b>Komalkotá Fort,</b><br><i>(Hyderabad, Deccan)</i> S.W. angle: in táluk Ailgandal.<br>$\lambda$ 18 57 44<br>$L$ 78 34 4                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Kondá Pochamá h.s.</b><br><i>(Hyderabad, Deccan)</i> On a hill, about 2 miles W. of the village of Nábasgúdá, and a mile N. of that of Narsápúr, in pargana Cheral, táluk Bhonágír: the station consists of a masonry pillar about 1 foot high having two marks, the lower being cut on the rock <i>in situ</i> .<br>$\lambda$ 17 51 49.84<br>$L$ 78 54 24.85<br>Nos. 197, 198         |
| <b>Kaurálbiding, XXXV.</b><br><i>(Vide page 10—D.)</i><br>$\lambda$ 18 8 2.05<br>$L$ 82 24 24.25<br>H 4087<br>h 2<br>Nos. 42, 45                                                                                                                                                                                                           | <b>Kometibandá Pagoda.</b><br><i>(Hyderabad, Deccan)</i> In táluk Medak.<br>$\lambda$ 17 51 27.7<br>$L$ 78 39 3.3<br>No. 425                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Kondápúram Hill Mark.</b><br><i>(Hyderabad, Deccan)</i> In táluk Rámgr.<br>$\lambda$ 18 47 33.81<br>$L$ 79 12 28.21<br>Nos. 448, 449                                                                                                                                                                                                                                                   |
| <b>Keswápúr Village Flag,</b><br><i>(Hyderabad, Deccan)</i> On tree: in táluk Bhonágír.<br>$\lambda$ 17 50 12<br>$L$ 78 58 32                                                                                                                                                                                                              | <b>Komtípaílí Village Flag,</b><br><i>(Hyderabad, Deccan)</i> On tree: in táluk Medak.<br>$\lambda$ 18 5 53<br>$L$ 78 29 24                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Koní h.s.</b><br><i>(Hyderabad, Deccan)</i> On a hill, about 1 mile E. of Koní village, in táluk Bhonágír: it is now indicated by a masonry pillar about 1 foot high containing two marks, the lower being cut on the rock <i>in situ</i> which is identical with that of Colonel Lambton's station of Konígat.<br>$\lambda$ 17 48 51.58<br>$L$ 79 0 50.85<br>Nos. 199, 200            |
| <b>Kháthá h.s.</b><br><i>(Hyderabad, Deccan)</i> On a low range of hills, about 1 mile N.E. of village so called, in tahsil Sedipett, táluk Mallángur: denoted by a masonry pillar about 1 foot high containing two marks, the lower being engraved on the rock <i>in situ</i> .<br>$\lambda$ 18 1 19.23<br>$L$ 79 7 7.25<br>Nos. 156, 157 | <b>Konápúr Village Temple.</b><br><i>(Hyderabad, Deccan)</i> In táluk Medak.<br>$\lambda$ 18 7 14.3<br>$L$ 78 31 15.8<br>Nos. 86, 87                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Koní Village Flag,</b><br><i>(Hyderabad, Deccan)</i> On tree: in táluk Bhonágír.<br>$\lambda$ 17 48 56<br>$L$ 78 59 52                                                                                                                                                                                                                                                                 |
| <b>Kindarsainguttá h.s.</b><br><i>(Hyderabad, Deccan)</i> On a low hill immediately on the right bank of the Godávarí river, and $2\frac{1}{4}$ miles E. of Raígudiam village, in táluk Kham-ma-met: a paká pillar 1 foot high marks the station.<br>$\lambda$ 17 38 6.12<br>$L$ 80 59 44.50<br>Nos. 302, 303                              | <b>Konápúr Village Tower,</b><br><i>(Hyderabad, Deccan)</i> Flag: in táluk Medak.<br>$\lambda$ 18 7 8.2<br>$L$ 78 31 15.8                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Korávilí Hill Mark.</b><br><i>(Hyderabad, Deccan)</i> A pole surrounded by a pile of stones denotes the site: in táluk Kham-ma-met.<br>$\lambda$ 17 45 7.85<br>$L$ 80 51 44.97<br>Nos. 309, 310                                                                                                                                                                                        |
| <b>Kistnápétt Hill Mark.</b><br><i>(Hyderabad, Deccan)</i> In táluk Rámgr.<br>$\lambda$ 18 54 7.23<br>$L$ 79 44 4.13<br>No. 250                                                                                                                                                                                                            | <b>Konápúram Hill Mark.</b><br><i>(Hyderabad, Deccan)</i> In táluk Ailgandal.<br>$\lambda$ 18 40 49.42<br>$L$ 78 52 18.17<br>Nos. 443, 445                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Korávilí Hill Mark.</b><br><i>(Hyderabad, Deccan)</i> A pole surrounded by a pile of stones denotes the site: in táluk Kham-ma-met.<br>$\lambda$ 17 45 7.85<br>$L$ 80 51 44.97<br>Nos. 309, 310                                                                                                                                                                                        |
| <b>Kodavátúr Hill Building.</b><br><i>(Hyderabad, Deccan)</i> In táluk Bhonágír.<br>$\lambda$ 17 49 36.9<br>$L$ 79 6 12.2<br>Nos. 201, 202                                                                                                                                                                                                 | <b>Kondágúram h.s.</b><br><i>(Upper Godávarí)</i> On a small hill, about 200 yards N.W. of the village of Kondágúram, in thána and tahsil of Bhudráchallam: a paká pillar 1 foot high with two marks, denotes the station, the lower being engraved on the rock <i>in situ</i> .<br>$\lambda$ 17 40 25.96<br>$L$ 81 8 48.13<br>H 233<br>Nos. 315, 316                                                                                                                                                                                        | <b>Kosulpúrmetá h.s.</b><br><i>(Tizagapatam)</i><br>$\lambda$ 17 39 33.55<br>$L$ 82 43 32.66<br>No. 357                                                                                                                                                                                                                                                                                   |

| Name of station, district, description,<br>co-ordinates &c.                                                                          | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                               | Name of station, district, description,<br>co-ordinates &c.                                                                                                  |
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| <p><b>Kotá Hill Mark.</b><br/>(Upper Godávarí) Pole on platform.</p> <p>λ 17 44 40·84<br/>L 81 19 8·62<br/>Nos. 326, 327</p>         | <p><b>Kúknúr Village Tower,</b><br/>(Hyderabad, Deccan) Flag: in táluk Medak.</p> <p>λ 17 55 9·3<br/>L 78 21 56·0<br/>Nos. 68, 69</p>                                                                                                                                                                                                                                                     | <p><b>Lingapúram Temple.</b><br/>(Vizagapatam) On hill near a village so called.</p> <p>λ 17 38 49·9<br/>L 82 38 30·9<br/>No. 360</p>                        |
| <p><b>Kotákotá Fort (heliotrope).</b><br/>(Vizagapatam)</p> <p>λ 17 44 55·82<br/>L 82 44 30·54<br/>No. 356</p>                       | <p><b>Kúlpák s.</b><br/>(Hyderabad, Deccan) On a small hillock immediately adjoining the large village of Kúlpák on the N. W. side, in táluk Bhonágír: denoted by a masonry pillar about 1 foot high containing two mark-stones.</p> <p>λ 17 42 0·24<br/>L 79 4 28·10<br/>Nos. 206, 207</p>                                                                                               | <p><b>Mádápúr Village Flag,</b><br/>(Hyderabad, Deccan) On tree: in táluk Warangal.</p> <p>λ 17 37 4<br/>L 79 24 33</p>                                      |
| <p><b>Kotál h.s.</b><br/>(Hyderabad, Deccan) In táluk Bhonágír.</p> <p>λ 17 42 4·70<br/>L 78 45 44·30<br/>No. 422</p>                | <p><b>Kúlpák Temple.</b><br/>(Hyderabad, Deccan) Spire of brown temple: in táluk Bhonágír.</p> <p>λ 17 41 51·6<br/>L 79 4 30·6</p>                                                                                                                                                                                                                                                        | <p><b>Mádgúl Hill Mark (heliotrope).</b><br/>(Vizagapatam)</p> <p>λ 17 57 24·07<br/>L 82 50 49·27<br/>Nos. 361, 362</p>                                      |
| <p><b>Kothágat Pagoda.</b><br/>(Hyderabad, Deccan) On hill: in táluk Mallángur.</p> <p>λ 18 15 23·4<br/>L 79 22 59·7<br/>No. 426</p> | <p><b>Kúshú h.s.</b><br/>(Hyderabad, Deccan) On the lower of two hills lying close to each other, and N.W. of Pálákurí village. Lachmínáráinpúr village is 2 miles to S.W., in táluk Warangal: the station is denoted by a masonry pillar about 1 foot high having two marks, the lower being engraved on the rock <i>in situ</i>.</p> <p>λ 17 40 27·32<br/>L 79 27 39·88<br/>No. 219</p> | <p><b>Madíkuntá Village Tower,</b><br/>(Hyderabad, Deccan) Flag: in táluk Medak.</p> <p>λ 18 14 38·6<br/>L 78 44 35·0<br/>Nos. 108, 109</p>                  |
| <p><b>Kothákondá Rock.</b><br/>(Hyderabad, Deccan) In táluk Warangal.</p> <p>λ 18 2 44·8<br/>L 79 21 16·8<br/>Nos. 171, 172</p>      | <p><b>Kutkondá s.</b><br/>(Vizagapatam) On a single detached rock on the high water line of the sea having the small village of Népilpáliám close to it, and that of Apíkondá 1 mile to N; a small pagoda is also close to the hill. The station is denoted by a ⊙ engraved on a stone.</p> <p>λ 17 33 59·20<br/>L 83 12 50·94<br/>No. 459</p>                                            | <p><b>Mahádeopúr s.</b><br/>(Hyderabad, Deccan) On staircase of palace: in táluk Rámágír.</p> <p>λ 18 43 43·61<br/>L 80 1 48·68<br/>No. 281</p>              |
| <p><b>Kothápáli Hill Dargáh.</b><br/>(Hyderabad, Deccan) In táluk Bhonágír.</p> <p>λ 17 17 22·3<br/>L 79 7 50·3<br/>No. 418</p>      | <p><b>Lachípúram s.</b><br/>(Hyderabad, Deccan) On the Hyderabad side of the Godávarí river, a short distance N.W. of village of Lachípúram, and about 300 yards E. of that of Simaiágúram, in táluk Kham-ma-met: a paká pillar 1 foot high containing two mark-stones, denotes the station.</p> <p>λ 18 1 24·64<br/>L 80 49 13·13<br/>Nos. 286, 287</p>                                  | <p><b>Mailáram Village Flag,</b><br/>(Hyderabad, Deccan) On tree: in táluk Warangal.</p> <p>λ 17 36 29<br/>L 79 26 44</p>                                    |
| <p><b>Kotúr Village Flag,</b><br/>(Hyderabad, Deccan) On tree: in táluk Kham-ma-met.</p> <p>λ 17 38 24<br/>L 81 2 21</p>             | <p><b>Lachípúram Village Flag,</b><br/>(Hyderabad, Deccan) On tree: in táluk Kham-ma-met.</p> <p>λ 18 1 13<br/>L 80 49 34</p>                                                                                                                                                                                                                                                             | <p><b>Maisamá, VII.</b><br/>(Vide page 5—D.)</p> <p>λ 17 39 9·42<br/>L 78 53 38·18<br/>H 2089<br/>h 2<br/>No. 12</p>                                         |
| <p><b>Kudur Village Flag.</b><br/>(Hyderabad, Deccan) In táluk Mallángur.</p> <p>λ 18 9 37<br/>L 78 56 30</p>                        | <p><b>Lachmínáráinpúr Village Flag,</b><br/>(Hyderabad, Deccan) On tree: in táluk Warangal.</p> <p>λ 17 39 10<br/>L 79 26 32</p>                                                                                                                                                                                                                                                          | <p><b>Makdúmpúr Tower.</b><br/>(Hyderabad, Deccan) Flag on a square tower in village: in táluk Mallángur.</p> <p>λ 18 3 50·8<br/>L 79 2 37·7<br/>No. 166</p> |
| <p><b>Kúknúr Hill Pagoda.</b><br/>(Hyderabad, Deccan) In táluk Medak.</p> <p>λ 17 54 4·3<br/>L 78 23 2·4<br/>No. 77</p>              | <p><b>Lachmínáráinpúr Village Flag,</b><br/>(Hyderabad, Deccan) On tree: in táluk Warangal.</p> <p>λ 17 39 10<br/>L 79 26 32</p>                                                                                                                                                                                                                                                          | <p><b>Maláná, IV.</b><br/>(Vide page 4—D.)</p> <p>λ 18 13 6·56<br/>L 78 43 22·50<br/>H 1938<br/>h 4<br/>Nos. 6, 7</p>                                        |
| <p><b>Kúknúr Village Flag,</b><br/>(Hyderabad, Deccan) On tree: in táluk Kham-ma-met.</p> <p>λ 17 58 40<br/>L 80 55 5</p>            |                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                              |

| Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                                                                               | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                                    |
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| <p><b>Maláná Hill Temple.</b><br/>(Hyderabad, Deccan) In táluk Medak.</p> <p>λ 17 54 4.3<br/>L 78 23 2.2</p>                                                                                                                                                                                                                                                                                                                              | <p><b>Maláwáram, XIX.</b><br/>(Vide page 7—D.)</p> <p>λ 17 52 13.81<br/>L 80 43 24.01<br/>H 1838<br/>h 2<br/>No. 24</p>                                                                                                                                                                                                                                    | <p><b>Mángáloguttá h.s.</b><br/>(Hyderabad, Deccan) On a range of hills, about 1½ miles S.W. of the village of Rámákápett, and the same distance W. of that of Komtípáilí, in pargana and táluk Medak. The station is denoted by a masonry pillar about 1 foot high having two marks, the lower being cut on the rock in <i>sítá</i>.</p> <p>λ 18 6 1.14<br/>L 78 28 14.33<br/>Nos. 78, 79</p> |
| <p><b>Maláná No. 1 h.s.</b><br/>(Hyderabad, Deccan) On a hill rising above the village of Baswápúram, and about 2 miles S.E. of Kúknúr village, in táluk Medak. A masonry pillar about 1 foot high containing two marks, denotes the station; the lower mark is engraved on the rock in <i>sítá</i>.</p> <p>λ 17 54 3.76<br/>L 78 23 2.76<br/>No. 65</p>                                                                                  | <p><b>Malkangirí (heliotrope).</b><br/>(Jaipur).</p> <p>λ 18 21 46.25<br/>L 81 55 43.53<br/>No. 389</p>                                                                                                                                                                                                                                                    | <p><b>Mangampeth Fort,</b><br/>(Hyderabad, Deccan) S.W. angle: in táluk Khamma-met.</p> <p>λ 18 15 7.3<br/>L 80 33 35.6<br/>No. 277</p>                                                                                                                                                                                                                                                        |
| <p><b>Maláná No. 2 h.s.</b><br/>(Hyderabad, Deccan) Is on a low hill so called after the deity to whom it is dedicated; the village of Apánápaílí is 1 mile to N.E., and that of Gondáilí 2 miles to W., in pargana Gajvil, táluk Medak. The station is indicated by a masonry pillar about 1 foot high containing two marks, the lower being cut on the rock in <i>sítá</i>.</p> <p>λ 18 8 21.87<br/>L 78 46 32.90<br/>Nos. 113, 114</p> | <p><b>Malkangirí Rock.</b><br/>(Jaipur)</p> <p>λ 18 25 7.7<br/>L 81 54 8.1<br/>Nos. 340, 341</p>                                                                                                                                                                                                                                                           | <p><b>Mániámkondá Hill Peak.</b><br/>(Jaipur)</p> <p>λ 17 55 47.2<br/>L 81 46 12.9<br/>Nos. 330, 331</p>                                                                                                                                                                                                                                                                                       |
| <p><b>Maláná No. 3 h.s.</b><br/>(Hyderabad, Deccan) On the higher of two low hills, about 1 mile S. of Rámáram village, in táluk Warangal. The station is denoted by a masonry pillar about 1 foot high containing two marks, the lower being engraved on the rock in <i>sítá</i>.</p> <p>λ 18 0 4.26<br/>L 79 10 8.02<br/>Nos. 154, 155</p>                                                                                              | <p><b>Malkánúr Village Tower,</b><br/>(Hyderabad, Deccan) Flag: in táluk Warangal.</p> <p>λ 18 4 58.7<br/>L 79 24 16.3<br/>Nos. 181, 182</p>                                                                                                                                                                                                               | <p><b>Mantáni s.</b><br/>(Hyderabad, Deccan) In fort so called: in táluk Rám-gír.</p> <p>λ 18 39 1.49<br/>L 79 42 18.60<br/>No. 242</p>                                                                                                                                                                                                                                                        |
| <p><b>Malánáguttá Hill Mark.</b><br/>(Hyderabad, Deccan) In táluk Rám-gír.</p> <p>λ 18 45 26.78<br/>L 79 41 48.73<br/>No. 241</p>                                                                                                                                                                                                                                                                                                         | <p><b>Mallángur Battery.</b><br/>(Hyderabad, Deccan) Southernmost battery: in táluk Mallángur.</p> <p>λ 18 18 15.7<br/>L 79 22 26.5<br/>Nos. 427, 428</p>                                                                                                                                                                                                  | <p><b>Margalikondá Hill Tree.</b><br/>(Jaipur)</p> <p>λ 18 2 22.8<br/>L 81 44 4.5<br/>No. 336</p>                                                                                                                                                                                                                                                                                              |
| <p><b>Máláram Village Flag,</b><br/>(Hyderabad, Deccan) On tree: in táluk Warangal.</p> <p>λ 18 1 42<br/>L 79 19 30</p>                                                                                                                                                                                                                                                                                                                   | <p><b>Mallángur h.s.</b><br/>(Hyderabad, Deccan) On a hill on the S.W. side of the fort of Mallángur; the so-called village lies at the southern foot of the hill, in tahsil Urdeunnápott, táluk Mallángur. A masonry pillar 1 foot high marks the station.</p> <p>λ 18 18 15.70<br/>L 79 22 26.57<br/>H 1628<br/>No. 126</p>                              | <p><b>Márikondá Rock.</b><br/>(Hyderabad, Deccan) On the summit of a hill: in táluk Warangal.</p> <p>λ 17 57 42.3<br/>L 79 31 56.0</p>                                                                                                                                                                                                                                                         |
| <p><b>Malárettá Temple,</b><br/>(Hyderabad, Deccan) White: in táluk Medak.</p> <p>λ 18 9 0.9<br/>L 78 30 27.5<br/>No. 89</p>                                                                                                                                                                                                                                                                                                              | <p><b>Mamdápúr Village Flag,</b><br/>(Hyderabad, Deccan) On tree: in táluk Medak.</p> <p>λ 17 56 11<br/>L 78 36 47</p>                                                                                                                                                                                                                                     | <p><b>Márikondá Temple.</b><br/>(Hyderabad, Deccan) In village: in táluk Warangal.</p> <p>λ 17 57 43.1<br/>L 79 32 3.3<br/>Nos. 234, 235</p>                                                                                                                                                                                                                                                   |
| <p><b>Malaupúram Pagoda.</b><br/>(Hyderabad, Deccan) On hill: in táluk Ailgandal.</p> <p>λ 18 58 46.5<br/>L 78 44 1.7<br/>Nos. 455, 456</p>                                                                                                                                                                                                                                                                                               | <p><b>Manakundur Fort.</b><br/>(Hyderabad, Deccan) In táluk Mallángur.</p> <p>λ 18 24 6.1<br/>L 79 13 24.9<br/>No. 433</p>                                                                                                                                                                                                                                 | <p><b>Máripalam House.</b><br/>(Vizagapatam)</p> <p>λ 17 44 22.4<br/>L 83 17 49.8<br/>Nos. 372, 373</p>                                                                                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p><b>Mangalgaddá s.</b><br/>(Hyderabad, Deccan) On rising ground adjoining the site of Gopálpúr village, and 1½ miles S.E. of the village of Cheral, in táluk Rhonágír: denoted by a masonry pillar about 1 foot high having two mark-stones, the lower being cut on the rock in <i>sítá</i>.</p> <p>λ 17 54 35.00<br/>L 79 1 29.53<br/>Nos. 212, 213</p> | <p><b>Márikí, LXVI.*</b><br/>(Vide page 12—D.)</p> <p>λ 18 2 59.06<br/>L 83 6 42.30<br/>H 2107<br/>h 0<br/>No. 54</p>                                                                                                                                                                                                                                                                          |

\* Of the East Coast Series.

| Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                                                     | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                  | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| <p><b>Márki h.s.</b><br/>(<i>Vizagapatam</i>)</p> <p>λ 18 1 54·82<br/>L 83 4 14·66<br/>Nos. 363, 364</p>                                                                                                                                                                                                                                                                                                        | <p><b>Munás, XXXII.</b><br/>(<i>Vide page 10—D.</i>)</p> <p>λ 18 20 27·24<br/>L 82 0 8·19<br/>H 2299<br/>h 2<br/>No. 44</p>                                                                                                                                  | <p><b>Nálábelí h.s.</b><br/>(<i>Upper Goddávri</i>) On a low hill at N. foot of which lies the village of Nálábelí, in táluk Bludráchallam. A paká pillar 1 foot high marks the station.</p> <p>λ 17 53 20·26<br/>L 80 57 57·83<br/>Nos. 290, 291</p>                                                                                                                                                                                                                                |
| <p><b>Medak Mosque.</b><br/>(<i>Hyderabad, Deccan</i>) Centre of building on hill: in táluk Medak.</p> <p>λ 18 2 36·9<br/>L 78 17 49·4<br/>Nos. 61, 62</p>                                                                                                                                                                                                                                                      | <p><b>Múshpatlá h.s.</b><br/>(<i>Hyderabad, Deccan</i>) In táluk Nalgondá.</p> <p>λ 17 24 49·50<br/>L 79 17 18·55<br/>Nos. 402, 403</p>                                                                                                                      | <p><b>Náláguntá Village Flag,</b><br/>(<i>Upper Goddávri</i>) On tree: in táluk Bhadráchallam.</p> <p>λ 17 41 49<br/>L 81 3 36</p>                                                                                                                                                                                                                                                                                                                                                   |
| <p><b>Meppen h.s.</b><br/>(<i>Vizagapatam</i>)</p> <p>λ 17 41 21·83<br/>L 83 19 43·39<br/>No. 371</p>                                                                                                                                                                                                                                                                                                           | <p><b>Mustabad Village Flag,</b><br/>(<i>Hyderabad, Deccan</i>) On tree: in táluk Ailgandal.</p> <p>λ 18 16 30<br/>L 78 45 13</p>                                                                                                                            | <p><b>Náláguttá No. 1 h.s.</b><br/>(<i>Hyderabad, Deccan</i>) On a range of hills, about 1½ miles S. of the village of Ibráhimpatam, and 2 miles S.W. of that of Kondápúram, in pargana Ibráhimpatam, táluk Medak. A pillar with only an upper mark—probably of an old survey station—was found in good preservation. A masonry pillar about 1 foot high with two mark-stones, is now built on the site of the old pillar.</p> <p>λ 18 0 12·93<br/>L 78 34 20·66<br/>Nos. 80, 81</p> |
| <p><b>Metkúr h.s.</b><br/>(<i>Hyderabad, Deccan</i>) On the eastern extremity of a low range of hills running E. and W., about a mile N. of the village of Kondápúr, and 2 miles S. E. of that of Kasípáilí, in táluk Medak. A masonry pillar about 1 foot high with two marks, denotes the station, the lower being cut on the rock <i>in situ</i>.</p> <p>λ 17 59 48·16<br/>L 78 22 40·26<br/>Nos. 63, 64</p> | <p><b>Mutalámáguuttá h.s.</b><br/>(<i>Hyderabad, Deccan</i>) On a hill, about 2½ miles S. of Kondápúram village, in thána Rámangáram, táluk Kham-ma-met. A paká pillar 1 foot high marks the station.</p> <p>λ 17 54 30·14<br/>L 80 48 10·53<br/>No. 288</p> | <p><b>Náláguttá No. 2 h.s.</b><br/>(<i>Hyderabad, Deccan</i>) On a hill, about 1 mile S. E. of the village of Irkúr, and 3 miles N.W. of that of Tadkápáilí, in pargana Gujvil, táluk Medak. Denoted by a masonry pillar about 1 foot high containing two marks, the lower being engraved on the rock <i>in situ</i>.</p> <p>λ 18 5 34·87<br/>L 78 49 43·27<br/>Nos. 120, 121</p>                                                                                                    |
| <p><b>Midí Kondá Hill Mark.</b><br/>(<i>Hyderabad, Deccan</i>) A pole surrounded by a pile of stones denotes the site: in táluk Warangal.</p> <p>λ 17 48 37·01<br/>L 79 20 25·55<br/>Nos. 217, 218</p>                                                                                                                                                                                                          | <p><b>Nágáram Flag,</b><br/>(<i>Hyderabad, Deccan</i>) On tree: in táluk Rámgr.</p> <p>λ 18 21 5<br/>L 80 28 38<br/>No. 279</p>                                                                                                                              | <p><b>Nalá Kondá, XL.</b><br/>(<i>Vide page 11—D.</i>)</p> <p>λ 17 44 7·74<br/>L 82 48 22·93<br/>H 1604<br/>h <i>Not forthcoming</i><br/>No. 51</p>                                                                                                                                                                                                                                                                                                                                  |
| <p><b>Motkur Pagoda.</b><br/>(<i>Hyderabad, Deccan</i>) In táluk Nalgondá.</p> <p>λ 17 27 52·5<br/>L 79 18 39·7<br/>Nos. 413, 414</p>                                                                                                                                                                                                                                                                           | <p><b>Nágáram Temple.</b><br/>(<i>Hyderabad, Deccan</i>) In táluk Bhonággr.</p> <p>λ 17 51 33·5<br/>L 79 6 25·1<br/>No. 214</p>                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <p><b>Mubárahánpett Turret.</b><br/>(<i>Hyderabad, Deccan</i>) Square turret on hill: in táluk Medak.</p> <p>λ 17 57 46·0<br/>L 78 38 50·0</p>                                                                                                                                                                                                                                                                  | <p><b>Nágáredípáilí Village Tower.</b><br/>(<i>Hyderabad, Deccan</i>) In táluk Bhonággr.</p> <p>λ 17 50 31·9<br/>L 79 0 29·8<br/>No. 205</p>                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <p><b>Muláswámí Hill Pagoda.</b><br/>(<i>Hyderabad, Deccan</i>) In táluk Nalgondá.</p> <p>λ 17 12 2·5<br/>L 79 12 50·1<br/>No. 399</p>                                                                                                                                                                                                                                                                          | <p><b>Nágulábandá Pagoda.</b><br/>(<i>Hyderabad, Deccan</i>) In táluk Nalgondá.</p> <p>λ 17 21 56·5<br/>L 79 16 48·8</p>                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <p><b>Múlkalápaílí Village Flag,</b><br/>(<i>Hyderabad, Deccan</i>) On tree: in táluk Bhonággr.</p> <p>λ 17 38 16<br/>L 78 52 18</p>                                                                                                                                                                                                                                                                            | <p><b>Naian Jalálpúr Village Flag,</b><br/>(<i>Hyderabad, Deccan</i>) On tree: in táluk Medak.</p> <p>λ 17 56 54<br/>L 78 18 11</p>                                                                                                                          | <p><b>Nángánúr Village Tower,</b><br/>(<i>Hyderabad, Deccan</i>) Flag: in táluk Mallángur.</p> <p>λ 18 3 44·7<br/>L 79 4 49·8<br/>No. 165</p>                                                                                                                                                                                                                                                                                                                                        |



| Name of station, district, description, co-ordinates &c.                                                                                                                                                                                                                                                                                                            | Name of station, district, description, co-ordinates &c.                                                                                                                                                                                                                                                                                                                                             | Name of station, district, description, co-ordinates &c.                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| <p><b>Narákondá, XXV.</b><br/>(<i>Vide page 8—D.</i>)</p> <p>λ 17 50 38'00<br/>L 81 13 31'40<br/>H 1679<br/>h 2<br/>No. 28</p>                                                                                                                                                                                                                                      | <p><b>Niládirámí h.s.</b><br/>(<i>Hyderabad, Deccan</i>) On a small hill, about half a mile S.E. of the village of Ráilápúr, and 1 mile S.W. of that of Bathrázpaúli, in pargana Tupren, táluk Medak. The station is indicated by a masonry pillar about 1 foot high containing two marks, the lower being cut on the rock <i>in situ</i>.</p> <p>λ 18 5 28'24<br/>L 78 32 31'03<br/>Nos. 82, 83</p> | <p><b>Pamánur Pagoda.</b><br/>(<i>Hyderabad, Deccan</i>) N. of the Godávarí river: in táluk Ráungir.</p> <p>λ 18 41 36'5<br/>L 79 42 51'0<br/>No. 245</p>                                                                                                                                                                                                                                                                                                                                                |
| <p><b>Narsímulá h.s.</b><br/>(<i>Hyderabad, Deccan</i>) On a rocky hill, about 2 miles E. of Valer village, and 2½ miles of Yarábalí village, in táluk Warangal. The station is indicated by a masonry pillar about 1 foot high having two marks, the lower being engraved on the rock <i>in situ</i>.</p> <p>λ 17 59 43'04<br/>L 79 24 20'85<br/>Nos. 173, 174</p> | <p><b>Nilíguttá h.s.</b><br/>(<i>Hyderabad, Deccan</i>) On a hill, nearly 1 mile N.E. of the village of Bopápúr, and 2 miles S. of that of Ákaram, in pargana Gujvil, táluk Medak. Denoted by a masonry pillar about 1 foot high having two marks, the lower being engraved on the rock <i>in situ</i>.</p> <p>λ 18 10 37'20<br/>L 78 38 16'30<br/>No. 106</p>                                       | <p><b>Páunchá, XXXI.</b><br/>(<i>Vide page 9—D.</i>)</p> <p>λ 18 4 19'42<br/>L 81 57 58'67<br/>H 3580<br/>h 2<br/>No. 39</p>                                                                                                                                                                                                                                                                                                                                                                             |
| <p><b>Nársímúlguttá h.s.</b><br/>(<i>Hyderabad, Deccan</i>) On a small hill at foot of which lies the village of Sanígáram, in táluk Ailgandal. Denoted by a masonry pillar 1 foot high containing two marks, the lower being engraved on the rock <i>in situ</i>.</p> <p>λ 18 10 57'13<br/>L 79 3 40'62<br/>Nos. 133, 134</p>                                      | <p><b>Nilípák Village Flag,</b><br/>(<i>Hyderabad, Deccan</i>) On tree: in táluk Kham-ma-met.</p> <p>λ 17 39 25<br/>L 81 2 43</p>                                                                                                                                                                                                                                                                    | <p><b>Páunchdarlá, XLIII.</b><br/>(<i>Vide page 12—D.</i>)</p> <p>λ 17 35 2'35<br/>L 83 0 22'74<br/>H 932<br/>h 2<br/>No. 57</p>                                                                                                                                                                                                                                                                                                                                                                         |
| <p><b>Narsingpett Mosque.</b><br/>(<i>Hyderabad, Deccan</i>) In táluk Medak.</p> <p>λ 18 2 37'2<br/>L 78 27 58'9<br/>No. 75</p>                                                                                                                                                                                                                                     | <p><b>Opadá h.s.</b><br/>(<i>Visagapatam</i>) On a broad hill, about a mile from the sea coast, having the village so called at its foot. It is denoted by a pillar 4 feet high.</p> <p>λ 17 50 4'85<br/>L 83 26 45'41<br/>No. 484</p>                                                                                                                                                               | <p><b>Páunchdarlá h.s.</b><br/>(<i>Visagapatam</i>) On the S.W. extremity of a range of hills about 5 miles in length running N.E. and S.W.; the village of Páunchdarlá is at the S.E. foot of the hill.</p> <p>λ 17 31 58'10<br/>L 82 57 15'62<br/>No. 462</p>                                                                                                                                                                                                                                          |
| <p><b>Narsipatam Hospital,</b><br/>(<i>Visagapatam</i>) N.E. angle.</p> <p>λ 17 40 17'8<br/>L 82 39 14'1<br/>Nos. 358, 359</p>                                                                                                                                                                                                                                      | <p><b>Opadá Staff.</b><br/>(<i>Visagapatam</i>)</p> <p>λ 17 50 58'9<br/>L 83 27 22'8<br/>Nos. 491, 492</p>                                                                                                                                                                                                                                                                                           | <p><b>Páunch Pandol, XVII.</b><br/>(<i>Vide page 7—D.</i>)</p> <p>λ 17 47 16'07<br/>L 80 17 46'77<br/>H 2394<br/>h 1<br/>Nos. 16, 23</p>                                                                                                                                                                                                                                                                                                                                                                 |
| <p><b>Narsiwelpett Hill Pagoda.</b><br/>(<i>Hyderabad, Deccan</i>) In táluk Kham-ma-met.</p> <p>λ 17 30 41'1<br/>L 79 49 58'5<br/>Nos. 271, 272</p>                                                                                                                                                                                                                 | <p><b>Opalam Village Pagoda.</b><br/>(<i>Visagapatam</i>) On a small hill near a village so called.</p> <p>λ 17 25 17'0<br/>L 82 50 21'9<br/>Nos. 479, 480</p>                                                                                                                                                                                                                                       | <p><b>Páunch Pandol h.s.</b><br/>(<i>Hyderabad, Deccan</i>) Is one of Colonel Lambton's principal stations, on the highest part of an immense range of mountains of clay-slate formation, about 6 miles W. from the village of Komáráram, and 4 miles S.W. from that of Chetupáli, in táluk Kham-ma-met. The station is denoted by a platform built on an extensive flat having in its centre a stone with a ☉ engraved thereon.</p> <p>λ 17 45 54'40<br/>L 80 17 56'84<br/>H 2435<br/>Nos. 255, 256</p> |
| <p><b>Narsulá, II.</b><br/>(<i>Vide page 4—D.</i>)</p> <p>λ 17 58 20'31<br/>L 78 17 37'41<br/>H 1973<br/>h 1<br/>No. 1</p>                                                                                                                                                                                                                                          | <p><b>Pálámoklá Village Tower,</b><br/>(<i>Hyderabad, Deccan</i>) Square: in táluk Mallángur.</p> <p>λ 18 5 39<br/>L 79 0 21</p>                                                                                                                                                                                                                                                                     | <p><b>Pándáwálá, XXXVII.</b><br/>(<i>Vide page 10—D.</i>)</p> <p>λ 17 40 55'01<br/>L 82 15 42'16<br/>H 2657<br/>h 2<br/>No. 49</p>                                                                                                                                                                                                                                                                                                                                                                       |
| <p><b>Nellibandá Hill Pagoda.</b><br/>(<i>Hyderabad, Deccan</i>) In táluk Nalgondá.</p> <p>λ 17 11 10'1<br/>L 79 27 18'1<br/>Nos. 404, 405</p>                                                                                                                                                                                                                      | <p><b>Pálunchá, XXI.</b><br/>(<i>Vide page 7—D.</i>)</p> <p>λ 17 34 31'27<br/>L 80 46 6'72<br/>H 1183<br/>h 2<br/>No. 30</p>                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Name of station, district, description, co-ordinates &c.                                                                                                                                                                                                                                                                                                                                                                                                 | Name of station, district, description, co-ordinates &c.                                                                                                                                                                                                                                                                                                            | Name of station, district, description, co-ordinates &c.                                                                                                                                                                                                                                                                                                                                                                  |
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| <p><b>Pandolmargú s.</b><br/>(Hyderabad, Deccan) On a ridge of high ground, running in a northeasterly direction, at 1½ miles from the small village of Lingáredípailí, and 1 mile S. of that of Másanpailí, in pargana Grajvil, táluk Medak. A masonry pillar about 1 foot high with two mark-stones imbedded therein, denotes the station, the lower being engraved on the rock <i>in situ</i>.</p> <p>λ 17 54 27·18<br/>L 78 41 30·38<br/>Nos. 93</p> | <p><b>Pedákkondá, XXX.</b><br/>(Vide page 9—D.)</p> <p>λ 17 50 23·40<br/>L 81 48 56·56<br/>H 4466<br/>h 3<br/>Nos. 86, 88</p>                                                                                                                                                                                                                                       | <p><b>Podichaid Pagoda.</b><br/>(Hyderabad, Deccan) In táluk Nalgondá.</p> <p>λ 17 21 54·5<br/>L 79 18 42·2<br/>Nos. 409, 410</p>                                                                                                                                                                                                                                                                                         |
| <p><b>Pangirí h.s.</b><br/>(Hyderabad, Deccan) On a low hill, about 1½ miles W. of Málárám village, and 1½ miles E. by S. of Kat-kúr village, in táluk Warangal. Denoted by a masonry pillar about 1 foot high containing two marks, the lower being engraved on the rock <i>in situ</i>.</p> <p>λ 18 1 43·84<br/>L 79 18 13·69<br/>Nos. 150, 151</p>                                                                                                    | <p><b>Pedákkondá h.s.</b><br/>(Vizagapatam) On the S. W. extremity of a range of hills running N. E. to S. W. about 1½ miles in length; the large village of Nadpúr is to S. and that of Desípathedupálám to N. W. The station is denoted by a stone imbedded in the ground with a ⊙ engraved thereon.</p> <p>λ 17 37 18·07<br/>L 83 10 38·03<br/>Nos. 471, 472</p> | <p><b>Pogalkondá Hill Mark.</b><br/>(Hyderabad, Deccan) A pole surrounded by a pile of stones denotes the site: in táluk Nalgondá.</p> <p>λ 17 32 43·59<br/>L 79 28 21·29<br/>Nos. 222, 223</p>                                                                                                                                                                                                                           |
| <p><b>Pankábandá Building.</b><br/>(Hyderabad, Deccan) Or Mantápam: in táluk Bho-nágir.</p> <p>λ 17 25 51·1<br/>L 79 13 51·9<br/>Nos. 415</p>                                                                                                                                                                                                                                                                                                            | <p><b>Pedákkondá No. 2 h.s.</b><br/>(Vizagapatam) On the eastern extremity of a high range of hills, N. of Málákkondá village; the high road from Vizagapatam to Barhampúr passes 1 mile to E. It is denoted by a pillar 2 feet high.</p> <p>λ 17 50 59·70<br/>L 83 22 36·71<br/>Nos. 483</p>                                                                       | <p><b>Pointed Rock.</b><br/>(Vizagapatam) In the sea.</p> <p>λ 17 28 54·5<br/>L 83 3 8·1<br/>Nos. 475, 476</p>                                                                                                                                                                                                                                                                                                            |
| <p><b>Pápkondá, XXVIII.</b><br/>(Vide page 9—D.)</p> <p>λ 17 34 50·82<br/>L 81 36 8·48<br/>H 2708<br/>h 2<br/>Nos. 37</p>                                                                                                                                                                                                                                                                                                                                | <p><b>Pedáppálí s.</b><br/>(Hyderabad, Deccan) In táluk Rámngír.</p> <p>λ 18 36 44·26<br/>L 79 24 54·75<br/>Nos. 442, 443</p>                                                                                                                                                                                                                                       | <p><b>Poláram s.</b><br/>(Vizagapatam) On a single detached rock on the high water line of the sea; to N. W. is the village of Poláram, and to W., on a rocky height, a bungalow. The station is denoted by a small pillar and a ⊙ engraved on the rock <i>in situ</i>.</p> <p>λ 17 23 37·62<br/>L 82 51 38·52<br/>Nos. 468</p>                                                                                           |
| <p><b>Pargandi Hill Mark.</b><br/>(Hyderabad, Deccan) In táluk Rámngír.</p> <p>λ 18 37 10·32<br/>L 79 45 49·57<br/>Nos. 243</p>                                                                                                                                                                                                                                                                                                                          | <p><b>Pedápúram Hill Temple.</b><br/>(Hyderabad, Deccan) In táluk Warangal.</p> <p>λ 18 1 9·1<br/>L 79 45 40·0<br/>Nos. 288</p>                                                                                                                                                                                                                                     | <p><b>Porandlá h.s.</b><br/>(Hyderabad, Deccan) Is one of Colonel Lambton's principal stations, on a hill about 2 miles S.E. from the town of Manakundúr, and 8 miles N.W. from the fort-ress of Mallángur, the village of Porandlá being ¼ a mile from the foot of the hill, on the S. side. The station is marked by a flat rock on the summit.</p> <p>λ 18 22 17·14<br/>L 79 14 52·90<br/>H 1540<br/>Nos. 388, 389</p> |
| <p><b>Parnasálá Village Flag,</b><br/>(Hyderabad, Deccan) On tree: in táluk Kham-ma-met.</p> <p>λ 17 55 47<br/>L 80 56 22</p>                                                                                                                                                                                                                                                                                                                            | <p><b>Periaimallá Hill Mark.</b><br/>(Hyderabad, Deccan) In táluk Rámngír.</p> <p>λ 19 2 44·16<br/>L 79 17 41·02<br/>Nos. 454</p>                                                                                                                                                                                                                                   | <p><b>Potharám Village Flag,</b><br/>(Hyderabad, Deccan) On tree: in táluk Warangal.</p> <p>λ 18 1 46<br/>L 79 10 2</p>                                                                                                                                                                                                                                                                                                   |
| <p><b>Partábgirí, XVI.</b><br/>(Vide page 7—D.)</p> <p>λ 18 38 19·29<br/>L 80 2 48·36<br/>H 1440<br/>h 8<br/>Nos. 18</p>                                                                                                                                                                                                                                                                                                                                 | <p><b>Pirmulo, V.</b><br/>(Vide page 5—D.)</p> <p>λ 17 53 2·95<br/>L 78 38 18·16<br/>H 2093<br/>h 1<br/>Nos. 5</p>                                                                                                                                                                                                                                                  | <p><b>Pothkondá, XLIV.</b><br/>(Vide page 12—D.)</p> <p>λ 17 48 8·70<br/>L 83 4 38·37<br/>H 1948<br/>h Not forthcoming<br/>Nos. 53, 58</p>                                                                                                                                                                                                                                                                                |
| <p><b>Patícherá Village Flag,</b><br/>(Upper Godávárí) On tree: in táluk Bhadráchal-lam.</p> <p>λ 17 42 31<br/>L 81 5 32</p>                                                                                                                                                                                                                                                                                                                             | <p><b>Písará Village Flag,</b><br/>(Hyderabad, Deccan) On tree: in táluk Warangal.</p> <p>λ 17 58 11<br/>L 79 20 22</p>                                                                                                                                                                                                                                             | <p><b>Pothredípailí Village Flag,</b><br/>(Hyderabad, Deccan) On tree: in táluk Bho-nágir.</p> <p>λ 17 52 50<br/>L 78 57 53</p>                                                                                                                                                                                                                                                                                           |

| Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                       | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                          | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                                               |
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| <b>Ráhjampett Fort,</b><br>(Hyderabad, Deccan) W. gateway: in táluk Medak.<br>$\lambda$ 18 15 36.3<br>$L$ 78 22 28.3                                                                                                                              | <b>Rámachágullá Temple.</b><br>(Hyderabad, Deccan) Spire of northernmost and highest of five temples: in táluk Ailgandal.<br>$\lambda$ 18 15 12.3<br>$L$ 79 6 1.7<br>No. 141                                                                                                                                                                                         | <b>Rámگیر s.</b><br>(Hyderabad, Deccan) On mosque: in táluk Rámگیر.<br>$\lambda$ 18 34 41.75<br>$L$ 79 35 32.12<br>Nos. 246, 247                                                                                                                                                                                                                                                                          |
| <b>Ráilápúr Village Tower,</b><br>(Hyderabad, Deccan) Flag: in táluk Medak.<br>$\lambda$ 18 5 59.6<br>$L$ 78 32 17.2<br>Nos. 84, 85                                                                                                               | <b>Rámarám s.</b><br>(Hyderabad, Deccan) On the south-eastern bastion of a ruined stone fort in the village so called, in pargana Gajvil, táluk Medak. A small masonry pillar with upper and lower mark-stones 6 inches apart, denotes the station.<br>$\lambda$ 17 54 47.76<br>$L$ 78 37 45.26<br>No. 92                                                            | <b>Rám Madágu Hill Mark.</b><br>(Hyderabad, Deccan) In táluk Ailgandal.<br>$\lambda$ 18 34 34.77<br>$L$ 79 7 6.23<br>Nos. 437, 438                                                                                                                                                                                                                                                                        |
| <b>Raipúl Village Flag,</b><br>(Hyderabad, Deccan) On tree: in táluk Medak.<br>$\lambda$ 17 56 1<br>$L$ 78 40 13                                                                                                                                  | <b>Rámarám Village Flag,</b><br>(Hyderabad, Deccan) On tree: in táluk Warangal.<br>$\lambda$ 18 1 10<br>$L$ 79 10 24                                                                                                                                                                                                                                                 | <b>Rámpúram Village Flag,</b><br>(Hyderabad, Deccan) On tree: in táluk Mallángur.<br>$\lambda$ 18 5 4<br>$L$ 79 3 37                                                                                                                                                                                                                                                                                      |
| <b>Rájáguttá, XXIV.</b><br>(Vide page 8—D.)<br>$\lambda$ 17 29 52.36<br>$L$ 81 3 6.07<br>$H$ 2190<br>$h$ 2<br>No. 82                                                                                                                              | <b>Rámáreddípett Fort,</b><br>(Hyderabad, Deccan) S.E. angle.<br>$\lambda$ 18 24 39.5<br>$L$ 78 24 31.2                                                                                                                                                                                                                                                              | <b>Rárganáikullú Hill Temple.</b><br>(Hyderabad, Deccan) In táluk Mallángur.<br>$\lambda$ 18 10 2.4<br>$L$ 78 53 57.7                                                                                                                                                                                                                                                                                     |
| <b>Rájápett Palace.</b><br>(Hyderabad, Deccan) In fort so called: in táluk Bhonágír.<br>$\lambda$ 17 43 59.0<br>$L$ 78 57 25.7<br>No. 421                                                                                                         | <b>Rámáságar Village Tower,</b><br>(Hyderabad, Deccan) Flag: in táluk Medak.<br>$\lambda$ 17 53 47.8<br>$L$ 78 39 36.5<br>Nos. 101, 102                                                                                                                                                                                                                              | <b>Rárganáikullú No. 1 h.s.</b><br>(Hyderabad, Deccan) On a low rocky hill, about $\frac{1}{2}$ a mile W. of Sandalápúram village, in pargana Gajvil, táluk Mallángur. It is denoted by a masonry pillar 1 foot high containing two marks, the lower being engraved on the rock <i>in situ</i> .<br>$\lambda$ 18 10 3.08<br>$L$ 78 54 0.89<br>Nos. 111, 112                                               |
| <b>Rájápett Village Flag,</b><br>(Hyderabad, Deccan) On tree: in táluk Bhonágír.<br>$\lambda$ 17 43 57<br>$L$ 78 57 29                                                                                                                            | <b>Rámbhil h.s.</b><br>(Vizagapatam) On a moderately high hill on the sea coast, surrounded by a number of lower ones; the small village of Gajeredipalám is quite close to N.E., and that of Rámbhil a short distance to W. The station is denoted by a $\odot$ cut on a stone imbedded in the ground.<br>$\lambda$ 17 27 20.24<br>$L$ 82 59 20.81<br>Nos. 463, 464 | <b>Rárganáikullú No. 2 h.s.</b><br>(Hyderabad, Deccan) On a small rocky eminence, about $1\frac{1}{2}$ miles E. by S. of Nángánúr village, and 2 miles S. of Akanápaillí village, in táluk Mallángur. The station is denoted by a masonry pillar about 1 foot high containing two marks, the lower being engraved on the rock <i>in situ</i> .<br>$\lambda$ 18 3 16.01<br>$L$ 79 6 38.97<br>Nos. 158, 159 |
| <b>Rajenáguttá s.</b><br>(Hyderabad, Deccan) In táluk Rámگیر.<br>$\lambda$ 18 19 33.85<br>$L$ 80 24 25.21<br>No. 276                                                                                                                              | <b>Rámbudrá Hill Pagoda.</b><br>(Hyderabad, Deccan) In táluk Ailgandal.<br>$\lambda$ 18 51 30.7<br>$L$ 78 37 5.7                                                                                                                                                                                                                                                     | <b>Rángásháhipett Hill Mark.</b><br>(Hyderabad, Deccan) In táluk Warangal.<br>$\lambda$ 17 56 53.29<br>$L$ 79 36 42.18<br>Nos. 230, 231                                                                                                                                                                                                                                                                   |
| <b>Rájipetá h.s.</b><br>(Vizagapatam) On a sand height on the high water line of the sea, about a mile S.E. of Rájipetá village. The station is denoted by a picket driven into the ground.<br>$\lambda$ 17 21 10.29<br>$L$ 82 46 0.28<br>No. 470 | <b>Ramenagudiam Tree.</b><br>(Upper Godávart) In táluk Nugur.<br>$\lambda$ 18 19 11.3<br>$L$ 80 29 51.8<br>No. 278                                                                                                                                                                                                                                                   | <b>Rápák, XXVI.</b><br>(Vide page 8—D.)<br>$\lambda$ 17 39 17.88<br>$L$ 81 17 10.14<br>$H$ 1992<br>$h$ 2<br>Nos. 29, 33                                                                                                                                                                                                                                                                                   |
| <b>Rájpett Village Flag,</b><br>(Hyderabad, Deccan) On tree: in táluk Bhonágír.<br>$\lambda$ 17 53 15<br>$L$ 78 57 5                                                                                                                              | <b>Rámگیر, XIV.</b><br>(Vide page 6—D.)<br>$\lambda$ 18 35 26.12<br>$L$ 79 34 9.54<br>$H$ 1779<br>$h$ 8<br>Nos. 17, 23                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Rámákápett Village Flag.</b><br>(Hyderabad, Deccan) In táluk Medak.<br>$\lambda$ 18 6 59.<br>$L$ 78 28 54                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                           |

| Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                                                                         | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                          | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                  |
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| <p>Ratanguttá h.s.<br/>(Hyderabad, Deccan) On a hill; about 1½ miles N.W. of the village of Ráigúram to which it appertains, in thána Rámanjáram, táluk Kham-ma-met. A paká pillar 1 foot high with two marks imbedded therein, denotes the station.</p> <p>λ 17 56 29·60<br/>L 80 54 19·28<br/>Nos. 284, 285</p>                                                                                                                   | <p>Sanigáram Village Flag.<br/>(Hyderabad, Deccan) In táluk Ailgandal.</p> <p>λ 18 11 34<br/>L 79 3 31</p>                                                                                                                                                                                                                                           | <p>Semachilem h.s.<br/>(Vizagapatam) On a peak of the Semachilem range of hills.</p> <p>λ 17 45 52·78<br/>L 83 18 31·49<br/>No. 481</p>                                                                                                                                                                      |
| <p>Ravalápád Village Tower.<br/>(Hyderabad, Deccan) In táluk Ailgandal.</p> <p>λ 18 12 23·6<br/>L 79 3 1·4<br/>No. 139</p>                                                                                                                                                                                                                                                                                                          | <p>Sánjib, XLI.<br/>(Vide page 11—D.)</p> <p>λ 17 31 18·68<br/>L 82 43 51·48<br/>H 2142<br/>h 2<br/>No. 56</p>                                                                                                                                                                                                                                       | <p>Seváráná h.s.<br/>(Hyderabad, Deccan) On a low ridge, about 2½ miles S. of the village Málárám, in táluk Warangal. It is denoted by a masonry pillar about 1 foot high having two marks, the lower being engraved on the rock in <i>sítá</i>.</p> <p>λ 17 59 37·18<br/>H 79 19 2·16<br/>Nos. 148, 149</p> |
| <p>Reddípett Fort,<br/>(Hyderabad, Deccan) White turret, S.W. angle.</p> <p>λ 18 24 58·5<br/>L 78 27 46·1</p>                                                                                                                                                                                                                                                                                                                       | <p>Sáralá h.s.<br/>(Hyderabad, Deccan) On a high hill of bare rock, about 3 miles to N. of Málárám village which is nearest to it, in táluk Warangal. The station is denoted by a masonry pillar about 1 foot high having two marks, the lower being engraved on the rock in <i>sítá</i>.</p> <p>λ 18 4 5·40<br/>L 79 20 17·86<br/>Nos. 167, 168</p> | <p>Shaiámápett Hill Mark.<br/>(Hyderabad, Deccan) In táluk Warangal.</p> <p>λ 18 7 55·28<br/>L 79 46 19·70<br/>No. 259</p>                                                                                                                                                                                   |
| <p>Redíguttá h.s.<br/>(Hyderabad, Deccan) On a hill, about 1 mile S.E. of Singáram village, in táluk Bhonágír. The station does not occupy the highest part of the hill as the hill is crowned by a large inaccessible basaltic rock. The station is denoted by a masonry pillar 1 foot high containing two marks, the lower being engraved on the rock in <i>sítá</i>.</p> <p>λ 17 47 45·29<br/>L 78 55 0·01<br/>Nos. 188, 184</p> | <p>Sea Coast Staff No. 1.<br/>(Vizagapatam)</p> <p>λ 17 36 25·5<br/>L 83 16 20·0</p>                                                                                                                                                                                                                                                                 | <p>Sháripáli Turret.<br/>(Hyderabad, Deccan) In táluk Medak.</p> <p>λ 17 55 57·8<br/>L 78 44 4·8</p>                                                                                                                                                                                                         |
| <p>Renkuntá h.s.<br/>(Hyderabad, Deccan) On a hill, about 1 mile W. of the village of the same name, and 2 miles S.W. of the large village of Rájápett, in kasbá and táluk Bhonágír. It is denoted by a masonry pillar about 1 foot high having two marks, the lower being cut on the rock in <i>sítá</i>.</p> <p>λ 17 42 56·81<br/>L 78 56 24·05<br/>Nos. 188, 189</p>                                                             | <p>Sea Coast Staff No. 2.<br/>(Vizagapatam)</p> <p>λ 17 35 40·2<br/>L 83 15 25·2</p>                                                                                                                                                                                                                                                                 | <p>Shigúrpáli High Stone,<br/>(Hyderabad, Deccan) Or remarkable rock: in táluk Bhonágír.</p> <p>λ 17 48 11·5<br/>L 78 45 33·6<br/>No. 424</p>                                                                                                                                                                |
| <p>Rusi h.s.<br/>(Vizagapatam) On a conical, detached hill on the sea coast, about 4 or 5 miles N. of the town of Vizagapatam: at the foot of the hill is a Chataram, a building for travellers.</p> <p>λ 17 46 40·38<br/>L 83 25 30·62<br/>No. 482</p>                                                                                                                                                                             | <p>Sea Coast Staff No. 3.<br/>(Vizagapatam)</p> <p>λ 17 32 48·3<br/>L 83 9 10·4</p>                                                                                                                                                                                                                                                                  | <p>Shilkaugat Hill Mark.<br/>(Hyderabad, Deccan) In táluk Warangal.</p> <p>λ 17 56 16·98<br/>L 80 2 46·60<br/>Nos. 260, 261</p>                                                                                                                                                                              |
| <p>Salákpúr Village Flag,<br/>(Hyderabad, Deccan) On tree: in táluk Bhonágír.</p> <p>λ 17 53 10<br/>L 79 4 19</p>                                                                                                                                                                                                                                                                                                                   | <p>Sea Coast Staff No. 4.<br/>(Vizagapatam)</p> <p>λ 17 31 37·1<br/>L 83 6 40·2</p>                                                                                                                                                                                                                                                                  | <p>Sidenghi Hill Building,<br/>(Hyderabad, Deccan) Centre: in táluk Bhonágír.</p> <p>λ 17 42 46·0<br/>L 79 7 5·6<br/>Nos. 210, 211</p>                                                                                                                                                                       |
| <p>Salurgat Mark.<br/>(Hyderabad, Deccan) On hill: in táluk Mallángur.</p> <p>λ 18 24 50·04<br/>L 79 24 15·83<br/>Nos. 429, 430</p>                                                                                                                                                                                                                                                                                                 | <p>Sea Coast Staff No. 5.<br/>(Vizagapatam)</p> <p>λ 17 28 29·4<br/>L 83 2 15·2</p>                                                                                                                                                                                                                                                                  | <p>Sidípett Flag,<br/>(Hyderabad, Deccan) On tree in village: in táluk Mallángur.</p> <p>λ 18 6 9<br/>L 78 53 16</p>                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p>Sea Coast Staff No. 6.<br/>(Vizagapatam)</p> <p>λ 17 22 26·5<br/>L 82 48 38·5</p> <p>Sea Coast Staff No. 7.<br/>(Vizagapatam)</p> <p>λ 17 49 0·2<br/>L 83 27 2·0<br/>Nos. 489, 490</p>                                                                                                                                                            | <p>Sígandlápúram Tower.<br/>(Hyderabad, Deccan) Centre of easternmost of two round towers of village so called: in táluk Ailgandal.</p> <p>λ 18 7 29·8<br/>L 79 1 11·7<br/>No. 136</p>                                                                                                                       |

| Name of station, district, description, co-ordinates &c.                                                                                         | Name of station, district, description, co-ordinates &c.                                                                                                                                                                                                                                                                                                                                                                                                                                         | Name of station, district, description, co-ordinates &c.                                                                                                                                                                                                                                                                                                                                                   |
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| <p><b>Singánámá, XXIX.</b><br/>(<i>Vide page 9—D.</i>)</p> <p>o ' "</p> <p>λ 18 4 22'28<br/>L 81 35 8'46<br/>H 1566<br/>h 3<br/>No. 85</p>       | <p><b>Tangúlpailí Village Tower.</b><br/>(<i>Hyderabad, Deccan</i>) Centre of square tower: in taluk Ailgandal.</p> <p>o ' "</p> <p>λ 18 11 5'7<br/>L 79 5 39'8<br/>No. 140</p>                                                                                                                                                                                                                                                                                                                  | <p><b>Timápúram Hill Tree.</b><br/>(<i>Hyderabad, Deccan</i>) In taluk Warangal.</p> <p>o ' "</p> <p>λ 18 2 9<br/>L 80 2 16</p>                                                                                                                                                                                                                                                                            |
| <p><b>Singáwáram, XXIII.</b><br/>(<i>Vide page 8—D.</i>)</p> <p>λ 17 45 10'38<br/>L 80 58 36'22<br/>H 714<br/>h 4<br/>Nos. 27, 31</p>            | <p><b>Tátláwayá h.s.</b><br/>(<i>Hyderabad, Deccan</i>) Is one of Colonel Lambton's principal stations, in taluk Ailgandal. On a great mass of hills, about 3 miles S. of the Godávárí, and the same distance N. and E.S.E. of the villages of Sárangápúram and Tátláwayá respectively. The station is denoted by a platform having mark-stones at top and bottom.</p> <p>λ 18 58 53'49<br/>L 78 58 31'82<br/>H 1680<br/>No. 398</p>                                                             | <p><b>Timidal Hill Mark.</b><br/>(<i>Vizagapatam</i>)</p> <p>λ 17 42 1'59<br/>L 83 18 38'65<br/>Nos. 374, 375</p>                                                                                                                                                                                                                                                                                          |
| <p><b>Sironcha Fort,</b><br/>(<i>Upper Godávárí</i>) Flag.</p> <p>λ 18 51 7'3<br/>L 80 0 0'2<br/>No. 254</p>                                     | <p><b>Telikuntá Hill Mark.</b><br/>(<i>Hyderabad, Deccan</i>) In taluk Ailgandal.</p> <p>λ 18 35 34'86<br/>L 79 15 26'01<br/>No. 441</p>                                                                                                                                                                                                                                                                                                                                                         | <p><b>Tirmalápúr h.s.</b><br/>(<i>Hyderabad, Deccan</i>) On a range of hills, 1 mile to S.E. of the village so called, and the same distance N. of Vásalámári village, in kasbá Wúdámári, taluk Bhonágír. The station is indicated by a small masonry pillar 1 foot high containing two marks, the lower being cut on the rock <i>in situ</i>.</p> <p>λ 17 41 8'29<br/>L 78 51 57'56<br/>Nos. 190, 191</p> |
| <p><b>Sirsalla Fort,</b><br/>(<i>Hyderabad, Deccan</i>) S.W. angle: in taluk Ailgandal.</p> <p>λ 18 23 20'1<br/>L 78 51 11'5<br/>No. 436</p>     | <p><b>Thandí Kondá h.s.</b><br/>(<i>Vizagapatam</i>) On a moderately high hill having the village of Thanam close to its southern foot; the villages of Hanakápiilí and Kasimkotu are to W. and S. W. respectively. The station is denoted by a ⊙ cut on a stone imbedded in the ground.</p> <p>λ 17 39 55'92<br/>L 83 5 54'75<br/>Nos. 457, 458</p>                                                                                                                                             | <p><b>Tirmalápúr Village Tower,</b><br/>(<i>Hyderabad, Deccan</i>) Flag: in taluk Medak.</p> <p>λ 17 56 26'1<br/>L 78 38 21'2<br/>Nos. 97, 98</p>                                                                                                                                                                                                                                                          |
| <p><b>Somán Devarguttá, XX.</b><br/>(<i>Vide page 7—D.</i>)</p> <p>λ 18 7 46'42<br/>L 80 49 44'26<br/>H 1519<br/>h 2<br/>No. 25</p>              | <p><b>Thanthadí h.s.</b><br/>(<i>Vizagapatam</i>) On a broad hill, about <math>\frac{1}{2}</math> a mile from the sea coast, having the village of Thanthadí at the N.E. foot, and that of Thoseri to N. The station is denoted by a mark-stone imbedded in the ground.</p> <p>λ 17 31 48'86<br/>L 83 5 1'02<br/>Nos. 460, 461</p>                                                                                                                                                               | <p><b>Tunkíguttá h.s.</b><br/>(<i>Upper Godávárí</i>) On hill, about 2 miles N. W. of Paticherá, the only village in the vicinity, in thána and tahsil Bhadráchallam. A paká pillar 1 foot high with two mark-stones imbedded therein, denotes the station.</p> <p>λ 17 43 36'72<br/>L 81 4 16'49<br/>Nos. 296, 297</p>                                                                                    |
| <p><b>Sománur Hill Mark.</b><br/>(<i>Upper Godávárí</i>)</p> <p>λ 18 43 34'03<br/>L 80 18 12'57<br/>No. 282</p>                                  | <p><b>Timakpailí Village Tower,</b><br/>(<i>Hyderabad, Deccan</i>) Flag: in taluk Medak.</p> <p>λ 17 57 18'3<br/>L 78 40 1'4<br/>Nos. 99, 100</p>                                                                                                                                                                                                                                                                                                                                                | <p><b>Túrkápailí s.</b><br/>(<i>Hyderabad, Deccan</i>) On the ruined tower of a fort in the village of Túrkápailí, in taluk Bhonágír. It is indicated by a masonry pillar about 1 foot high having two mark-stones, the lower being cut on the rock <i>in situ</i>.</p> <p>λ 17 39 16'03<br/>L 78 52 11'08<br/>No. 192</p>                                                                                 |
| <p><b>Sorárám Village Flag,</b><br/>(<i>Hyderabad, Deccan</i>) On tree: in taluk Kham-mamet.</p> <p>λ 17 39 17<br/>L 81 1 52</p>                 | <p><b>Timápúram h.s.</b><br/>(<i>Hyderabad, Deccan</i>) Is one of Colonel Lambton's principal stations, close to the S.E. extremity of a range of mountains between Goindivaram and Kodimiala, about 4 miles N.E. of Malialá, and 2 miles N. of the small village of Timápúram, in taluk Ailgandal. The station is defined by a circular platform having in its centre a stone with circle corresponding with one below.</p> <p>λ 18 36 16'02<br/>L 78 51 51'77<br/>H 2035<br/>Nos. 391, 392</p> | <p><b>Túrúr Village Flag.</b><br/>(<i>Hyderabad, Deccan</i>) In taluk Warangal.</p> <p>λ 17 40 6<br/>L 79 25 20</p>                                                                                                                                                                                                                                                                                        |
| <p><b>Sordápailí Village Tower,</b><br/>(<i>Hyderabad, Deccan</i>) Flag: in taluk Warangal.</p> <p>λ 17 57 50'2<br/>L 79 23 21'6<br/>No. 177</p> | <p><b>Udágat h.s.</b><br/>(<i>Hyderabad, Deccan</i>) Is one of Colonel Lambton's principal stations, on the summit of a low hill, about 3 miles N. of Nárkantpailí, and 1 mile S. of the village Maúndrá, in taluk Nalgondá. A platform has been raised adjoining the rock on which a circle is engraved.</p> <p>λ 17 14 25'36<br/>L 79 13 39'61<br/>H 1418<br/>No. 383</p>                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p><b>Supler Hill Tree.</b><br/>(<i>Jaipúr</i>)</p> <p>λ 18 15 1'4<br/>L 81 46 29'0<br/>Nos. 387, 388</p>                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                            |

| Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                                                          | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                          | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Usáurálá h.s.<br/>(Hyderabad, Deccan) On a low rocky ridge, nearly a mile to W. of Tárkápaílí village, and 1½ miles S. of Vásalámári village, in kasbá Amalkondá, táluk Bhonágír. It is denoted by a masonry pillar about 1 foot high containing two marks, the lower being cut on the rock <i>in situ</i>.</p> <p style="text-align: center;">o i "</p> <p>λ 17 39 15·46<br/>L 78 51 36·73<br/>Nos. 193, 194</p> | <p>Vizagapatam Magazine.<br/>(Vizagapatam) Lightning conductor of Powder Magazine.</p> <p style="text-align: center;">o i "</p> <p>λ 17 41 58·68<br/>L 83 20 3·91<br/>Nos. 376, 377</p>                                                              | <p>Warágal Pagoda.<br/>(Hyderabad, Deccan) On rock; in táluk Medak.</p> <p>λ 17 46 8·1<br/>L 78 39 45·6</p>                                                                                                                                                                                                                                                                            |
| <p>Valer Village Tower,<br/>(Hyderabad, Deccan) Flag: in táluk Warangal.</p> <p>λ 18 0 23·8<br/>L 79 22 15·2<br/>No. 178</p>                                                                                                                                                                                                                                                                                         | <p>Vizagapatam, Monument,<br/>(Vizagapatam) Roman Catholic.</p> <p>λ 17 42 29·7<br/>L 83 20 14·8</p>                                                                                                                                                 | <p>Warangal Fort.<br/>(Hyderabad, Deccan) In táluk Warangal.</p> <p>λ 17 57 13·3<br/>L 79 39 38·7<br/>Nos. 236, 237</p>                                                                                                                                                                                                                                                                |
| <p>Vánákondá, IX.<br/>(Vide page 5—D.)</p> <p>λ 17 36 6·87<br/>L 79 24 47·88<br/>H 1664<br/>h 2<br/>Nos. 11, 13</p>                                                                                                                                                                                                                                                                                                  | <p>Wadapailí s.<br/>(Hyderabad, Deccan) Is on the eastern gateway of the village so called, in pargana Gajvil, táluk Medak. The station is denoted by a ⊙ engraved on the masonry roof.</p> <p>λ 17 52 38·51<br/>L 78 37 11·28<br/>Nos. 103, 104</p> | <p>Wathará Bungalow.<br/>(Vizagapatam) On hill.</p> <p>λ 17 24 57<br/>L 82 54 42</p>                                                                                                                                                                                                                                                                                                   |
| <p>Vásalámári Village Flag,<br/>(Hyderabad, Deccan) On tree: in táluk Bhonágír.</p> <p>λ 17 40 18<br/>L 78 51 14</p>                                                                                                                                                                                                                                                                                                 | <p>Wailpadá Village Flag.<br/>(Vizagapatam)</p> <p>λ 17 59 37<br/>L 83 3 51</p>                                                                                                                                                                      | <p>Wathará h.s.<br/>(Vizagapatam) On the highest of a group of hills, about ¼ of a mile from the sea coast; the village of Kothápatanam is at the foot of the hill to E. and that of Wathará to S.W. The station is denoted by a mark-stone imbedded in the ground.</p> <p>λ 17 25 50·51<br/>L 82 55 30·20<br/>No. 465</p>                                                             |
| <p>Velputsaguttá Hill Peak.<br/>(Upper Godávarí)</p> <p>λ 17 53 38·9<br/>L 81 19 24·9<br/>Nos. 332, 333</p>                                                                                                                                                                                                                                                                                                          | <p>Waltair Church,<br/>(Vizagapatam) Portico.</p> <p>λ 17 43 10·3<br/>L 83 21 28·6</p>                                                                                                                                                               | <p>Wathará Pagoda.<br/>(Vizagapatam)</p> <p>λ 17 24 52·8<br/>L 82 54 22·6<br/>Nos. 477, 478</p>                                                                                                                                                                                                                                                                                        |
| <p>Vizagapatam Cathedral,<br/>(Vizagapatam) Top of gable.</p> <p>λ 17 41 55·2<br/>L 83 20 21·4</p>                                                                                                                                                                                                                                                                                                                   | <p>Waltair (heliotrope).<br/>(Vizagapatam) On a sand hill.</p> <p>λ 17 43 34·50<br/>L 83 21 52·90<br/>No. 370</p>                                                                                                                                    | <p>Wolámadí h.s.<br/>(Hyderabad, Deccan) On a hill, about ¼ of a mile S.W. of the village of the same name, and 2 miles N. of Manchí Úpal village, in táluk Warangal. It is denoted by a masonry pillar about 1 foot high having two marks, the lower being engraved on the rock <i>in situ</i>.</p> <p>λ 17 36 24·36<br/>L 79 29 40·60<br/>Nos. 226, 227</p>                          |
| <p>Vizagapatam Church,<br/>(Vizagapatam) Spire of steeple, in fort.</p> <p>λ 17 41 36·6<br/>L 83 20 3·7<br/>No. 380</p>                                                                                                                                                                                                                                                                                              | <p>Waltair h.s.<br/>(Vizagapatam) On a sand height on the sea coast between the town of Vizagapatam and Waltair. A pillar 4 feet in height marks the station.</p> <p>λ 17 42 35·06<br/>L 83 21 18·45</p>                                             | <p>Wúltá h.s.<br/>(Hyderabad, Deccan) On a hill, about 1 mile S.W. of the hamlet of Ragondá, in táluk Mallángur. It is denoted by a masonry pillar about 1 foot high containing two marks, the lower being engraved on the rock <i>in situ</i>.</p> <p>λ 18 4 40·06<br/>L 79 11 49·26<br/>Nos. 144, 145</p>                                                                            |
| <p>Vizagapatam Flagstaff.<br/>(Vizagapatam) On "Dolphin's Nose".</p> <p>λ 17 40 40·5<br/>L 83 20 7·3<br/>Nos. 367, 368</p>                                                                                                                                                                                                                                                                                           | <p>Waltair, House.<br/>(Vizagapatam) Centre of portico of Mrs. Suria Prikasar Rao's house.</p> <p>λ 17 43 10·9<br/>L 83 22 35·4</p>                                                                                                                  | <p>Wairgatlá h.s.<br/>(Hyderabad, Deccan) Is one of Colonel Lambton's principal stations, on a well-known hill nearly a mile W. of the village so called, in the Bálkondá pargana. The station is marked by a ⊙ cut on a rock and surmounted by the stump of a tree which is kept in position by a pyramid of stones.</p> <p>λ 18 54 34·83<br/>L 78 31 4·79<br/>H 1420<br/>No. 394</p> |
| <p>Vizagapatam Fort.<br/>(Vizagapatam) Flagstaff on battery.</p> <p>λ 17 41 31·1<br/>L 83 20 11·9</p>                                                                                                                                                                                                                                                                                                                | <p>Waltair, Mess House,<br/>(Vizagapatam) Cone of turret.</p> <p>λ 17 42 58·7<br/>L 83 21 18·9</p>                                                                                                                                                   | <p>Waltair Racket Court.<br/>(Vizagapatam)</p> <p>λ 17 43 6·4<br/>L 83 21 41·0<br/>Nos. 378, 379</p>                                                                                                                                                                                                                                                                                   |
| <p>Vizagapatam Gardens.<br/>(Vizagapatam) Jagu Rao's flagstaff.</p> <p>λ 17 42 42·9<br/>L 83 20 24·0</p>                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                        |

| Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                                                                                                                                                                                                     | Name of station, district, description,<br>co-ordinates &c.                                                                                  | Name of station, district, description,<br>co-ordinates &c.                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Yalágúram Hill Mark.</b><br/>(Upper Godavari) In táluk Bhadráchallam.</p> <p>λ 17 49 17.40<br/>L 81 1 12.37<br/>No. 294</p>                                                                                                                                                                                                                                                                                                                                               | <p><b>Yámalgat Hill Mark.</b><br/>(Hyderabad, Deccan) In táluk Bhonegír.</p> <p>λ 17 58 58.94<br/>L 78 48 59.34</p>                          | <p><b>Yeldev Fort,</b><br/>(Hyderabad, Deccan) S.W. angle: in táluk Rámگیر.</p> <p>λ 18 26 58.3<br/>L 79 18 5.3<br/>No. 431</p>                                                                                                                                                                        |
| <p><b>Yalámaldevgat h.s.</b><br/>(Hyderabad, Deccan) Is one of Colonel Lambton's principal stations, on a hill about 3 miles E. of the village of Narsingpett, and the same distance S.W. from that of Dongal Darmawaram, in táluk Medak. The station is on a flat covered with dense jungle and is denoted by a circular platform carrying a mark-stone in its centre and covered over by a pyramid of stones.</p> <p>λ 18 1 59.22<br/>L 78 30 29.78<br/>H 2131<br/>No. 71</p> | <p><b>Yámalgat s.</b><br/>(Hyderabad, Deccan) In táluk Bhonegír.</p> <p>λ 17 58 27.38<br/>L 78 50 18.14<br/>No. 423</p>                      | <p><b>Yendriká Hill Mark.</b><br/>(Jaipur) Denoted by a circular pillar of masonry about 3½ feet in diameter carrying 2 marks in its centre, and surrounded by a platform of stones about 16 feet square over which is raised a pile of stones.</p> <p>λ 18 11 52.51<br/>L 82 36 42.48<br/>No. 354</p> |
| <p><b>Yalápúram, XVIII.</b><br/>(Vide page 7—D.)</p> <p>λ 18 13 19.14<br/>L 80 23 6.65<br/>H 1465<br/>h 2<br/>No. 19</p>                                                                                                                                                                                                                                                                                                                                                        | <p><b>Yarábalí, X.</b><br/>(Vide page 5—D.)</p> <p>λ 18 2 50.70<br/>L 79 24 49.97<br/>H 2178<br/>h 2<br/>No. 10</p>                          | <p><b>Yenkamápett Turret.</b><br/>(Hyderabad, Deccan) In táluk Medak.</p> <p>λ 17 54 33.2<br/>L 78 39 1.9</p>                                                                                                                                                                                          |
| <p><b>Yámagiri h.s.</b><br/>(Vizagapatam) On the highest part of a detached range of hills, the so-called village being at its foot on S.E. side, and that of Pothridipaliam to W. The station is denoted by a ⊙ engraved on the rock in situ.</p> <p>λ 17 29 47.67<br/>L 82 51 49.31<br/>Nos. 466, 467</p>                                                                                                                                                                     | <p><b>Yarábalí Village Tower,</b><br/>(Hyderabad, Deccan) Flag: in táluk Warangal.</p> <p>λ 18 1 30.4<br/>L 79 23 36.1<br/>Nos. 179, 180</p> | <p><b>Yenkatápúr Village Flag,</b><br/>(Hyderabad, Deccan) On tree: in táluk Bhonegír.</p> <p>λ 17 38 28<br/>L 78 54 28</p>                                                                                                                                                                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <p><b>Yarádá, XLV.</b><br/>(Vide page 12—D.)</p> <p>λ 17 40 5.11<br/>L 83 17 45.24<br/>H 1172<br/>h 2<br/>No. 59</p>                         | <p><b>Yenkatropett Fort.</b><br/>(Hyderabad, Deccan) Tree on the highest part of the works: in táluk Rámگیر.</p> <p>λ 18 56 35.4<br/>L 79 14 14.7<br/>No. 453</p>                                                                                                                                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <p><b>Yelchal Hill Mark.</b><br/>(Hyderabad, Deccan) In táluk Mallángur.</p> <p>λ 18 23 37.50<br/>L 79 43 32.98<br/>Nos. 239, 240</p>        | <p><b>Záfargarh Building.</b><br/>(Hyderabad, Deccan) Or Drug: in táluk Warangal.</p> <p>λ 17 46 34.0<br/>L 79 30 54.8<br/>Nos. 395, 396</p>                                                                                                                                                           |

August 1877.

J. B. N. HENNESSEY,  
In charge of Computing Office.

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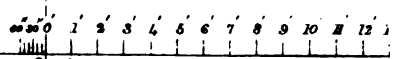
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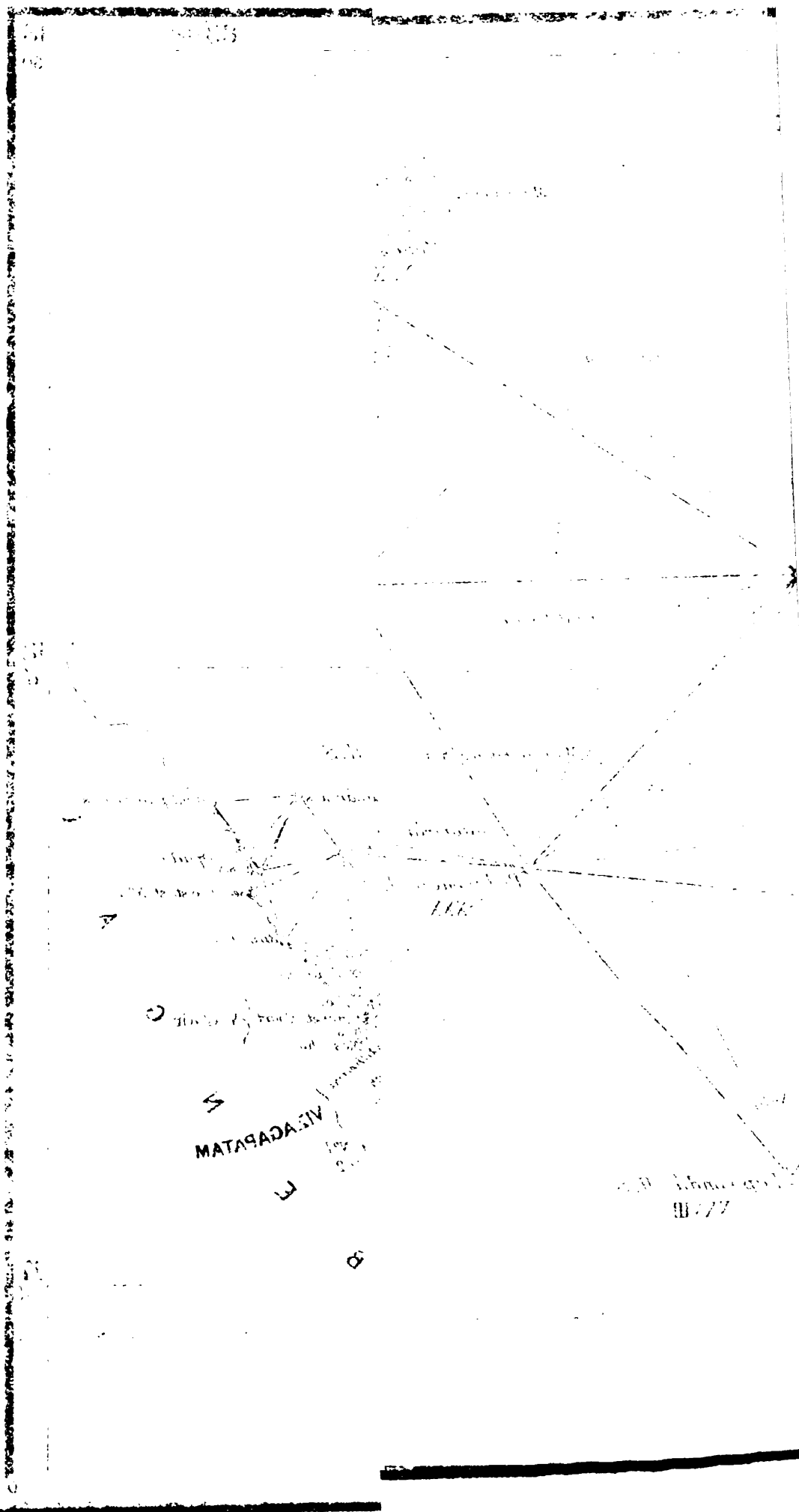
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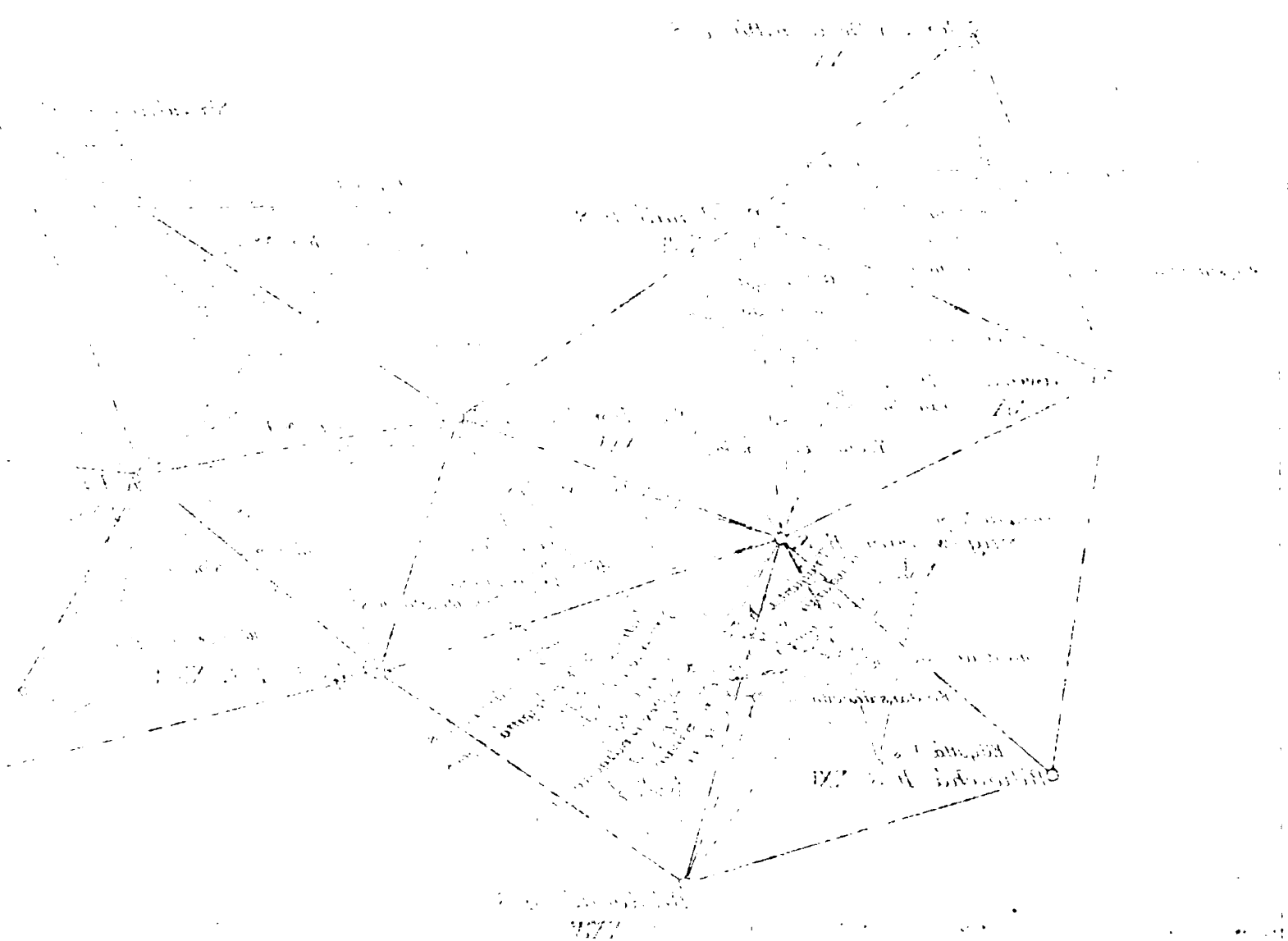
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*List of Published Works of the Great Trigonometrical Survey of India.*

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- An Account of the Measurement of an Arc of the meridian between the parallels of  $18^{\circ} 3'$  and  $24^{\circ} 7'$ , being a continuation of the Grand Meridional Arc of India as detailed by the late Lieutenant-Colonel Lambton in the Volumes of the Asiatic Society of Calcutta. By Captain George Everest, of the Bengal Artillery, F.R.S., &c. London, 1830.
- An Account of the Measurement of two Sections of the Meridional Arc of India, bounded by the parallels of  $18^{\circ} 3' 5''$ ;  $24^{\circ} 7' 11''$ ; and  $29^{\circ} 30' 18''$ . By Lieutenant-Colonel Everest, F.R.S., &c., late Surveyor General of India, and his Assistants. London 1847.
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Account of the Operations of the Great Trigonometrical Survey of India.

- Volume I. The Standards of Measure and the Base-Lines, also an Introductory Account of the early Operations of the Survey, during the period of 1800-1830. By Colonel J. T. Walker, R.E., F.R.S., &c., &c., Superintendent of the Survey. Dehra Dún, 1870.
- Do. II. History and General Description of the Principal Triangulation and of its Reduction. By Colonel J. T. Walker, C.B., R.E., F.R.S., &c., &c., Surveyor General of India and Superintendent of the Survey, and his Assistants. Dehra Dún, 1879.
- Do. III. The Principal Triangulation, the Base-Line Figures, the Karáchi Longitudinal, N.W. Himalaya, and Great Indus Series of the North-West Quadrilateral. By Colonel J. T. Walker, R.E., F.R.S., &c., &c., Superintendent of the Survey, and his Assistants. Dehra Dún, 1879.
- Do. IV. The Principal Triangulation, the Great Arc (Section  $24^{\circ}$ - $30^{\circ}$ ), Rahún, Gurhágárh and Jogí-Tíla Meridional Series, and the Sutlej Series of the North-West Quadrilateral. By Colonel J. T. Walker, R.E., F.R.S., &c., &c., Superintendent of the Survey, and his Assistants. Dehra Dún, 1879.
- Do. V. Details of the Pendulum Operations by Captains J. P. Basevi, R.E., and W. J. Heaviside, R.E., and of their Reduction. Prepared under the directions of Major-General J. T. Walker, C.B., R.E., F.R.S., &c., &c., Surveyor General of India and Superintendent of the Trigonometrical Survey. Dehra Dún and Calcutta, 1879.
- Do. VI. The Principal Triangulation of the South-East Quadrilateral including the Great Arc—Section  $18^{\circ}$  to  $24^{\circ}$ , the East Coast Series, the Calcutta and the Bider Longitudinal Series, the Jabalpur and the Biláspur Meridional Series, and the details of their Simultaneous Reduction. Prepared under the directions of Major-General J. T. Walker, C.B., R.E., F.R.S., &c., &c., Surveyor General of India and Superintendent of the Trigonometrical Survey. Dehra Dún, 1880.
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*List of Published Works of the Great Trigonometrical Survey of India.—(Continued).*

Synopses of the Results of the Great Trigonometrical Survey of India, comprising Descriptions, Co-ordinates, &c., of the Principal and Secondary Stations and other Fixed Points, of the several Series of Triangles, as follows;—

- Volume I. The Great Indus Series, or Series *D* of the North-West Quadrilateral. By Colonel J. T. Walker, R.E., F.R.S., &c., &c., Superintendent of the Survey, and his Assistants. Dehra Dún, 1874.
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3rd December 1880.





