AUCKLAND TRIGONOMETRICAL and CHAIN CLOSURES, 1881–82.

Surveyors.	Trigonometrical.			Chain.			
	Number of Closures.	Mean Differences of Bearing of Closures.	Mean Ratio of Diff'-rence of Closure per Mile.	Number of Closures.	Number of Traverse Lines.	Total Length of Traverse Lines.	Mean Ratio of Error of Closure.
			lks.				lks.
S. Weetman	6	13″	·53	11	380	37·4	1·6
E. C. Goldsmith ...	4	4″	·50	6	67	11·9	4
L. Cussen	22	11″·3	·50	...	...	...	...
F. Simpson	5	19″	1	5	128	15·6	1·4
F. H. Edgecumbe ...	...	...	...	10	224	41·7	1·36
R. Newmann	3	11″	3	6	102	11·7	1·1
B. Lambert	...	...	...	10	276	15·7	5·28
P. E. Cheal	...	...	...	5	95	22·4	2
W. J. Parris	...	...	...	6	46	7·1	2·5
G. A. Martin	...	...	...	9	83	13·4	2·2
E. H. Hardy	4	...	0·44	3	...	10·2	0·4
H. M. Smith	...	...	...	9	...	41·5	2·35
J. I. Philips	...	...	...	7	130	16·2	2
C. Stevens	2	10″	0·8	1	16	3·25	0·1
J. Hannah	6	...	1·9	...	...	...	...
H. A. Martin	2	7″	0·6	6	110	16	0·5
A. M. Ross	...	...	...	4	48	6·9	2
Means and totals {	54	75″·3	9·27	98	1,705	265·95	28·79
	54	10″·7	1·03	98	1,705	265·95	1·92

NOTE.—The above shows a fair average of the closures; it, of course, only includes a few of them.

SCHEDULE A.—WELLINGTON.

COMPARISON of BASES, taking Waipakura Base, measured by Mr. John Annabell, as Standard for Comparison, equal 16,128·02 links.

Base.	Length.		By Whom Measured.
The "Westmere" (computed from Waipakura, = 8,621·00)		8,621·53	Mr. John Annabell and the Chief Surveyor,
		8,623·4	Mr. J. Mitchell.
	diff.	1·87	= 1·74 per mile.
The "Okirae"		10,835·24	Mr. John Annabell.
		10,836·00	Computed from Waipakura.
	diff.	0·76	= 0·56 per mile.
The "Te Ruanui"		4,314·4	Mr. D. H. Munro, computed from Wai-
		4,314·6	pakura.
	diff.	0·2	= 0·39 per mile.

A mean correction of 1·83 links per mile was applied to the old Wellington provincial triangulation distances to reduce them to the new Wellington City standard survey measurements. This nearly agrees with the results obtained by major triangulation, which showed that the Wellington distances were short by 1·56 per mile.

COMPARISON of WELLINGTON DISTRICT TRIANGULATIONS.

Surveyor and Survey District.	Average Error in Summation.	Side.	Bearings.	Distances.		Discrepancy per Mile.	Remarks.
			° ′ ″	lks.		lks.	
G. A. Northcroft, Puketoi. (Comparison with original work by A. Dundas and J. Kelleher.)	10″	K, Rakonui, to J, Butters ...	...	28,350·1			Mr. Northcroft's lay within limits of original triangulation.
				53·1			
				diff.	3·0	0·9	
		Puketoi, to K, Rakonui ...	292 15 7				
			15 10				
			diff. 3				
		I, Table, to J, Castle Ridge	...	23,621·0			
				25·2			
				diff.	4·2	1·4	