

Table No. 22.

INSULATION TESTS of the FIRST and SECOND COOK STRAIT CABLES for the Year ended 31st December, 1891, showing the Resistance per Knot after Two Minutes' Electrification in Megohms (British Association Units of Resistance).

First Cook Strait Cable.	Dielectric Resistance per Knot.			Second Cook Strait Cable.	Dielectric Resistance per Knot.
	No. 1 Wire.	No. 2 Wire.	No. 3 Wire.		
January .. .. .	123	148	0'135	January .. .. .	825
February .. .. .	130	152	0'051	February .. .. .	808
March .. .. .	Broken.			March .. .. .	662
April .. .. .				May (after repair)	806
May (after repair)	103	133	273	June .. .. .	967
June .. .. .	120	155	325	July .. .. .	927
July .. .. .	123	162	324	August .. .. .	1,338
August .. .. .	113	165	328	September .. .. .	867
September .. .. .	112	114	314	October .. .. .	845
October .. .. .	98	141	280	November .. .. .	904
November .. .. .	104	147	322	December .. .. .	830
December .. .. .	98	139	286		

Table No. 23.

INSULATION TESTS of the WANGANUI and WAKAPUAKA CABLE for the Year ended 31st December, 1891, showing the Resistance per Knot after Ten Minutes' Electrification in Megohms (British Association Units of Resistance). Length of Cable laid, 108'69 Knots.

Date.	Dielectric Resistance per Knot.	Copper Resistance per Knot in Ohms.	Mean Temperature of Sea-bottom, calculated from the Observed C.R.
	Twenty Cells.		Deg. Fahr.
January .. .. .	4,732	11'066	62
February .. .. .	4,639	10'989	58'98
March .. .. .	5,035	11	59
April .. .. .	5,416	11'02	60
May .. .. .	5,658	11	59
June .. .. .	6,712	10'995	59
July .. .. .	8,054	10'932	56
August .. .. .	6,896	10'902	55
September .. .. .	7,010	10'9	54'5
October .. .. .	5,314	10'727	47
November .. .. .	5,467	10'932	56
December .. .. .	4,956	11'2	67'5

Table No. 24.

## MAINTENANCE.

Section.	No. of Miles.	Travelling Expenses of Linemen and Inspectors.	Extra Labour.	Cost of Material used for Repairs.	Salaries of Linemen and Inspectors.	Total Cost of Maintenance.	Average Cost per Mile.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Riverton to Balclutha ..	417	164 12 6	173 3 4	1,645 6 7	306 13 4	2,289 15 9	5 9 10
Tokomairo to Queenstown ..	323	162 4 11	169 0 5	1,65 18 1	306 13 4	2,042 1 0	3 14 7
Balclutha to Waitaki ..	547	295 7 9	264 9 0	895 10 11	586 13 4	1,541 7 6	4 0 0
Waitaki to Christchurch ..	385	157 1 11	230 1 7	420 17 4	673 6 8	1,314 8 8	6 8 10
Christchurch to Greymouth ..	204	255 11 6	174 18 6	253 2 0	630 16 8	536 13 4	3 5 0
Greymouth to Lyell ..	165	105 9 1	85 6 3	53 8 0	292 10 0	670 19 10	2 15 5
Lyell to Nelson ..	242	176 16 10	124 4 9	102 8 3	267 10 0	707 14 10	5 1 1
Nelson to Blenheim, including Tophouse Line	140	64 7 6	110 9 0	187 18 4	345 0 0	1,340 16 4	4 4 10
Blenheim to Christchurch ..	316	215 11 0	233 19 9	220 8 11	670 16 8	3,819 15 8	6 16 10
Wellington to New Plymouth ..	558	450 16 6	593 4 6	1,630 14 8	1,145 0 0	3,510 12 7	9 17 9
Wellington to Napier ..	355	456 4 7	718 5 4	1,414 17 8	921 5 0	1,816 6 9	3 9 0
Napier to Tauranga, including Napier to Gisborne Line	526	399 17 5	473 14 7	270 4 9	672 10 0	580 16 8	7 12 10
Tauranga to Thames ..	76	89 14 5	222 5 10	80 1 5	188 15 0	2,930 18 7	5 11 3
Auckland to Waikato and Coromandel	527	412 18 4	700 5 2	1,305 5 1	512 10 0	1,989 11 11	4 7 10
Auckland to Kawakawa ..	453	251 8 1	773 13 6	554 10 4	410 0 0	515 16 2	4 9 8
Kawakawa to Mongonui ..	115	169 5 4	249 5 0	47 5 10	50 0 0		
Totals .. .. .	5,349	3,827 7 8	5,356 6 6	9,247 18 2	7,980 0 0	26,411 12 4	*4 18 9

\* Average total cost per mile.