

1892.
NEW ZEALAND

THE RAILWAY WORKS UNDER THE CO-OPERATIVE SYSTEM.

Return to an Order of the House of Representatives dated 30th August, 1892.

Ordered, "That a return be laid before this House showing—(1) The railway contract works under the co-operative system 'personally inspected by the Engineer-in-Chief (as referred to in his report to the Minister for Public Works presented to this House on the 25th August); (2) the particulars of the various schedules of quantities and prices of the works contracted for, as well as the charges for plant, material, and incidental expenses of management, of which the Engineer-in-Chief (as stated in the report referred to) made careful examination from time to time;' (3) the other ascertained facts, if any, on which such report was based."—(MR. G. HUTCHISON.)

RETURN showing—(1) The Railway Contract Works under the "Co-operative System" "personally inspected" by the Engineer-in-Chief (as referred to in his Report to the Minister for Public Works presented to this House on the 25th August) (2) the Particulars of "the various Schedules of Quantities and Prices of the Works contracted for, as well as of the Charges for Plant, Material, and Incidental Expenses of Management," of which the Engineer-in-Chief, as stated in the Report referred to, "made careful examination from time to time," (3) the other ascertained facts, if any, on which such report was based.

1. (a) The works on the Kamo-Hikurangi Railway, (b) the works on the Te Aroha-Paeroa Section of railway; (c) the works on the North Island Main Trunk Railway at both north and south ends (d) the works on the Otago Central Railway, Middlemarch to Hyde, (e) the works on the Catlin's River Railway; (f) the works on the Greymouth-Hokitika Railway

2 and 3. (a.) Statements of quantities and prices of the works contracted for and of the cost of plant and material are regularly sent in by the Engineers in charge of districts, and are examined monthly by the Engineer-in-Chief. A copy of each such statement for the month of July or August, 1892, is annexed. (b.) The incidental expenses of management consist of salaries of overseers, wages of occasional carpenters, blacksmiths, and labourers employed for the purposes of the works, and travelling-expenses of Engineers and overseers. Requisitions to cover such expenses are sent in from time to time by the Engineers in charge of districts, and all such requisitions are examined and reported upon by the Engineer-in-Chief before being approved by the Minister

KAMO TO HIKURANGI RAILWAY.—CO-OPERATIVE WORKS.
 CERTIFICATE of WORK for the Month of AUGUST, 1892.

Description of Work.	Item.	Total up to Date.	Previously	During the Current Month.	Rate.	Amount for Month.	Total Amount to Date.
<i>Grading</i>					s. d.	£ s. d.	£ s. d.
Grading and benching	Cub. yds.	7,591	7 315	276	0 8	9 4 0	253 0 8
Cutting	"	20,731	16,627	4,104	0 10	171 0 0	863 15 10
"	"	26,256	22,287	3,969	0 11	181 18 3	1,203 8 0
"	"	23,158	20,537	2,621	1 0	131 1 0	1,157 18 0
"	"	2,941	2,734	207	1 1	11 4 3	159 6 1
" (loose rock)	"	19,803	17,511	2,292	1 2	133 14 0	1,155 3 6
"	"	90	90		1 3		5 12 6
"	"	3,768	2,884	884	1 4	58 18 8	251 4 0
"	"	801	801		1 6		60 1 6
"	"	191	191		2 0		19 2 0
" (solid rock)	"	6,933	5,930	1 003	2 6	125 7 6	866 12 6
Line, forming	Chs.	21½	21½		12 6		13 8 9
Side ditching	"	1½	1½		10 0		0 15 0
Catch-drains	"	3	3		5 0		0 15 0
Clearing line	"	47	47		4 0		9 8 0
"	"	22	22		4 6		4 19 0
"	"	84	81	3	5 0	0 15 0	21 0 0
"	"	86	84	2	6 6	0 13 0	27 19 0
"	"	39	39		10 0		19 10 0
"	Item	£5 19s. 6d.	£5 19s. 6d.				5 19 6
Grubbing	"	£5	£3 10s.	£1 10s.		1 10 0	5 0 0
Laying pipes	"	14s.	14s.				0 14 0
Cartage	"	£5 9s.	£4 15s.	14s.		0 14 0	5 9 0
Fascines	"	£5 2s. 4d.	£5 2s. 4d.				5 2 4
Wagon repairs, &c.	"	£1 12s. 6d	£1 8s. 6d.	4s.		0 4 0	1 12 6
Metalled road	"	£11 13s. 9d.	£11 13s. 9d.				11 13 9
Tip-cradles	"	£1	£1				1 0 0
Removing fence, &c.	"	£1	12s.	8s.		0 8 0	1 0 0
Hire of drays	"	£21 7s. 6d.	£21 5s.	2s. 6d.		0 2 6	21 7 6
Temporary sleepers	100	37·24	33·99	325	20 0	3 5 0	37 4 10
"	100	20·45	15·25	520	25 0	6 10 0	25 11 3
"	Item	18s. 7d.	18s. 7d.				0 18 7
Less supplies		£96 17s. 1d.	£83 11s. 5d.	£13 5s. 8d.		836 9 2	6,215 12 7
						13 5 8	96 17 1
Total grading.						823 3 6	6,118 15 6
<i>Bridges and Culverts.</i>							
Totara delivered	C.	37·74	37·74		14 0		26 8 4
Totara	"	14·44	14·44		26 0		18 15 6
Kauri	"	73·83	73·83		22 0		81 4 3
Temporary	"	13·28	13·28		10 0		6 12 9
Planking.	"	198	198		14 0		1 7 8
Kauri delivered	"	3,952	3,952		12 0		23 14 3
Piling	Lin. ft.	710	710		4 6		159 15 0
"	"	440	440		4 0		88 0 0
Iron	lb.	1,931	1,931		0 4		32 3 8
Iron delivered	"	1,271	1,271		0 3		15 17 9
Labour on above		£89 18s. 10d.	£89 18s. 10d.				89 18 10
Wheeling & ramming	Item	£3 17s. 6d.	£3 17s. 6d.				3 17 6
Temporary decking		15s.	15s.				0 15 0
Stone drains		£10 16s.	£10	16s.		0 16 0	10 16 0
Total bridges and culverts						0 16 0	559 6 6
<i>Summary</i>					Amounts for Month.	Amounts to Date.	
Works—					£ s. d.	£ s. d.	
Grading					823 3 6	6,118 15 6	
Bridges and culverts	..				0 16 0	559 6 6	
Total works executed					823 19 6	6,678 2 0	
Plant and material (value)—							
Freight, plant, material, culverts, casual labour—							
Expended (Authority No. 2014)		£3,000	0 0				
" (" 2277)		5,481	0 0				
		8,481	0 0				
Less co-operative contracts previously		5,854	2 6				
Total plant and material on ground					2,626 17 6	2 626 17 6	
Totals					3,450 17 0	9,304 19 6	
Less plant and material in former certificate					2,519 15 11		
Less former payments					..	8,373 18 5	
					£931 1 1	£931 1 1	

GRAHAMSTOWN TO TE AROHA RAILWAY PAEROA-TE AROHA SECTION CO-OPERATIVE WORKS.

CERTIFICATE of WORK for the Month of JULY, 1892.

Description of Work.	Item.	Total up to Date.	Previously.	During the Current Month.	Rate.	Amount for Month.	Total Amount to Date.
<i>Grading</i>							
Cutting ..	Cub. yds.	35,072	35,072		s. d.	£ s. d.	£ s. d.
" ..	"	6,300	6,300		0 10		1,461 6 8
" ..	"	6,796	6,796		0 11		288 15 0
" ..	"	10,217·1	9,908·3	313·8	1 0		339 16 0
" ..	"	458	458		1 1	16 19 11	533 8 6
" ..	"	2,383·5	2,221	162·5	1 3		28 12 6
" ..	"	292·2		292·2	1 4	10 16 8	158 18 0
" ..	"	2,955·3	2,955·3		1 6	21 18 4	21 18 4
Outfalls & side-drains	"	10,051	10,051		1 8		246 5 6
" ..	"	24 515·2	22,757	1,758·2	0 6		251 5 6
" ..	"	11,411·8	11,411·8		0 8	58 12 2	817 3 6
" ..	"	21,171	16,353	4 818	0 9		427 18 10
" ..	"	4 671	4,671		0 10	200 15 0	882 2 6
" ..	"	1,118		1,118	0 9½		184 17 10
" ..	"	7,532	7,367	165	0 11	51 4 10	51 4 10
" ..	"	166·7		166·7	1 0	8 5 0	376 12 0
" ..	"	£202 8s. 4d.	£90 8s. 4d.	£112	1 1	9 0 7	9 0 7
Formation	Lump	60	60		112 0 0		202 8 4
Catch-drains	Chs.	70·85	56·92	13·93	15 0		45 0 0
" ..	"	2·08	2·08		4 0	2 15 10	14 3 5
" ..	"	7·43	7·43		4 6		0 9 4
" ..	"	43·73	43·73		5 0		1 17 2
" ..	"	8·53	8·53		5 6		12 0 6
Clearing	"	10	10		8 0		3 8 3
" ..	"	7	7		3 0		1 10 0
" ..	"	107·5	107·5		4 0		1 8 0
" ..	"	126	116	10	5 0		26 17 6
" ..	"	146	146		6 0	3 0 0	37 16 0
" ..	"	445	445		7 0		51 2 0
" ..	"	64	64		8 0		178 0 0
" ..	"	£3 4s.	£3 4s.		30 0		96 0 0
Private crossings	Lump	2	2				3 4 0
Tunnel	No.	2	2		45 0		4 10 0
Cartage	Lump	£11 2s. 8d.	£11 2s. 8d.				11 2 8
Clearing and forming road	"	£42 11s.	£39 7s.	£3 4s.		3 4 0	42 11 0
Total grading.	"	£12 9s. 6d.	£12 9s. 6d.				12 9 6
						498 12 4	6,845 3 9
<i>Bridges and Culverts.</i>							
Excavation of foundations	Cub. yds.	884	884		1 0		44 4 0
Timber, B.M.	C.	16,700	11 700	5 000	4 6	11 5 0	37 11 6
Fixing earthenware pipes	Item	£8 14s.	£8 14s.				8 14 0
Timber inside-drains	"	£9 8s. 4d.	£9 8s. 4d.				9 8 4
Sorting timber	"	£1 3s.	£1 3s.				1 3 0
Temporary bridges	"	£2		£2		2 0 0	2 0 0
Total bridges and culverts						13 5 0	103 0 10
<i>Fencing</i>							
12ft. gates (wood)—labour only		£33	£18	£15		15 0 0	33 0 0

Summary

Works—	Amounts for Month.	Amounts to Date.
Grading ..	£ s. d. 498 12 4	£ s. d. 6,845 3 9
Bridges and culverts	13 5 0	103 0 10
Fencing ..	15 0 0	33 0 0
Total works executed	526 17 4	6,981 4 7

GRAHAMSTOWN TO TE AROHA RAILWAY.—PAEROA-TE AROHA SECTION—*continued*.

		Amounts for Month.			Amounts to Date.		
		£	s.	d.	£	s.	d.
Brought forward		526	17	4	6,981	4	7
Plant and material—							
Freight, purchase of material, casual labour, &c.—							
		Value.					
Authority No. 2068		£1,000	0	0			
" 2191		5,000	0	0			
" 2307		1,336	0	0			
		7,336	0	0			
Less co-operative contracts previously		6,454	7	3			
Total plant and material on ground					881	12	9
Totals					1,408	10	1
Less plant and material in former certificate					784	3	10
Less former payments							
					£624	6	3
					£624	6	3

10th August, 1892.

CHARLES R. VICKERMAN, Resident Engineer

NORTH ISLAND MAIN TRUNK RAILWAY (NORTH END).—MOKAU SECTION CO-OPERATIVE WORKS.
CERTIFICATE of WORK for the Month of AUGUST, 1892.

Description of Work.	Item.	Total up to Date.	Previously.	During the Current Month.	Rate.	Amount for Month.	Total Amount to Date.
<i>Grading</i>					s. d.	£ s. d.	£ s. d.
Cutting	Cub. yds.	89,065	84,435	4,630	0 9	173 12 6	3,339 18 9
"	"	5 827	3,721	2,106	0 10	87 15 0	242 15 10
"	"	5,237	4,569	668	0 11	30 12 4	240 0 7
"	"	4 018	2,330	1,688	1 0	84 8 0	200 18 0
Soft and loose rock	"	18,736	16,333	2,403	1 4	160 4 0	1,249 1 4
Boulders (loose rock)	"	4,827	4,827		1 9		422 7 3
Solid rock (soft)	"	839		839	1 10	76 18 2	76 18 2
Solid papa rock.	"	12,602	11,076	1,526	2 0	152 12 0	1,260 4 0
"	"	1,694	1,094	600	2 2	65 0 0	183 10 4
Solid diorite	"	12,927	11,692	1,235	2 6	154 7 6	1,615 17 6
Hard and solid diorite	"	1,507	609	898	3 0	134 14 0	226 1 0
Side-drains	"	404	404		0 9		15 3 0
"	"	103	103		0 10		4 5 10
"	Item	£5 8s.	£3	£2 8s.		2 8 0	5 8 0
Forming line	Chs.	16	16		15 0		12 0 0
" road	Cub. yds.	24	24		0 9		0 18 0
" road	Item	£45 16s. 6d.	£45 0s. 6d.	16s.		0 16 0	45 16 6
Ditching	Chs.	27	27		15 0		20 5 0
Side-ditches	"	11	11		25 0		13 15 0
"	"	24½	24½		10 0		12 5 0
Catch-drains	"	£1 1s.	£1 1s.				1 '1 0
Clearing	"	16	16		3 0		2 8 0
Less repairing tools, &c.		£502 13s. 9d.	£450 0s. 6d.	£52 13s. 3d.		1,123 7 6	9,190 18 1
Total grading						52 13 3	502 13 9
						1,070 14 3	8,688 4 4
<i>Bridges and Culverts.</i>							
Inlets and outfalls	..	£6 10 0	£6 10 0				6 10 0
Glazed tile-drains:							
18in.	Lin. yds.	35 1 3	35 1 3				35 1 3
Various	Item	5 5 3		£5 5s. 3d.		5 5 3	5 5 3
12in.	"	162 19 3	162 19 3				162 19 3
9in.	"	56 1 0	56 1 0				56 1 0
Box	"	1 19 0	1 19 0				1 19 0
Total bridges and culverts						5 5 3	267 15 9

NORTH ISLAND MAIN TRUNK RAILWAY (NORTH END).—MOKAU SECTION—*continued.*

Works—	<i>Summary</i>	Amounts for Month.			Amounts to Date.		
		£	s.	d.	£	s.	d.
Grading		1,070	14	3	8,688	4	4
Bridges and culverts		5	5	3	267	15	9
Total works executed ..		1,075	19	6	8,956	0	1
Plant and material—							
Plant and material, casual labour—	Value.						
Authority No. 2067	£1,000	0	0				
" 2190	5,000	0	0				
" 2308	4,877	0	0				
	10,877	0	0				
Less co-operative contracts previously	7,880	0	7				
Total plant and material on ground		2,996	19	5	2,996	19	5
Totals		4,072	18	11	11,952	19	6
Less plant and material in former certificate		2,797	14	9			
Less former payments					10,677	15	4
		£1,275	4	2	£1,275	4	2

10th September, 1892.

CHARLES R. VICKERMAN, Resident Engineer

NORTH ISLAND MAIN TRUNK RAILWAY (SOUTH END). MAKOHINE SECTION CO OPERATIVE WORKS.

CERTIFICATE of WORK to 26th AUGUST, 1892.

Description of Work.	Item.	Total up to Date.	Previously.	During the Current Month.	Rate.	Amount for Month.	Total Amount to Date.
<i>Grading.</i>					s. d.	£ s. d.	£ s. d.
Cutting	Cub. yds.	22,494	15,833	6,661	0 11½	329 8 5	1,083 0 6
Side-cutting	"	18,617	17,855	762	1 0½	47 12 6	971 12 10
Loose rock	"	16		16	3 0	2 8 0	2 8 0
Sandstone	"	7,204	3,712	3,492	1 3¼	231 9 4	456 9 3
Stream-diversions	"	2 532	2,199½	332½	0 11¾	16 12 6	125 1 6
"	Chs.	23·40	23·40		21 11¼		25 13 8
Ditching	Cub. yds.	1,285	727	558	0 11	28 15 0	59 4 6
"	Chs.	60·08	34·77	25·31	25 2½	37 10 4	75 14 3
Forming line	"	90·60	81·25	9·35	43 5½	23 7 6	196 17 6
Felling	Acres	195a. 0r 33p.	193a. 1r 15p.	1a. 3r 18p.	39 6½	3 11 6	385 18 0
Special allowance						3 4 0	28 14 0
Clearing	Sq chs.	968·40	948·09	20·31	35 1¼	39 3 2	1,700 1 10
Special allowance		..				3 2 0	30 2 9
Grubbing	Chs.	46	46		12 6¾		28 18 0
Special allowance		..				32 14 0	97 17 3
Cutting benches..						1 16 0	1 16 0
Tunnel drive, 9ft. by 8ft.	Lin. ft.	143		143	17 4¼	124 1 0	124 1 0
Clearing out creek	Chs.	5	5		10 0		2 10 0
" " "	Lump						6 5 0
Catchwater drain	Chs.	94·35	68·32	26·03	8 6	12 7 5	40 2 9
Stone protection to creek							0 5 0
Maintenance plant						...	11 0 6
Railway carriage and carting						65 3 3	452 19 5
Sleepers	No.	3,582	2,851	731	0 7	17 9 11	105 18 6
Forming track	Chs.	9	9		10 0		4 10 0
" " "	Lump					2 0 0	2 0 0
Temporary bridges	"					14 16 0	44 16 0
Total grading	..					1,036 11 10	6,063 7 0

NORTH ISLAND TRUNK RAILWAY (SOUTH END).—MAKOHINE SECTION—*continued.*

Description of Work.	Item.	Total up to Date.	Previously	During the Current Month.	Rate.	Amount for Month.	Total Amount to Date.
<i>Bridges & Culverts.</i>					s. d.	£ s. d.	£ s. d.
Excavation of foundations	Cub. yds.	702	667	35	1 0	1 15 0	34 5 6
Inlets and outfalls	"	548	476	72	0 9 ³ / ₄	3 12 0	22 10 10
"	Chs.	21·76	10	11·76	24 7	19 16 6	26 14 6
Do., Spec. allow'ce							6 12 0
" Drive 6ft.	Chs.	360	360		10 0	..	180 0 0
Concrete	Cub. yds.	62	62		51 6		159 13 0
Punning soil	"	28	28		2 0		2 16 0
Splitting blocks for cement shed	No.	16	16		0 6		0 8 0
Laying floor for cement shed							0 16 0
Log bridges		..				8 0 0	20 4 0
Stripping gravel-pit	Cub. yds.	452		452	1 0	22 12 0	22 12 0
Punga drain	Lin. yds.	5		5	3 0	0 15 0	0 15 0
Building sawpit						2 8 0	2 8 0
Sawing and delivering totara (heart) timber	Sup. ft.	1,965		1,965	16 6	16 4 2	16 4 2
Total bridges and culverts						75 2 8	495 19 0
<i>Fencing</i>							
Post and wire erection	Chs.	19·78	19·78		8 0		7 18 2
Stab erection	"	1·88	1·88		30 0		2 16 4
Clearing fence-line	"	47·50	47·50		9 0		21 7 6
Posts, splitting	C.	105	105		30 0		1 11 6
Strainers	No.	5	5		2 0		0 10 0
Stabs	C.	215	215		6 0		0 12 11
Total fencing							34 16 5
<i>Plant & Materials.</i>							
Plant						99 11 7	1,903 2 1
Materials						1 1 6	715 6 0
Total plant and materials						100 13 12	2,618 8 1
<i>Miscellaneous.</i>							
Rations and lodging for men							16 17 8
Office						8 4 7	25 18 0
Wages.						92 15 0	549 2 6
Expenses, travelling						6 7 0	83 7 8
Ditto, incidental			..				16 1 2
Maintenance, horses						13 8 9	42 2 0
Total miscellaneous						120 15 4	733 9 0

Summary

Works—	Amounts for Month.	Amounts to Date.
	£ s. d.	£ s. d.
Grading	1,036 11 10	6,063 7 0
Bridges and culverts	75 2 8	495 19 0
Fencing		34 16 5
Plant and materials	100 13 1	2,618 8 1
Miscellaneous	120 15 4	733 9 0
Total works executed..	1,333 2 11	9,945 19 6
Less plant and materials refunded	45 18 5	138 14 0
Totals	1,287 4 6	9,807 5 6
Less former payments	...	8,520 1 0
	<u>£1,287 4 6</u>	<u>£1,287 4 6</u>

6th September, 1892.

R. W. HOLMES, Resident Engineer

WOODVILLE TO EKETAHUNA RAILWAY.—PUKEMUKU SECTION CO-OPERATIVE WORKS.

CERTIFICATE of WORK for Period 17th JUNE to 19th AUGUST, 1892.

Description of Work.	Item.	Total up to Date.	Previously	During the Current Month.	Rate.	Amount for Month.	Total Amount to Date.
<i>Grading</i>							
Earthwork	Cub. yds.	14,594	9,705	4,889	s. d. £ s. d.	277 4 1	£ s. d. 791 4 5
Stream-diversions	Chs.	17	17		20 0		17 0 0
Forming line	"	39	39		20 0		39 0 0
Felling	Acres	1½	1½		35 0		2 12 6
Clearing	Sq chs.	263¾	263½	¼	27 0	0 7 6	355 8 9
Grubbing	Chs.	39	39		8 8½		17 0 0
	Lump						5 10 0
Road-diversion	Chs.	10	8	2	30 0	3 0 0	15 0 0
Repairing old road.	Lump						3 0 0
Metal	Cub. yds.	73	73	..	2 0		7 6 0
Total grading.			..			280 11 7	1,253 1 8
<i>Bridges and Culverts.</i>							
Timber, B.M. (fixing)	C.	3,350	3,350		8 0		13 8 0
Total bridges and culverts							13 8 0
<i>Fencing</i>							
Temporary fence	Chs.	4	4		12 0		2 8 0
Clearing lines	"	264½			8 0		105 16 0
Felling trees	Lump			..			2 10 0
Total fencing							110 14 0

Summary

Works—	Amounts for Month.			Amounts to Date.		
	£	s.	d.	£	s.	d.
Grading	280	11	7	1,253	1	8
Bridges and culverts				13	8	0
Fencing				110	14	0
Total works executed	280	11	7	1,377	3	8
Less reserves	27	15	2	66	15	7
Total works payable	252	16	5	1,310	8	1
Plant and material—						
	Value.					
Plant	£244	1	3			
Material	2	6	6			
Railway charges, freight	23	17	1			
Carting and other expenses	59	6	6			
Total plant, material, &c.	329	11	4	92	18	4
Totals	345	14	9	1,639	19	5
Less tools charged to men	0	6	6	21	7	4
For period	345	8	3			
Previously	1,273	3	10			
To date	£1,618	12	1	£1,618	12	1
Pays 1 to 3				£	s.	d.
Pay No. 4				1,053	8	7
" " 5				104	11	8
Plant and material				168	19	3
Railway freight				246	7	9
Railway passes				23	17	1
				21	7	9
				£1,618	12	1

G. L. COOKE, Resident Engineer.

EKETAHUNA TO WOODVILLE RAILWAY.—MAKAKAHI SECTION CO-OPERATIVE WORKS.

CERTIFICATE of WORK for the Period 2nd JULY to 2nd AUGUST, 1892.

Description of Work.	Item.	Total up to Date.	Previously	During the Current Month.	Rate.	Amount for Month.	Total Amount to Date.
<i>Grading</i>							
Earthwork	Cub. yds.	20,430	18,175	2,255	s. d. 1 21 ⁷ / ₈	£ s. d. 143 4 10	£ s. d. 1,207 18 11
Stream-diversions	"	413	364	49	0 9 ³ / ₄	2 0 10	16 16 8
Ditching and clearing	Chs.	25	25		20 0		25 0 0
Clearing	"	1.70	1.70				1 10 0
"	Sq chs.	196.6	196.1	0.5	38 1	1 0 0	374 12 7
"	Chs.	65	65		14 9 ¹ / ₂		48 2 0
"	Lump						7 0 0
Grubbing	Chs.	49.33	49.33		16 11		41 13 4
Burning stumps	Sq chs.	16.2	16.2		12 6		10 2 6
Metalling	Cub. yds.	129	129		1 6 ¹ / ₂		9 17 0
Track-forming, temporary road							17 10 0
Total grading..						146 5 8	1,760 3 0
<i>Bridges and Culverts.</i>							
Excavation of foundations	Cub. yds.	899	895	4	1 0	0 4 0	44 19 0
Timber, B.M., fixing	C.	48.90	48.90		8 0		19 11 2
Concrete, mixing, &c.	Cub. yds.	442 ¹ / ₄	396	46 ¹ / ₄	11 6	26 11 10	254 5 10
Concrete, mixing, &c., and supplying gravel	"	13 ¹ / ₂		13 ¹ / ₂	19 6	13 3 3	13 3 3
Puddle	"	34	34		1 6		2 11 0
Gravel for concrete	"	447	447		8 0		178 16 0
Sand	"	2	2		10 0		1 0 0
Laying pipes	Lin. yds.	122 ¹ / ₆	71 ¹ / ₂	50 ³ / ₈	2 6	6 6 8	15 5 5
Stone drains	"	88	62	26	0 6	0 13 0	2 4 0
Catchwater drains	Chs.	3 ¹ / ₂		3 ¹ / ₂	3 0	0 10 6	0 10 6
Total bridges and culverts						47 9 3	532 6 2
<i>Fencing</i>							
Posts and rails	Chs.	5	5		26 0		6 10 0
Post and wire, erecting	"	149	149		12 0		89 8 0
Clearing fence lines	"	165	165		9 7		78 19 6
Clearing and grubbing	Lump						6 2 0
Total fencing							180 19 6

Summary

Works—	Amounts for Month.			Amounts to Date.		
	£	s.	d.	£	s.	d.
Grading	146	5	8	1,760	3	0
Bridges and culverts	47	9	3	532	6	2
Fencing				180	19	6
Total works executed	193	14	11	2,473	8	8
Reserves	+ 9	11	3	— 81	4	4
Total works payable	203	6	2	2,392	4	4
Plant and material—	Value.					
Plant	£406	10	6			
Material	524	1	8			
Railway charges, freight	150	14	4			
Miscellaneous	111	9	10			
Total plant and material on ground, &c.	55	0	7	1,192	16	4
Totals	258	6	9	3,585	0	8
Less tools and repairs charged to men	0	7	0	19	11	6
For month	257	19	9			
Previously	3,307	9	5			
To date	£3,565	9	2	£3,565	9	2

EKETAHUNA TO WOODVILLE RAILWAY.—MAKAKAHI SECTION—*continued.*

	£	s.	d.
Pays 1 to 6	2,323	16	3
Pay No. 7	207	16	2
Railway transfer voucher freight	150	14	4
Railway passes	6	18	1
Paid from Wellington, plant	363	2	8
" material	513	1	8

£3 565 9 2

G L. COOKE, Resident Engineer

GREYMOUTH TO HOKITIKA RAILWAY.—CO-OPERATIVE CONTRACTS.

CERTIFICATE of WORK to 31st AUGUST, 1892.

Description of Work.	Item.	Total. up to Date.	Previously	During the Current Month.	Rate.	Amount for Month.	Total Amount to Date.
<i>Grading</i>					s. d.	£ s. d.	£ s. d.
Cutting	Cub. yds.	30,770			1 3 $\frac{1}{4}$ *		1 955 15 0
Side-cutting							
Ditching	Chs.	41 $\frac{1}{2}$			10 0		20 15 0
Clearing out old ditches	"	89 $\frac{1}{2}$..		5 0		22 7 6
Trimming line (old formation)	"	383			11 1*		213 0 0
Pitching, dry stone	Sq. yds.	1 298			5 10 $\frac{1}{2}$ *		381 4 0
Clearing, grubbing	Chs.	51		..	19 0*		48 5 0
Metal	Cub. yds.	102			2 0		10 4 0
Groins	No.	2					†75 0 0
Total grading							2 726 10 6
<i>Bridges and Culverts</i>							
Timber, B.M.	C.	114,900			28 2 $\frac{1}{2}$ *		1,621 0 0
Piling	Lin. ft.	5,638	...		5 0	..	1,409 10 0
Ironwork in bolts, &c.	lb.	24,299			0 4		404 19 8
Wrought iron in girders	Tons	11 $\frac{1}{2}$			£22		253 0 0
Concrete ..	Cub. yds.	1,292 $\frac{1}{2}$			40 0		2,584 0 0
§ Glazed tile-drains—							
18in.	Lin. yds.	130			17 4*		112 15 8
12in.	"	156			13 11*		108 10 0
9in.	"	13 $\frac{1}{3}$..	9 0		6 0 0
24in.	"	150 $\frac{2}{3}$			32 0		241 1 4
§ Box-drains, 12in.	"	5		..	8 0		2 0 0
Facing pipes	Pairs	53		..	£5 12s.*		297 0 0
Total bridges and culverts							7 039 16 8
<i>Fencing.</i>							
Posts and rails	Chs.	6			33 4		10 0 0
<i>Permanent-way</i>							
Plate-laying	Lin. yds.	2 333			1 3		145 16 3
Cartage of material.	Tons	20			5 0		5 0 0
Repairs to wagons ..	No.	12			£5		60 0 0
Total permanent way							210 16 1

* Nearly. † Lump sum. ‡ Includes inlets and outlets, and excavations. § Includes excavation, inlets and outlets, and puddle.

Summary.

Works—

Grading
Bridges and culverts ..
Fencing
Permanent-way ..

Amounts to Date.

£ s. d.
2,726 10 6
7,039 16 8
10 0 0
210 16 3

£9,987 3 5

Approximate cost of material included in above, £3,400.
17th September, 1892.

T H. RAWSON, Resident Engineer

SEAWARD BUSH RAILWAY.—WAITUNA SECTION CO-OPERATIVE WORKS.
 CERTIFICATE of WORK for the Period ended 22nd August, 1892.

Description of Work.	Item.	Total up to Date.	Previously.	During the Current Month.	Rate.	Amount for Month.	Total Amount to Date.
<i>Grading</i>							
Cutting clay	Cub. yds.	17,229	12,335	4,894	s. d. 0 10	£ s. d. 203 18 4	£ s. d. 717 17 6
"	"	3 755	3,755		0 11		172 2 1
Side-cutting	"	31,152	28,667	2,485	0 11	113 17 11	1,427 16 0
Cutting cement-gravel	"	413		413	1 2	24 1 10	24 1 10
Ditto	"	3,044	3,044	..	1 4		202 18 8
Stream-diversions	"	1,812	1,685	127	1 6	9 10 6	135 18 0
Ditching..	Lin. chs.	92½	61	31½	3 6	5 10 3	16 3 9
"	Cub. yds.	1 233	1,233		0 8½		43 13 4
"	"	215	215		0 11		9 17 1
Forming line	Lin. chs.	42½	39	3½	20 0	3 10 0	42 10 0
Forming road-crossing	Cub. yds.	62	62		0 10		2 11 8
Ditto	"	178	178		1 0		8 18 0
"	"	114	114		2 0		11 8 0
"	"	22	22		2 6		2 15 0
Clearing tussocks	Sq. chs.	227½	227½	..	4 6		51 3 9
" gorse	Days	9¾	9¾		6 6		3 3 4
Lifting and loading rails	"	11¾	11¾		6 6		3 16 4
Bush-felling	Acres	61·925	61·725	0·2	£4 10s.	0 18 0	278 13 3
" clearing	"	21·395	20·725	0·67	£12 10s.	8 7 6	267 8 9
" grubbing	Sq. chs.	116·13	110·3	5·83	£2 10s.	14 11 6	290 6 6
"	"	0·1	0·1		£4 10s.		0 9 0
Clearing out ditch	Days	6	6		6 6		1 19 0
Railway freight tickets						0 8 0	23 5 7
Camp, building		..					5 19 5
Repairing plant							78 6 1
Forming track, &c.						13 10 0	97 2 0
Forming station-yard	Days	10	10		8 5 0		146 2 8
Fascining	Lin. chs.	21¼	17¼	4	6 6		3 5 0
Felling and clearing scrub	Sq. chs.	6½	6½		£4	16 0 0	85 0 0
Miscellaneous labour	Days	1¾	1¾		18 6		6 0 3
"	"	10½	7	3½	6 6		0 11 4
Lifting service road	"	12	12		7 0	1 4 6	3 13 6
Cartage	"				7 0		4 4 0
Extra lead on	Cub. yds.	1,768		1,768		15 4 0	33 11 0
					0 2	14 14 8	14 14 8
Total grading.						453 12 0	4,217 6 4
<i>Bridges and Culverts.</i>							
Excavation of foundations	Cub. yds.	232½	172½	60	2 0	6 0 0	23 5 2
Inlets and outfalls...	"	361½	343	18½	1 6	1 7 9	27 2 3
Laying earthenware pipes, 12in.	Lin. yds.	220¾	166¾	54¾	3 6	9 10 2	38 12 4
Laying concrete pipes, 18in.	"	29¾	29¾		6 0		8 16 0
Ditto, 24in.	"	69¾	59¾	10¾	7 6	3 17 6	26 2 6
Gravel for pipes	Cub. yds.	3	3		3 0		0 9 0
Railway freight							44 9 9
Cartage						1 11 10	111 9 4
Laying box-culverts	Cub. yds.	5	5		5 0		1 5 0
Puddle	"	13¾	12¼	1½	2 6	0 3 9	1 14 4
Total bridges and culverts						22 11 0	283 5 8
<i>Fencing.</i>							
Supplying and delivering posts	No.	1,100		1,100	40 0	22 0 0	22 0 0
Splitting posts	"	100		100	20 0	1 0 0	1 0 0
Total fencing				..		23 0 0	23 0 0
Engineering and office				39 15 0	285 11 11

SEAWARD BUSH RAILWAY.—WAITUNA SECTION—*continued.**Summary*

Works—		Amounts for Month.			Amounts to Date.		
		£	s.	d.	£	s.	d.
Grading	..	453	12	0	4,217	6	4
Bridges and culverts	..	22	11	0	283	5	8
Fencing	..	23	0	0	23	0	0
Engineering and office	..	39	15	0	285	11	11
Total works executed	..	538	18	0	4,809	3	11
Less value of tools supplied..		2	0	0	49	4	9
Total works payable	..	536	18	0	4,759	19	2
Plant and material—							
Grading		£284	13	5			
Bridges and culverts.		153	10	6			
Total plant and material on ground		438	8	11	438	3	11
Totals		975	1	11	5,198	3	1
Less plant and material in former certificate		432	15	1			
Less former payments	..				4,655	16	3
		£542	6	10	£542	6	10

8th September, 1892.

E. R. USSHER, Engineer.

MIDDLEMARCH TO HYDE.—OTAGO CENTRAL RAILWAY CO-OPERATIVE WORKS.

CERTIFICATE of WORK for the Period ended 31st August, 1892.

Description of Work.	Item.	Total up to Date.	Previously.	During the Current Month.	Rate.	Amount for Month.	Total Amount to Date.
<i>Grading</i>					s. d.	£ s. d.	£ s. d.
Cutting clay	Cub. yds.	33,352	33,144	208	0 11	9 10 8	1,528 12 8
Extra lead on	"	1,302	441	861	0 1	3 11 9	5 8 6
Cutting clay	"	939	939		1 0		46 19 0
Side-cutting	"	180	180		0 9		6 15 0
"	"	50,067	44,154	5,913	1 0	295 13 0	2,503 7 0
"	"	503	503		1 2		29 6 10
"	"	1,852	247	1,605	1 4	107 0 0	123 9 4
Cutting rock	"	3,061	3,061		1 4		204 1 4
"	"	1,951	1,706	245	1 9	21 8 9	170 14 3
Stream-diversions	"	3,583	3,583		1 9		313 10 3
Ditching ..	"	33	33		1 6		2 9 6
Catchwater drains.	Lin. chs.	155 $\frac{3}{4}$	154 $\frac{3}{4}$	1	3 6	0 3 6	27 5 1
Trimming line	"	87	87		20 0		87 0 0
Trimming road-crossing	Cub. yds.	204	204	..	0 8		6 16 0
Cutting cement-gravel	"	32,464	31,184	1,280	1 4	85 6 8	2,164 5 4
Ditto	"	547	547		1 6		41 0 6
Extra lead on	"	553	553		0 1 $\frac{1}{2}$		3 9 1
"	"	619	619		0 2		5 3 2
Road diversion at 50m. 40ch.	"	919	919		1 4		61 5 4
Pitching	Sq. yds.	11	11		2 6		1 7 6
Clearing scrub	Sq. chs.	854 $\frac{1}{2}$	854 $\frac{1}{2}$		4 0		170 18 0
Erection of temporary bridge	Days	14	14		7 0		4 18 0
Horsework in cuttings						32 9 7	896 17 9
Metal	Cub. yds.	5	5		3 6		0 17 6
Cartage of materials						19 17 10	311 13 9
Making and repairing plant						24 0 0	339 5 10
Removing and re-erecting camp							59 16 0
Railway freight						17 6 0	203 0 6
" tickets						0 6 10	69 8 4
Miscellaneous						12 19 0	164 17 11
Total grading.						629 13 7	9,553 19 3

MIDDLEMARCH TO HYDE—continued.

Description of Work.	Item.	Total up to Date.	Previously	During the Current Month.	Rate.	Amount for Month.	Total Amount to Date.
<i>Bridges and Culverts</i>					s. d.	£ s. d.	£ s. d.
Excavation of foundations	Cub. yds.	2,688½	2,688½		2 6		336 1 3
Inlets and outfalls.	"	1,304	1,304		1 9		114 2 0
Dry stone "	"	513½	361½	152	1 6	11 8 0	38 10 3
Laying 12in. pipes.	Lin. yds.	298	298		2 0		261 0 0
" "	"	32	32		2 0		3 14 0
" "	"	102⅔	102⅔		2 6		12 16 8
Rubble masonry ..	Cub. yds.	1,359	1,359		25 0		1,698 15 0
" "	"	424½	424½		27 0		573 1 6
Providing rubble	"	20	20		1 0	..	1 0 0
Laying concrete pipes, 18in.	Lin. yds.	206	206		3 6		36 1 0
Ditto, 18in.	"	23	23		4 0		4 12 0
" 24in.	"	132	132		4 0		26 8 0
" 30in.	"	2	2		4 0		0 8 0
Puddle	Cub. yds.	399	399		2 6		49 17 6
Punning soil	"	48	48		1 6		3 12 0
Cartage of material						4 10 0	248 3 0
Railway freight					..		152 2 2
Total bridges and culverts						15 18 0	3,560 4 4
Engineering and office						79 1 2	593 14 3

Summary

Works—	Amounts for Month.			Amounts to Date.		
	£	s.	d.	£	s.	d.
Grading	629	13	7	9,553	19	3
Bridges and culverts	15	18	0	3 560	4	4
Engineering and office	79	1	2	593	14	3
Total works executed	724	12	9	13,707	17	10
Less tools and explosives.	47	2	4	439	3	9
Total works payable	677	10	5	13,268	14	1
Plant and material—	Value.					
Grading	£1,038 16 9					
Bridges and culverts.	780 13 2					
Total plant and material on ground	1,769	9	11	1,769	9	11
Totals	2,447	0	4	15,038	4	0
Less plant and material in former certificate	1,666	8	4	14,257	12	0
Less former payments						
	£780	12	0	£780	12	0

16th September, 1892.

E. R. USSHER, Engineer

Approximate Cost of Paper.—Preparation, not given ; printing (1,260 copies), £11.

By Authority : GEORGE DIDSBUXY, Government Printer, Wellington.—1892.

Price 6d.]