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1873.

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HOUSE OF ASSEMBLY.

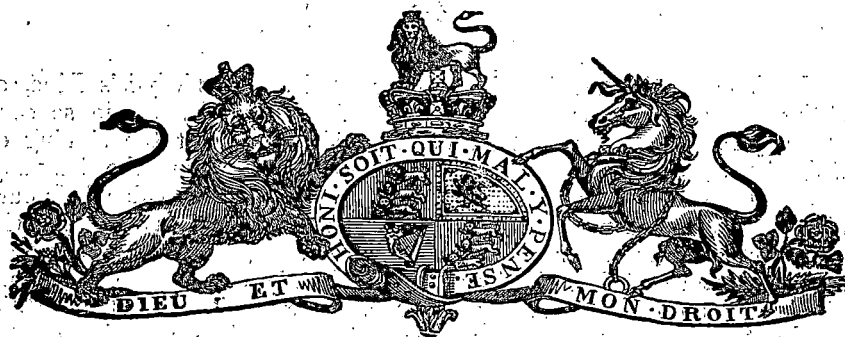
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MAIN LINE RAILWAY.

FURTHER REPORT FROM THE SELECT COMMITTEE, WITH  
MINUTES AND EVIDENCE. (See *antè*, Paper No. 86.)

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Brought up by Mr. Castley, and ordered by the House to be printed, October  
28, 1873.



**FURTHER REPORT** from the Select Committee on Main Line Railway; with Minutes of the Proceedings of the Committee, and Evidence.

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MEMBERS OF THE COMMITTEE.

MR. HODGSON.  
MR. MOORE.  
MR. BELBIN.  
MR. MILLAR.

MR. DOUGLAS.  
MR. SWAN.  
MR. CASTLEY (*Mover*).

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DAYS OF MEETING.

1, 2, 3, 8, 9, 17, 20, 21, 22, 23, 27 and 28 October.

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WITNESSES EXAMINED.

E. Windsor, Esq.  
Hon. H. Butler, Esq.  
Daniel Climie, Esq.

Edmund Hodgson, Esq.  
C. H. Grant, Esq., C.E.  
Hon. W. D. Grubb, Esq., M.L.C.

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R E P O R T.

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In considering the matter referred to them, your Committee directed their attention to the Contract between the Government and the Main Line Railway Company, and endeavoured to ascertain in what manner that Contract was being carried out by the Company.

Your Committee have sat for twenty-one days, have examined twelve witnesses, and have prosecuted their examination carefully and at considerable length. In considering the Contract two dominant clauses are found—in the first paragraph which recites the Acts of Parliament under which the Governor is authorised to make the Contract, and clause 19 which subjects that Contract to the provisions of those Acts—thus rendering it impossible for either of the contracting parties to ignore any of the stipulations of those Acts or assume powers contrary to or beyond them.

The words contained in the 3rd Section of 34 Vict. No. 13, the Governor shall compel such Contractors to construct “the said Railway by a route which shall keep as near as may be practicable to existing centres of population” are mandatory, and your Committee therefore consider that any clause introduced into a Contract made under the authority of that Act with the object of enabling either party to defy or evade the provisions of that Act would be inoperative; and your Committee consequently fall back on this mandatory clause of the Act as their sole guide in reference to the direction of the Line.

It is in evidence that at the time of signing the Contract by the members of the Executive a chart was produced by Mr. Wylie, on which was shown a Line (complying with this provision of the Act) as the Line on which the Railway was to be constructed, and on that distinct understanding the Contract was signed. By the evidence it will also be seen that Mr. Coote (who was then present) denies this; but, from the hesitation and obliviousness which mark that gentleman's evidence, your Committee are precluded from attaching that weight to his denial to which it would have been entitled had his memory been less apparently infirm. The evidence of the members of the Executive who signed the contract receives the strongest confirmation in the fact that in the Main Line Railway Company's prospectus a Line was shown on a map, and the townships and centres of population which that Line was to pass through were mentioned, and in both are the same as on Wylie's Line; and it was on this prospectus the Company's bonds were floated. It is evident, therefore, to your Committee that no other Line was at that time contemplated by the Company, and that Wylie's Line was the one agreed upon by the contracting parties: it therefore was necessary to

consider whether the Line thus indicated, and now generally known as Wylie's Line, comes within the meaning of the Act of Parliament as "practicable." That Mr. Wylie so considered it is certain, for no Railway Engineer of his acknowledged ability would at the signing of a contract indicate a Line which he could not carry out. On the other hand Mr. Grant, the Company's Engineer, has in his evidence designated Wylie's line as "reasonably impracticable." Your Committee, in this antagonism of engineering opinion, deemed it expedient to have other evidence before coming to a conclusion; and it being known that an engineering survey had been made by Mr. Daniel Climie, at the instance of the inhabitants of the District of Oatlands, of a part of Wylie's Line running northward from that town, and which Mr. Grant in his letter of the 19th May, 1873, particularly pointed out in the most decided manner as impracticable, a section of this portion of the Line so surveyed was procured. On examination by your Committee of the grades and works, and a knowledge of the curves on this portion of the Line, the Minister of Lands and Works was requested to give the services of the Inspecting Railway Engineer (Mr. Frith) to verify this survey; and his evidence substantiates the fact that the section is correct. From this section, and from the evidence of Mr. Climie, it appears that this Line is so close to Wylie's Line as practically to be identical; and that the curves, grades, and earthworks are of that easy and inexpensive character (£500 per mile) as totally to contradict the positive assertion of Mr. Grant as to its impracticability. The question therefore arose whether Mr. Grant might not be in like error as to other parts of Wylie's Line, and evidence has been adduced which shows that, so far from Mr. Wylie under-estimating the difficulties of his route, he has rather overstated them; providing on his plan for expensive works which a more minute survey proves can be dispensed with. Against this must be set the evidence of Mr. Grant given in general terms with the modified condemnation of Mr. Wylie's Line being "reasonably impracticable;" and though allowing, where sections from actual survey were laid before him, that the grades and earthworks shewed no impracticability of construction, yet denying such a route could be found. The result of the examination of Wylie's Line north of Oatlands, where the evidence shows Mr. Grant to have been in error, and the positive evidence before them as to the practicability of the same Line southwards from that place, enforces on your Committee the conviction that that Line would have fulfilled the requirements of "The Main Line Railway Amendment Act," and should have been carried out, and that the Line now being constructed does not do so. From further evidence adduced it would appear that this unauthorised change of route is likely to lead to considerable loss of traffic, thus tending to a diminution of the profits of the Line, which, according to the terms of the Contract, must be made good by increased payments from the funds of this Colony.

Your Committee have also considered the terms of the Contract with respect to the rate of speed specified, which, from the evidence of Mr. Grant and Mr. Frith, it appears certain will never be attained on the Line as now being constructed; and it seems evident the Executive Government must contemplate the probability of a Line which fails to satisfy the terms of the Contract as to the minimum rate of speed (23 miles per hour including detentions),—a question of the gravest nature, as it has been persistently asserted that the rate of speed was a sufficient guarantee for the Line being constructed in the best and most substantial manner, as nothing short of this would bear the passage of trains at such a rate. It also appears to your Committee that a Railway on a narrow gauge (3 feet 6 inches) can be constructed to bear that rate of speed, as it is merely a question of expense. What are the faults in the Line as at present being constructed which prevent that speed from being attained, is a point which your Committee deem a matter demanding a searching investigation.

It is also in evidence that a tunnel forty-nine chains in length at Flat-top Hill is being made with a gradient of 1 in 40, and this grade continued for nearly three miles beyond,—an incline in a tunnel that the evidence taken by your Committee leads them to believe to be unprecedented in the United Kingdom on a Line constructed for passenger traffic with locomotive engines; which has been declared to be dangerous; and, if not absolutely unworkable, will require an expenditure for traction power which will materially increase the expense of the Line.

Your Committee are of opinion that the Government should appoint a competent officer to decide between the conflicting reports of the Engineers as to the practicability of Wylie's Line, and to supervise the works during construction; and that they should insist on the terms of the Contract being strictly carried out, as from the evidence it appears that much of the work in the bridges, culverts, &c. is of an unsubstantial, and possibly unsafe, character.

In conclusion, your Committee desire to impress on your Honorable House that they are strongly of opinion that no adequate reason exists for the violation of the Contract on the part of the Company either as regards the route or the guaranteed rate of speed.

JAMES CASTLEY, *Chairman.*

*Committee Room, House of Assembly,  
28th October, 1873.*

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## MINUTES OF THE MEETINGS.

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WEDNESDAY, 1 OCTOBER, 1873.

*Present*—Mr. Castley (Chairman), Mr. Douglas, Mr. Millar, Mr. Belbin, Mr. Swan.

Mr. Windsor called in and examined.

Henry Butler, Esq. called in and further examined.

Adjourned at 12:35 to 11 A.M. on Thursday, 2nd October.

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THURSDAY, 2 OCTOBER, 1873.

*Present*—Mr. Castley in the chair, Mr. Douglas, Mr. Millar, Mr. Swan.

Mr. Daniel Climie called in and examined.

Adjourned at 1 to 11 A.M. on Friday, 3rd October.

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FRIDAY, 3 OCTOBER, 1873.

*Present*—Mr. Castley, Mr. Swan, Mr. Douglas.

Mr. Coote's amended evidence was read, and the amendments disallowed.

Mr. Daniel Climie further examined.

Committee adjourned at 1 P.M. to Wednesday, 8th October.

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WEDNESDAY, 8 OCTOBER, 1873.

*Present*—Mr. Castley, Mr. Swan, Mr. Millar.

Mr. Daniel Climie further examined.

Committee adjourned at 1 to 11 A.M. on Thursday.

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THURSDAY, 9 OCTOBER, 1873.

*Present*—Mr. Castley, Mr. Swan, Mr. Millar, Mr. Belbin.

Mr. Edmund Hodgson examined.

Committee adjourned at 1:15 to Friday, 17th October.

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FRIDAY, 17 OCTOBER, 1873.

*Present*—Mr. Castley, Mr. Douglas, Mr. Swan, Mr. Belbin.

C. H. Grant, Esq. examined.

Committee adjourned at 1:30 to Monday, 20th.

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MONDAY, 20 OCTOBER, 1873.

*Present*—Mr. Castley, Mr. Swan, Mr. Belbin.

C. H. Grant, Esq. further examined.

Committee adjourned at 1:55 to Tuesday, 21st.

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TUESDAY, 21 OCTOBER, 1873.

*Present*—Mr. Castley, Mr. Swan, Mr. Belbin.

C. H. Grant, Esq. further examined.

Committee adjourned at 1:15 to Wednesday, 22nd.

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WEDNESDAY, 22 OCTOBER, 1873.

*Present*—Mr. Castley, Mr. Swan, Mr. Belbin.

C. H. Grant, Esq. further examined.

Committee adjourned at 1.5 P.M.

THURSDAY, 23 OCTOBER, 1873.

*Present*—Mr. Castley, Mr. Swan, Mr. Belbin.

A letter of this date from C. H. Grant, Esq. was read.

C. H. Grant, Esq. further examined.

Committee adjourned at 1 P.M. to Monday.

MONDAY, 27 OCTOBER, 1873.

*Present*—Mr. Castley, Mr. Swan, Mr. Belbin.

Mr. Climie further examined.

A letter furnishing further evidence from Mr. Frith was handed in by the Chairman.

Draft Report considered.

Committee adjourned at 1.45 to 4 P.M.

Committee met at 4 P.M.

Draft Report further considered.

Committee adjourned at 5.30 to Tuesday, 28th October.

TUESDAY, 28 OCTOBER, 1873.

*Present*—Mr. Castley, Mr. Swan, Mr. Belbin.

Hon. William Dawson Grubb, M.L.C., was examined.

Draft Report further considered, amended, and adopted unanimously.

A letter from Mr. Douglas, agreeing to the same, was received and read.

Accounts from Messrs. Coote and Hodgson, for expenses incurred in attendance on the Committee, were read; and it was resolved that, in accordance with the Report of the Select Committee of this House, dated 11 August, 1865, the same could not be allowed.

Committee adjourned at 1.35.

## EVIDENCE.

WEDNESDAY, 1ST OCTOBER, 1873.

FREDERICK WINDSOR, *Esq.*, called in and examined.

*By Mr. Douglas.*—Your name is Frederick Windsor, and you are the Chief Draftsman in the Lands and Works Office? Yes.

Do you produce a plan of the Main Line Railway? Yes.

Does that contain the several routes? Yes, as far as we have the information.

Is there a line designated "Wylie's Line"? There is; the line coloured red is the one.

State the townships on the Southern side through which or near to which that line passes? Bridge-water, Pontville, Shepton Montacute, Picton, and thence on to Oatlands.

Do you know by whose authority, or by whom, that line was laid down on that plan? It has always been understood that it was laid down by Mr. Wylie himself.

Was that plan, before the line was laid on, sent from the Survey Office? I cannot say whether this one produced is not a copy of one made by the Railway Company. Dr. Butler, when Minister of Lands, handed in this plan, with particular instructions not to allow it to go out of the Office.

How long since was this? Some time after Mr. Reeve arrived in the Colony. The line was then on it. It is now in the same state as it was then as regards Mr. Wylie's line.

By whom was that line (Wylie's) put there? I do not know.

Was the line put on by any one in the Department? It may have been copied in the Office. Two or three plans have been made.

Where did Mr. Coote and Mr. Reeve examine that plan? In the Office, shortly after the arrival of the latter gentleman in Tasmania. He looked over the plan, and saw the direction Mr. Wylie's line took.

Can you find out who made the plan produced? I cannot now state; I will endeavour to ascertain.

HON. HENRY BUTLER *re-examined.*

Do you recollect giving Mr. Windsor a plan showing Wylie's route? I took from the Colonial Secretary's Office, in which there was a meeting of the Members of the Government, in the presence of Mr. Wylie and Mr. Coote, a plan indicating the route. This was given to the Draftsman to be copied; the original to be kept in the Office. I do not recollect giving it specially to Mr. Windsor. I received that plan from Mr. Wylie himself, with a request that I would have two copies made, one to be sent by Mr. Coote to England, and one to accompany his report.

Do you recollect whether the line on that plan, from Oatlands to Hobart Town, passes through the townships (or near them) as designated by Mr. Wylie? It does.

Was anything stated by Mr. Wylie as a reason for taking this route? From an examination of Doyne, Major, & Willett's route, he considered that too expensive, and he considered the one he indicated a cheaper one, and one which would pass nearer the centres of population; and the nearness of the Main Road would also facilitate the carriage of materials during construction.

Were the copies furnished? They were.

Were the plans furnished like the one produced? They were facsimiles.

Can you state the colour that was on Wylie's plan showing his route? It was as nearly as possible the same as the one produced; and if I had not heard from Mr. Windsor to the contrary, I should have been inclined to say that this plan is the original.

Were the townships and tunnels discussed in the meeting? Mr. Wylie showed the tunnels and townships (indicating the length and situation of the former) particularly; and I find the same indicated on the plan now produced.

Was the report in writing? It was not produced, nor read to the Government. I had seen portions of it which he read to me. One paper he asked me for; viz., an approximate value of the properties through which the line as shewn in the plan would pass from the boundaries of Hobart Town to the Launceston and Western Railway junction: this was given to him in two-mile sections. I furnished others at his request.

Do you recollect any part of the report? Yes; with reference to tunnel at Constitution Hill he was doubtful whether it would go through freestone or ironstone. From the character of the land he thought the Spring Hill tunnel would be through sandstone. Mr. Grant had the plan showing Mr. Wylie's line lent to him, on his arrival, to copy from.

*Mr. Swan.*—Do you remember making any suggestion to Mr. Wylie as to the Jerusalem route? Did you ever tell him it would be inadmissible? Yes; in the course of conversation I told him it went through a country comparatively unpopulated, (he referred to the coal that would be opened up), and pointed out other objections. He said he had gone through Doyne, Major, & Willett's plans, and that it was so expensive that he would endeavour to find another route. It was owing to ill-health that he did not go over Doyne's line.

Did Mr. Wylie then deliberately prefer the line we call by his name over the line by Doyne, Major, & Willett? Certainly; Mr. Wylie stated that from close examination of the plans of Doyne's line he could not undertake to construct it, and he came here expressly to find another route.

Did Mr. Wylie mark a plan for the Government? He brought a plan with a line marked on it, and handed it to the Executive in the presence of Mr. Coote; and the whole of the proceedings in the Colonial Secretary's office before mentioned took place in Mr. Coote's presence.

Did Mr. Wylie ever say he made a survey of this line? He ascertained the heights by aneroid barometer, from half a mile north of Pontville to a point half a mile north of Constitution Hill, and from Melton Mowbray to two miles north of Spring Hill, in my presence; taking observations and marking them in his book about every five minutes,—this was in Mr. Coote's presence.

*By the Chairman.*—Could any one have taken the plan out of the office? No; unless by another member of the Government. It could not have been changed and replaced by another. I carried the plan myself from the Colonial Secretary's Office to the Lands and Works Office.

*In answer to Mr. Swan.*—Mr. Wylie intended the red line to indicate a route for a railway. I am sure it was not to show where he had been. I am certain of this, because it does not show several of the places he examined. The red line is the route he selected after these examinations, and the plan was furnished to the Government for the purpose of showing the route.

THURSDAY, 2ND OCTOBER, 1873.

DANIEL CLIMIE, *Esq.*, called in and examined.

*By the Chairman.*—Your name is Daniel Climie, and you are a Civil Engineer? Yes.

Have you been engaged on railway works? Since 1842. For about 30 years under the late Mr. Harrington, Consulting Engineer of the London and North-western Railway. My experience in the construction and working of railways extends over thirty years, during which time I have been engaged on the following lines in the United Kingdom; viz.—The Glasgow and Greenock, Glasgow and Ayr, Great Western, South Devon, Exeter and Barnstaple, Barnstaple and Bideford, Yeovil and Exeter, Shrewsbury and Chester, Chester and Mold, Shrewsbury and Hereford, Welshpool and New Town, Shrewsbury and Crewes, Oswestry and Welshpool, Rugby and Cannock Chase, Hadleigh and Coalport, Birmingham and Wolverhampton (low level line), Buckley and Connah's Quay, Scarborough and Whitby.

York and Scarborough, Taunton, Barnstaple, and Ilfracombe. Besides the above-named works, I have been engaged in making out the estimates for several lines in England, Wales, and Ireland; and the contracts have been carried out on my estimates. The Shrewsbury and Hereford, which, as far as I am aware, was the first main line constructed in England under £10,000 a mile, was laid out entirely by myself and carried out under my superintendence. As my name has not been connected with any engineering work in this Colony, I have thought it advisable to inform the Committee as to the nature and extent of my experience as a railway engineer. I produce a letter from Mr. Brassey as to my having been employed on the Shrewsbury and Hereford Railway as Resident Engineer.

On plan produced a line is marked in red: have you surveyed along any part of this line? From Anstey Barton to York Plains, about 10 miles, as nearly as I can judge along the line as shown on this plan.

Did you find that part practicable for a railway? Yes, certainly; and I produce a section of that part. This is the line Mr. Grant said was impracticable. There is a gradient on my line of 1 in 58 for about 40 chains, and 1 in 65 for three-quarters of a mile; there is no heavy work on this line—in fact it is nearly all surface work.

Do you know the line marked out by the Contractors near Oatlands? No.

You have shown us a section from Bigwood's to York Plains; is the former place near the Contractors' line? Yes, I started from their line.

Does your section leave the Company's line at Bigwood's and join it again at York Plains, passing through Oatlands? Yes.

Would there be heavy works on that line from Bigwood's to York Plains as surveyed by you? No. I can give you an estimate of the cost from Oatlands to York Plains for clearing, fencing excavating (clay and rock), culverts, gates and cattle-guards, ballasting, rails, fish-plates, &c., laying permanent way, crossings of permanent way, material, rolling stock, stations, sidings, &c., and engineering at £3889 18s. 6d. per mile. I allow in this £200 per mile for stations.

Can you roughly estimate the cost of earthworks between Bigwood's and Oatlands? I cannot, for I never took out the quantities; but I can furnish them in the course of a day or two.

*Mr. Douglas.*—Are the curves sharp on your line? No.

*Mr. Millar.*—What do you mean by sharp curves? 4 chains would be a rather sharp curve: these are being used on the Main Line now from Anstey Barton to York Plains. On the line I have surveyed there would be no curve more than from 8 to 10 chains. With ordinary locomotives sharp curves are highly objectionable.

Would it be safe to travel at 25 miles an hour round a curve of 4 chains? I do not think the ordinary type of engine could go round at all. An engine of 16 feet rigid wheel base certainly could not; one of 5 feet might. I remember when engaged on the Shrewsbury and Birmingham a curve of 7 chains going in to the station was found to be so sharp that the engines were constantly running off the line, and it was found necessary to "flatten out" the curve to 10 chains.

Have you been along any other portions of Mr. Wylie's line? I have; sections from Bridgewater to Brighton along nearly the same route.

What do you consider the advantages of adhering to Wylie's line to the point at Brighton? It would only cross the main road once, and would give very fair gradients,—the steepest 1 in 46·26—and very nearly a surface line. I know the road Mr. Wylie took from there on to Bagdad, though I have not carefully examined it. As far as I can judge without a section, there would be no necessity for a tunnel at Pontville. I can also show you sections of several miles near Green Ponds where I have closely followed Wylie's route. From a point near the north end of Mr. Wylie's tunnel at Constitution Hill, and following his route for five or six miles, the gradients on this are easy, with the exception of one mile and a quarter of 1 in 42: the works are very easy, and this is also almost a surface line. I have also been over Wylie's line from Jericho, over Spring Hill as far as Picton; not keeping strictly to his line, but never diverging to any great extent. I believe the line could go over Spring Hill without a tunnel, at no greater distance anywhere than half a mile from the Main Road, with no gradient steeper than 1 in 40.

Is there any other part of Wylie's line that you have examined? No.

Can you give us any idea of Wylie's line as practicable or otherwise? Not throughout, but the parts I have examined are, as I have stated, easy. I have not been over the part from Bagdad to about three miles of Green Ponds.

Is it practicable, at a moderate cost, to find a line through the Townships on the Main Line of Road from Bridgewater to Oatlands; viz.—Pontville, Bagdad, Kempton, Green Ponds, Melton Mowbray, and Jericho? Yes, certainly; I am prepared to prove it. With no gradient steeper than 1 in 42, and without a tunnel, and at a cost of under £4000 per mile.

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FRIDAY, 3RD OCTOBER, 1873.

DANIEL CLIMIE *further examined.*

*By Mr. Douglas.*—Did you not make a survey in Victoria to a place called Kilmore? Yes; I made a section of Railway, narrow gauge, to connect the town with the Main Line.

Did you not assert it was a practicable route from the line to the town? Yes; and I took a respectable contractor who was willing to carry it out on my section and according to my estimate.

Did not the Government afterwards cause that line to be surveyed? They sent some time after to find a line, I suppose, for a broad gauge; mine was for a 3 ft. 6 in. I was sent at the instance of Mr. Longmore, the Minister for Railways, but the work was done at the expense of the people of Kilmore.

Was not the line surveyed by the Government? After I gave my section and report to the Government, a deputation came down to see the Minister of Railways to get the line carried out. My estimate was £12,000 for 3 miles. The people of Kilmore wished me to attend at that meeting before Mr. Longmore. Mr. Higinbotham objected to my presence, and all that I know of any other survey was that he had sent an assistant to find a line who had reported that he could only find one at a cost of double that of mine, and that he could find no marks of mine on the ground. This I learnt from newspaper report. I afterwards published a letter in the *Argus* contradicting the whole of these statements.

What would be the difficulties in a 5 ft. 3 in. gauge which would not be applicable to a 3 ft. 6 in.? The North eastern line runs along a valley to the town, and the town is also in a valley, and a ridge of 300 feet high lies between: it was necessary to cross this hill, in doing so sharp curves would be necessary: on the 3 ft. 6 in. gauge these could be made of 5 chains radius or thereabouts, in the 5 ft. 3 in. gauge a radius of 10 chains would be required, thus extending the filling and cuttings very considerably.

The line you mention was not constructed? No.

You still are of opinion your line could have been constructed? Yes; and a contractor of experience was prepared, as I have stated, to carry it out.

On the line as now being made you are aware there is to be a tunnel, and a steep incline of 1 in 40 with sharp curves to enter this tunnel? Yes, I am informed so; I have not seen plans or sections. I have been informed that the sectional area of this tunnel is to be 12 x 13, and that the grade in the tunnel is 1 in 40, the tunnel being 60 chains in length.

If these statements are facts, what effect would they have upon a train passing through such a tunnel with ordinary locomotives? I have never heard of a tunnel with such a grade or such an area on a passenger line. The damp in such a tunnel, which is always present, added to the condensed steam from the engine, the rails would be always in a greasy, slippery state, which would so much lessen the adhesion of the engine upon the rails that a locomotive would not be capable of taking up half as much with the rails in such a condition as it could in an open cutting of the same grade, and the Company would not be justified in taking so heavy a train down such a grade as they would be in an open cutting of the same incline.

Are there any marks left on the line you have examined? I hardly think so. I simply followed the levels. I call mine a preliminary section, and from this I could make a parliamentary survey as it is termed in England, and stake out the line for construction.

Whereabouts in Jericho do you start from? Near Sandhills, on the right-hand side coming to Hobart Town, along John Jones' Plains, and thence on to Anstey Barton, crossing the Main Road where Mr. Wylie proposed his tunnel. I made this examination of Spring Hill with a small level, and judging from long experience I have come to this conclusion that no tunnel would be required.

After leaving Spring Hill which way would you go? To the west of the Main Road; to within two miles of Melton Mowbray I went along this line through the bush.

Are you prepared to state that a line from Bridgewater to Green Ponds by the route through which you have taken the levels can be carried out? I am willing to stake my professional reputation that it can, and am prepared to prove it before any unprejudiced and competent engineer.

*By Mr. Swan.*—Can you give an opinion upon the practicability of Wylie's route? The portion of that route I have examined is so.

You have been over some parts of Wylie's route which the Company's Engineers have pronounced to be impracticable? Yes.

You say that Mr. Wylie's was practicable and reasonably inexpensive, say costing four or five thousand pounds per mile? Yes.

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WEDNESDAY, 8TH OCTOBER, 1873.

MR. CLIMIE *further examined.*

*Mr Swan.*—What part of Mr. Wylie's line have you not examined from Bridgewater to Oatlands? From Pontville to about two miles south of Green Ponds, and a small portion between Jericho and Anstey Barton House.

Did you examine Mr. Wylie's route? I was not specially confined to any route. I only endeavoured to find a route. Mr. Bisdee showed me a route over Spring Hill. I was instructed to find a route from Bridgewater to about Antill Ponds, which should include the centres of population.

Are you of opinion (from personal observation and inspection of the country) that Wylie's line is a practicable route such as contractors could carry out? So far as I have been over it, making the deviations I have named, I think it is. I could see no serious obstructions. I took the levels from Jericho to Picton with a pocket level. I did the same in selecting the route I have made a section of by the Jordan. This is the way I adopt in selecting a route for a new line of railway.



Do you consider that from Bagdad to two miles this side of Green Ponds you are practically acquainted with Mr. Wylie's route? I am not.

How long would you take to become so as to give us an authoritative opinion as to its practicability? About three or four days.

Is there any point at Spring Hill that you are unacquainted with? I have not been over Mr. Wylie's line at Spring Hill. I have examined a line over that hill, and I think it will cross without a tunnel as I have already said. I am unable to say this of Constitution Hill without further examination.

*Mr. Millar.*—Have you been over the Jerusalem route? No; except over a few miles near Lake Tiberias, and I found the line there about 120 feet higher than in any part of the line I have selected.

*Mr. Castley.*—Did you survey a line from the line at present being made by the Contractors near Bigwood's house through Oatlands and joining the Contractors' present line at York Plains? Yes; there are no difficulties, gradients are moderate, though from Oatlands to Bigwood's is the most expensive of any I have taken.

Can you say what the cost of this line would be? It would exceed £4000 but be under £5000 per mile; this of course includes the cost of crossing the Lagoon.

Are the distances on the Contractors' line and yours the same? I believe my line through Oatlands would be two miles longer, but I have never seen the Contractors' sections or plans. It is on this part of the Contractors' line (according to Doyne's survey), and measuring from the Contractors' stakes, that this point of 120 feet elevation is situated. I know of no other engineering advantage than the two extra miles gained by going through Oatlands.

Have you seen the cattle-guards as made by the present Contractors, and do you think they are a sufficient safeguard for passengers? I am unable to form an opinion. I have never seen them before, —they would not be allowed in England nor, I believe, on the Continent.

THURSDAY, 9TH OCTOBER, 1873.

MR. EDMUND HODGSON *called in and examined.*

*Mr. Castley.*—Your name is Edmund Hodgson, and you have taken great interest in the construction of a Main Line of Railway, and have been engaged in the preparation of statistics of traffic? Yes; and I have prepared certain returns from the statistics for 1872.

*Mr. Millar.*—Will the present line catch the traffic from Green Ponds, Bothwell, and Hamilton to Hobart Town, and if so, where? Only from Pontville or Bridgewater.

*Mr. Castley.*—Do you think that, after taking the produce so far, settlers would transfer it from their waggons to the Railway? No, certainly not.

*Mr. Swan.*—What loss do you say will ensue from the construction of the line by way of Jerusalem instead of by a route going as near as practicable to the centres of population, including the Districts of Bothwell, Hamilton, Green Ponds, and say half the District of Oatlands? I produce returns (1, 2, 3, and 4) showing the difference between the two routes; in these I have not included Bagdad and the Tea Tree, as these Districts would have the advantage of either line.

# MUNICIPALITIES.

	Area.	Annual Value.
		£
Bothwell .....	281,300	15,062
Green Ponds .....	100,000	11,258
Oatlands (half) .....	180,000	15,000
	561,300	41,320
Richmond .....	138,000	13,275
	423,300	£28,045

## STOCK.

	<i>Horses.</i>	<i>Horned Cattle.</i>	<i>Sheep.</i>	<i>Pigs.</i>
Bothwell .....	467	3800	113,600	677
Green Ponds.....	532	1778	43,000	932
Hamilton .....	890	8105	131,700	1284
Oatlands (half) .....	528	2820	70,000	800
	2417	16,503	358,300	3693
Richmond .....	625	1701	46,436	1554
	1792	14,802	311,864	2139

## AGRICULTURAL ACREAGE.

Bothwell .....	3367
Green Ponds .....	16,205
Hamilton .....	5584
Oatlands, taking one-half in the Jericho portion .....	8900
	34,056
Richmond .....	17,732
	16,324

## CROPS.

	<i>Wheat.</i>	<i>Oats.</i>	<i>Barley.</i>	<i>Peas.</i>
Bothwell .....	15,185	3274	2800	1177
Green Ponds.....	38,439	17,574	2363	2026
Hamilton .....	33,366	4504	4930	721
Oatlands (one-half) .....	30,000	23,000	4500	1200
	116,990	48,352	14,593	5124
Richmond .....	36,022	7468	7666	3877
	80,968	40,884	6927	1247

Have you made any traffic returns? Yes.

Were they furnished to the Government, and have they been quoted in their prospectus by the Main Line Railway Company to show the advantages of a line passing through the centres of population, and also to induce the public to take their bonds? Yes.

What do you calculate will be the loss of traffic by the change of route? £14,000 or £15,000 per annum, even at the present rate.

What would be the difference of population in these different districts? Nine thousand more would be accommodated by Wylie's route.

FRIDAY, 17TH OCTOBER, 1873.

CHARLES HENRY GRANT, Esq., Chief Engineer Main Line Railway, called in and examined.

By the Chairman.—Have you surveyed a line from Hobart Town to a point on the Launceston and Western Railway? It has been done by the Contractors under my supervision.

Did you have a map showing Wylie's line placed before you? The Contractors had such a map in their possession, but I do not know how obtained.

Was this map brought under your notice by the Contractors? Not particularly.

Did you examine Wylie's line? The Contractors were, when I arrived in the Colony, engaged in examining the line that was indicated by Mr. Wylie as possibly feasible.

What was the result of this examination? On the Contractors being furnished with a section I carefully examined their survey, and considered the route scarcely practicable, and certainly not so at any reasonable cost.

What do you mean by reasonable cost? A reasonable cost was, of course, a matter of comparison with other routes; and I reserved an opinion until other routes were surveyed, and, by comparison, the great engineering difficulties and cost of construction of what is known as Wylie's line made me consider it reasonably impracticable.

What is your present idea of reasonable cost now that other lines have been surveyed? The Wylie route would have taken at least twice the time to construct that the Contract provides for, and the cost would have been twice the sum guaranteed by the Government.

What do you estimate the cost per mile by the present route from Brighton to Antill Ponds, and what by the route known as "Wylie's?" I am not prepared to answer the question. It would take several days to do so,—at least a week.

Will you furnish the Committee with that information? I can give you my own rough views of the cost of the present line.

Did you personally inspect Wylie's line? I did.

What conclusions did you arrive at from such inspection? I have already stated that I considered it reasonably impracticable on account of the engineering difficulties. The chief objectionable feature in that route appeared to be the Serpentine Valley; but the severe gradients and great length of tunnelling through hard bluestone rock also greatly influenced my opinion.

Were any trials made parallel to Wylie's line within a short distance? The whole adjacent country was carefully examined by the Contractors, but I also personally inspected it.

Supposing a line could have been found through this country obviating the necessity of these tunnels, would you still have considered the line impracticable? I cannot positively answer this question; but in that event I should have given very special attention to the great difficulties presented by the Serpentine Valley.

What is the character of the difficulties of this Valley? The very narrow and tortuous character of that ravine, and the great height and bold character of the encircling bluffs.

Would that have necessitated a number of sharp curves? Yes, and tunnels.

Would these bluffs have necessitated severe gradients? No; the gradients would have been within our limits.

What are these limits? By the Contract, one in forty.

Did you find any grave objections in following the Line known as Wylie's route northward from Spring Hill? I did not consider the line shown on the map and known as Wylie's route at all satisfactory between Oatlands and Antill Ponds.

Were there any grave objections to be taken to Wylie's line between Spring Hill and Oatlands? That portion of the route was not instrumentally surveyed, but there must have been, in my opinion, either a considerable deviation from a straight course or some heavy works.

You are satisfied that you can form an opinion on this point without an instrumental survey? The country clearly presents no great engineering difficulties, but other parts of the route having been considered so objectionable I have not paid particular attention to this portion.

*By Mr. Swan.*—Were you appointed in England engineer of the Company? Yes.

What were the duties of that office? The entire supervision of the Contract for the construction of the line, and the furnishing of the technical details of the survey and works, including the determination of the route.

Before you left England had the Company you represent entered into a Contract with a firm of Contractors for the construction of a railway? They had.

What was the character of this Contract? The Contract included the complete construction and equipment of the railway according to the terms of the Contract with the Government.

Was there any understanding that the Railway should be constructed on any particular route? I was not informed.

What were your instructions as to route? I did not receive any, nor is it usual to furnish such to an Engineer.

Would then the Contractors be bound to adopt any route you chose to select? They would have to adopt any reasonable route I might specify.

Is it customary for Contractors to enter into an obligation without knowing what the cost may probably be? In my experience I have known many cases in which this has been done.

When you arrived here the Contractors had commenced operations? They had commenced surveying.

Where did they commence, was it on Wylie's line? I am under the impression they commenced on that line, but I cannot be certain.

Do you know why they commenced on that line? I cannot say, unless it was at the instigation of Captain Coote who accompanied them here.

Did you estimate the cost of construction of the route by Constitution Hill? No detailed estimate, the surveys were not sufficiently complete.

You were led to believe that expensive tunnels would be required? On examination of the country I satisfied myself that such would be the case.

Would you be surprised to find that a line could be constructed from Bridgewater to Green Ponds without resorting to any tunnelling whatever, or without very materially increasing the length of the line? I am confident that this would not be practicable without considerably increasing the distance from a direct course; roughly speaking, the detour would be at least from five to seven miles.

With this detour of five or seven miles do you consider it would be practicable? Not with our limitations of gradients.

You are well acquainted with the Contract as a matter of course? I am.

And you cannot depart from its provisions? Certainly not.

Do you consider that the Government have any authority to appoint an officer to see that the terms of this Contract are being observed during construction? I have no desire to question the right of the Government to appoint such an officer, but consider it would be very impolitic in them to do so.

Did you never question their right to do so? Not that I am aware of.

Why do you consider it would have been impolitic? Because the Government might thereby be involved in a responsibility which would only properly devolve on the Engineer of the Company.

What kind of responsibility do you mean? It is possible that the Engineer so appointed might press upon the Government suggestions as to the construction of the line, which, if the Government were to force upon the Company, would involve the Government in the responsibility of the consequences.

Would not that be an excess of the powers given to the Government by the Contract? It would be; but it would be difficult for any Engineer to refrain from expressing a decided opinion as to the carrying out of works on which he was called upon to report.

Would he be exceeding his duties if he insisted upon his suggestions as to the stations and rolling-stock? I consider that, as the Company own and pay for the line, it is primarily their interest to see that the Contractors construct it in accordance with that clause, and, therefore, that the Government might feel confident that the terms of the Contract would be complied with.

Would an officer appointed by the Government under this Contract (in your opinion) have the power to insist on the point indicated in my previous question? Only to a very limited extent.

Could he give effect to any objections he might take to the quality of material used in construction, or to the character of the work? I think not, unless it were a very strong case; and even then, not until the completion of the line.

*By Mr. Douglas.*—Who are the firm of Contractors? Messrs. Clarke, Punchard, and Reeve.

By whom is that firm represented in this Colony? By Mr. Reeve.

Has he a staff of officers under him? He has.

Have you a staff under you? I have.

Are they entirely separate and distinct? Entirely so.

Do they occupy the same building? Yes, to some extent.

Are the Contractors paid in a lump sum? Their Contract is what is called a "lump sum Contract,"—they have to complete the Railway for a fixed amount, £1,025,000, of which £625,000 is to be paid in bonds, and £400,000 in shares of the Company.

Were the Contractors paid in bonds or cash? Under arrangement with the Company I believe the bonds were sold, and converted into cash.

Who converted the bonds into cash? I am not aware.

By what means do you know that the bonds were converted by the Company or Contractors? I cannot say.

Have the Company handed over to the Contractors the whole of the proceeds of these bonds? I should think not; it is not at all likely they would do so.

Do not the Contractors pay the interest on these bonds? I have no knowledge—I really do not know.

Do you know the prospectus of the Company [produced]? I am not positively acquainted with the contents of that document.

From whom did you obtain your instructions? From the Board of Directors in London. Mr. George Sheward was the Chairman; Messrs. Chapman, Dent, and Ricardo were other Directors.

Were those gentlemen all mentioned in the prospectus I now show you? They were.

Are you paid by the Company or by the Contractors? By the Company, most decidedly.

Are any moneys paid through you to the Contractors? The payments to the Contractors for work done in this country are made through me and the Company's agent.

Do you exercise any supervising power over the Contractors in the outlay of money on works? I have no power whatever to control their outlay, but this is of course effected by their carrying out my requirements.

Are not the Contractors entirely irresponsible to you as regards the outlay of money upon the works? Certainly, but the Contractors are entirely in my hands as to the works of the Contract.

Are you responsible for all the curves, gradients, works, and the general route of the line? I am, solely.

Are you acquainted then with the cost of construction of the line? I have only a very general knowledge of the matter.

Do you not know the general cost of the work? As this is not in my province I have given no attention to the matter.

Are you aware of the cost of the Risdon Bridge for instance? I am not.

Do you know the cost to the Company; Yes, for I have to pay for it.

Do you keep books for the purpose of ascertaining the amount of payments made? I have returns furnished me.

Up to this time how much have you paid the Contractors? I think about £300,000, speaking roughly.

If the Contractors are paid in lump sum, how is it they are paid on your certificates? The whole Contract is for a lump sum, but the payments are made in the shape of advances.

MONDAY, 20TH OCTOBER, 1873.

MR. C. H. GRANT *further examined.*

*Mr. Castley.*—Are you satisfied that you can form an opinion on Wylie's line between Spring Hill and Oatlands without an instrumental survey? Sufficiently so for all practical purposes.

Could Mr. Wylie have indicated a route without such a survey? Through some portions of the country he might have done so, but certainly not in others.

Presuming Mr. Wylie had indicated a route without an instrumental survey, would he have been obliged, in pegging out a line for construction, to have made deviations on either side of his line? He would, on endeavouring to set out the line, run a trial level of it, and if he found it impossible to obtain the route he desired he would probably examine the surrounding neighbourhood, and if he found no practicable line he would be driven from the neighbourhood altogether.

If Mr. Wylie indicated a route without the use of instruments, would he have found it necessary in marking out the line for construction to make any deviations? He might perchance select the final route at once,—if he found he had not done so he would endeavour to obtain the best practicable.

*Mr. Swan.*—Are you then of opinion that the Government have no right to interfere during the construction of the line? I think the Government might be advised of the proceedings of the Company during the construction of the Railway, and in that case should bring under my notice any glaring departures from the Contract.

Could they interfere with any effect if they disapproved of the proceedings so reported? I do not think they could until the completion of the Contract.

What then would be the use of advising the Government of what was going on? I cannot think there would be any utility in it except in deference to public opinion.

What were your instructions when you came out to this Colony? I had no special instructions whatever, but came out here as Engineer of the Company to execute on behalf of the Company the Contract between the Tasmanian Government and that Company.

You were made aware of the terms of the Contract before you came out? I had perused the Contract in London.

Had you read the Act of Parliament 34 Vict. No. 13? I believe I had.

You are aware that by that Act the Government were authorised to enter into this Contract? I am now aware of it.

You are aware that the terms of the Act must be carried out in the Contract? I am aware of the terms of the Contract which more particularly govern the proceedings of the Company.

In the 19th clause of the Contract there are these words: "This Contract is made subject to the provisions of the Main Line Railway Acts of the Parliament of Tasmania hereinbefore recited," and the Act 34 Vict. No. 13, is one of the Railway Acts so recited? Yes; I am now aware of that.

The Government then had no authority to make any Contract contrary to this Act? It is not for me to question the powers of the Government, but in other Colonies I have known the Executive to materially alter the statutory conditions of the Contract, trusting to have that Contract ratified when placed upon the Table of the House.

Do you consider yourself bound by the Act? I consider myself bound by the Contract rather than by the Act, in case of any conflict between the two.

Did not the Company bind themselves to carry out the Contract in accordance with the Act? I look solely to the Contract as a guide to our proceedings.

I have pointed out to you that the Contract specifies that it is made subject to the provisions of 34 Vict. No. 13? Yes, the Act will be carried out so far as it agrees with the Contract. If they disagree I should prefer to adhere to the terms of the Contract.

How can 34 Vict. No. 13 disagree with the Contract if the Contract is made subject to the provisions of that Act? I have not questioned any want of accordance between the two.

In the Act, Clause 3 contains provisions for matters to be contained in the Contract; this is, of course, the instruction from the Legislature to the Executive in drawing up the Contract? I presume it would be a general instruction.

Did you understand that this Act 34 Vict. had all the effect and was a law of this Colony, which it was the duty of the Executive to carry out? I do not regard the matter at all in that light. I apprehend that it would be an instruction to the Executive to arrange a Contract as near thereto as it was possible to attain.

Do you think that the Executive have the power to override the law? I think that any Executive Government in making a Contract might vary the terms of the law if they considered it specially expedient to do so, and in that case would trust to the Contract being afterwards ratified by Parliament.

In this Act the following words in 3rd Section, 1st paragraph, are used: "For compelling the construction of the said Railway by a route which shall keep as near as may be practicable to the centres of population." Did you consider that expression had any definite meaning? I do not recognise any special applicability, the terms are so very general.

What would have been the effect if the words "as near as practicable" had been omitted? I should then have expected to find that the Legislature had specifically defined a route.

Did you consider the term "centres of population" to mean the towns on the Main Line Road; viz., Pontville, Green Ponds, Oatlands, Ross, &c.? Certainly not; I did not put such a narrow construction upon the terms. I felt sure that if those towns had been intended, they would have been specially mentioned.

Is this document (marked B) the Prospectus of the Main Line Railway Company, of which you have distributed copies in this Colony? I have no reason to doubt it, but I have not distributed the Prospectus in this Colony. I have given two or three copies which happened to be in my possession to gentlemen who have wished for them.

That Prospectus says, "The line will pass through Pentonville, &c."—do you consider those are the places contemplated by the Company as the centres of population? I really am not able to answer the question.

Supposing that the Government understood "Pontonville, &c." as the centres of population, how were they to compel you to construct the line by a route passing through them? The Government have no power to do so if the Company hold a different opinion as to the meaning of those words.

The Act says, in such Contract provision shall be made as to compel the Company to pass, &c.—is any such provision made in the Contract? The terms of the Contract appear to be less stringent than those of the Act in this respect.

How are the Government to know that the paragraph—"The Bridges shall be constructed of brick, stone, iron, or timber, as the Company's Engineer may determine; but in any construction the Bridge to be so designed and built as to have a strength sufficient to bear a strain without breaking four times greater than can be put upon it with the heaviest Rolling Stock on the Line, or otherwise so as to comply with the regulations as to strength of the English Board of Trade,"—is being carried out? I do not think the Government has any direct interest in the matter. They could find out by appointing any competent person to occasionally examine the works and report upon them.

If the Inspector disapproved of the material used, or the character of the work, what power would the Government have to require an alteration? I do not think that practically the Government have any powers to enforce any alteration until the line is completed, when they could refuse to allow the line to be opened for traffic if in an unsafe condition.

Would not much of the material and work be so covered at that time as to make inspection impossible, or at least very difficult? No; it would be very easy to carefully examine the line and ascertain almost any fault.

Is it your opinion that the Government have no power to compel any alteration in any route you may fix upon, or to interfere authoritatively with the works during construction? I think that practically the Government have no such power, although I hope no question on this matter may arise.

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TUESDAY, 21ST OCTOBER, 1873.

MR. C. H. GRANT *further examined.*

*By Mr. Castley.*—North of Oatlands to Tunbridge is Wylie's route impracticable? Certainly impracticable as shown on the plan.

Have you surveyed that part of Wylie's route? We have no instrumental survey of that part; it is clearly so impracticable and absurd that it was not worth trying with instruments.

Do you still adhere to the statements made by you in a letter dated the 19th May of this year, addressed to the Colonial Treasurer, as to the impracticability of getting from Oatlands or Mr. Littlechild's to York Plains and Antill Ponds by any other route than that adopted by Messrs. Doyne & Co.? On a further very careful examination I think it possible that a practicable line could be obtained, but it would be at a great increase of distance and very costly works.

Then do you adhere to the terms of that letter? Practically I do, although I admit the bare possibility of a line being obtained.

What were the engineering difficulties that rendered Wylie's line from Oatlands to Antill Ponds incapable of being carried out? His line passes over exceedingly high ground, almost over the top of a high sugar-loaf mountain. The construction of that line would involve several miles of tunnel.

Could not Wylie's line have been carried through from Oatlands to Antill Ponds with slight deviations so as to admit of easy grades? No; he could not possibly have carried out this line with easy grades.

Do you consider 1 in 260, 1 in 276, and 1 in 189 objectionable grades? It depends on the character of the country; they are certainly objectionable where easier grades are to be found.

If those are objectionable grades, what must 1 in 40 be? Highly objectionable if it can reasonably be avoided.

And yet the Company have adopted a grade of 1 in 40? This grade is allowed in the Contract between the Government and the Company.

With the steepest grade being 1 in 72, and the other as before mentioned, can you say that line is impracticable? Not impracticable as to the gradients, but it may be reasonably so as regards the works.

Do you consider the earthworks as shown by the section now laid before you as rendering the line impracticable? If I were looking at the section without any knowledge of the country I should not say it was, but knowing that this line must run along a steep side hill, and that running on the curves would much increase the work shown on the section, I have no doubt whatever that the line would be a very heavy one to construct.

Would you consider £400 or £500 per mile for earthworks an expenditure sufficient to render a line impracticable? Certainly not.

If I tell you that the line, the section of which you have just looked over, can be completed for that sum, would you characterise the line as impracticable? I should, having a personal knowledge of the country.

Does your line come near the western extremity of York Plains, near Jillett's house? It does.

From there to Antill Ponds is there any engineering difficulty that renders the line impracticable? Such a line we have already partly constructed.

If a line from Oatlands could be brought into your line at Jillett's with these grades and at that expense, would you still call it impracticable? I cannot acknowledge that such a line would be reasonably practicable, but on your presumption I could not say it was impracticable.

Can you say positively that such a line does not exist? To the best of my judgment there is no such line in the country.

What altitude do you reach in the neighbourhood of Oatlands? I cannot say from memory; the information can be furnished.

Would it be any advantage to cross at a lower altitude, provided the expense of the earthworks was not materially increased? It would so, if the increase in distance were not unreasonable.

Would it tend to decrease the "haulage?" That is a comparative question, as an increase in distance would have the same effect in cost as the increase in altitude.

Would lower altitudes require less engine power? Not in the special case you mention, because there being more difficult portions on the line we require heavy engines throughout this part.

Do you allude to the works at Flat-top Hill? Yes, there and elsewhere.

Is there a considerable tunnel there? There is.

What is the gradient in the tunnel? 1 in 40 throughout.

What is the grade of the approaches to the tunnel? It varies considerably, alternating from the maximum to easier grades.

Can you furnish the Committee with the grades for five miles on each side of this tunnel? I will do so.

Are there any curves in the approaches to the tunnel? There are some curves.

Are there many? Several.

Can you give the Committee their radius? There is no curve of less than five chains radius.

Are there four or five of that radius? There may be, but they are all very short in length.

Are there any instances on European lines of a gradient of 1 in 40 in a tunnel being allowed to be worked by locomotive? I cannot quote at the moment any particular line, but I am satisfied there are very many,—if not in Europe, in other parts of the world.

Would such a tunnel be allowed by the English Board of Trade for a passenger line? The Board of Trade Regulations do not in my opinion affect this point.

In case of the load overpowering the engine coming down such a line, would not curves of 5 chains radius greatly add to the danger of the train running off the rail? They would to such extent be an element of danger.

WEDNESDAY, 22ND OCTOBER, 1873.

MR. C. H. GRANT *further examined.*

*Mr. Castley.*—What will be the difference in traction power of a locomotive in any tunnel with a grade of 1 in 40 and the same locomotive in an open cutting of the same grade? There might be no difference; if there were any, the amount would depend upon the special circumstances of the case.

What special circumstances would make the traction equal? The rails being in the same condition as regards adhesion.

Is there not generally a large amount of condensation of steam and vapour in a tunnel? As a general rule it would be so.

Does not that render the rails what is technically called "greasy?" This depends upon the amount of condensation; if it was considerable, the rails would be wet and not "greasy."

Would not the condensation on the rails render the adhesion of the engine less effectual? It would do so if the rails were only greasy, but not to any great extent if wet.

Would such a state of rail require a greater engine power or a greater weight of engine to draw the same load? Theoretically it would, but in practice this is never considered.

How would you obviate the difficulties in practice? The difficulties in practice are obviated either by the engine throwing sand on the rails, or causing a steam jet to blow upon them and thoroughly wet them, which would make the wheels bite upon the rails.

What would be the effect of a fog on the rails in such a tunnel? Presuming that a fog could exist with the great draught of air in a tunnel, it would have the same effect of making the rails greasy.

I see by the return you furnish there are 3 miles and 26 chains in a continuous length of grades from 1 in 40 to 1 in 46, including the tunnel at Flat-top Hill. Would you require extra engine-power to surmount this grade and tunnel? I think we should use heavier engines on this account.

*Mr. Swan.*—Do you mean that you would use heavier engines on these steep gradients, or that they would be used throughout the line? I do not know how a locomotive engineer would regulate his traction, but I apprehend that on account of the very heavy character of the line from Bridgewater to Antill Ponds that he would use heavier engines over that part of the line.

Would not that necessitate heavier rails than those mentioned in the Contract,—viz., 40 lbs.? Not necessarily so, because a larger number of driving-wheels would be used in those engines.

Following out this argument, then, it would appear that no greater weight of rail than 40 lbs. is necessary for an engine of any weight? This is purely a matter of practical convenience, depending upon the traffic that the engines were constructed to work.

A heavier train, then, would require heavier rails? Practically it would.

Should not the weight of the rails bear a certain proportion to the weight of the engine? As a general rule they should, but lately very heavy engines have been constructed to run on light rails.

Are we mistaken in our belief that the weight of the engines on the Launceston and Western Line are actually destroying that line? I think so, and that the engines perform very satisfactorily on that line; but I would have personally preferred them to have been lighter and of different construction.

Will your office terminate with the construction of the line and its being opened for traffic? I do not propose to remain in charge of the line.

Will you be responsible for the carrying out of the Contract as regards the speed? I am constructing the line in exact accordance with the detailed terms of the Contract, but cannot state what speed will be ultimately used.

From your knowledge of the curves and grades and the weight of rails, is it your professional opinion that an average speed of 23 miles per hour, including stoppages and detentions, will be maintained on that line? I cannot answer that question. I have never heard of such speed being maintained on any narrow gauge line.

Have you any reason to expect that such a speed will be maintained on this narrow gauge line? That is a question I find some difficulty in answering, but it is an excessively high rate of speed.

I must press the question in spite of the difficulty? I cannot answer the question.

Do you refuse to answer the question? I do, because a certain rate of speed is mentioned in the Contract.

Do you plead professional privilege? No.

Then why do you give the reason that it is "contained in the Contract" as a reason for refusing to answer the question? Because on all the narrow gauge lines with which I am acquainted the working speed is much less than that named in the Contract.

Do you mean to say, then, that the Contract contains an impossible condition? No, I make no such assertion; the rate of speed should be settled between the Manager and the Locomotive Engineer.

But have you not already said that it contains a condition as to speed such as was never imposed under any Contract for the construction of a narrow gauge line? I have never heard of such a speed being imposed.

Have you never stated that the speed of 23 miles per hour could never be maintained on this line? I have certainly never stated so officially.

Have you never so asserted to two members of this Committee? I do not remember having done so.

Did you never make that statement to Mr. Douglas and Mr. Castley? To the best of my belief I did not, but there was some bantering conversation on the subject.

You have declined to express an opinion as to the rate of speed that will be maintained? I do so; but I shall be happy to furnish the Committee, if desired, with the time-tables of all the best narrow gauge Railways.



Am I to understand that you disclaim all responsibility on that score? I do not disclaim it.

What is the greatest average speed reached on any narrow gauge line? I think it is about 15 miles per hour; but I can give time-tables of the best narrow gauge lines.

Will you state some of them? The Queensland Railways, the narrow gauge lines round Toronto in Canada, Prince Edward Island Railway, all of which are on the 3 ft. 6 in. gauge; I could also quote many others.

Are there any special circumstances connected with this line which should enable it to maintain a greater rate of speed than those of Canada or Queensland? I am not aware of any.

Have not the Company contracted to construct a narrow gauge line, and to travel at the rate of 23 miles per hour? The speed of 23 miles per hour is certainly mentioned in the Contract.

THURSDAY, 23RD OCTOBER, 1873.

MR. C. H. GRANT *further examined.*

*Mr. Castley.*—Do you consider that a tunnel with a grade of 1 in 40, with a long incline beyond it, is a disadvantage? The incline is the objectionable feature, not the tunnel.

What is the objectionable feature between Brighton and Green Ponds on Wylie's line? The tunnels at Brighton and Constitution Hill.

Is it on that account you say that the line is impracticable? I did not assert that that portion was reasonably impracticable, but the tunnel at Constitution Hill would be very long and costly.

Provided these two tunnels could be dispensed with, without incurring any very severe gradients, would that dispose of your objections to that part of the line? As regards that part of the line, the great increase of distance would I fear be a great objection.

What do you mean by greatly increased distance? The necessary lengthening of the line to avoid the tunnels.

Would deviations from 80 to 120 chains cause such a greatly increased distance of line? They might very greatly increase it.

Might they not also shorten it? It would be impossible to shorten it and avoid the tunnels.

In your opinion what would be the increased length of the line necessary to avoid these tunnels? A different route altogether would have to be taken, and I should think from five to seven miles extra distance must be incurred. (Wylie's plan measured by Chairman, 9 miles. Climie's plan by scale, 12½.)

Am I to understand, then, that it would be impossible to avoid these tunnels keeping with the distance I have stated of Wylie's line? No, without such extremely heavy works as would make the line reasonably impracticable.

Can you say that with the grades and earthworks shown on the plan now produced that the grades are too severe, or the earthworks too expensive to be reasonably practicable? The grades are not impracticable, but I am sure the earthworks and works of construction would be extremely heavy; but I could not say, without further information, whether they would be reasonably impracticable.

In the plan produced, being an actual survey from the banks of the river at Brighton to the top of Constitution Hill, can you see any such increased length as you mentioned just now? There is a very considerable increase, but the exact amount I am not prepared to state.

Can you state positively that it is two miles longer? I have no doubt that it is.

Will you furnish the Committee with the difference? Yes.

If you were told by a Railway Engineer that a substantial railway between those two points on the plan produced, at the same gauge as your own, could be completed at less than £4000 per mile, (stations included), from your knowledge of the country would you be disposed to deny it? Certainly I should.

You have stated that £625,000 in bonds and £400,000 in shares were to be paid to the Contractors, what then remains for the present Company to hold, as that is your present capital? The £625,000 is to be paid in cash or bonds, the Company's share capital is £1,000,000, and they have therefore £600,000 share capital left. The Prospectus from which you quote refers to the bond capital, and the amount of the share capital is only indicated in the last line of the Memorandum of Association.

*Mr. Swan.*—Do you consider the fence now erected along the line a good and substantial one? I do so; it is a very much better fence than was provided in the Contract between the Company and the Contractors, and is quite equal to the average fence in this country.

Do you think it would stop an enterprising cow? I think it would deter an elephant.

Have you performed any professional work for the Contracting firm in this country since your arrival? No; my duties are entirely to act on behalf of the Company, and I have done no work for which I would be remunerated by the Contractors.

Do you manage all the business for the Company in Tasmania? All the engineering business.

How do you manage with respect to payments to the Contractors? They are paid by cheque on the special banking account of the Company, signed by Mr. Coote and myself.

You have a duty then beyond that of an Engineer? I simply sign the cheques, but Mr. Coote is the General Agent of the Company.

*Mr. Castley.*—Do you characterize the works as at present carried on by the Contractors as substantial and well constructed? Beyond all question I do so; the Contractors can do nothing whatever unless at my instance and with my knowledge. It should be remembered that this line, being of narrow gauge, is being constructed of the class known as “light Railways,” and therefore will not favourably compare with the very costly European Railways of wider gauge: for a light narrow gauge railway I unhesitatingly state that all the details of construction are very far above the average; and I have made many hundreds of miles of wide gauge railways in various parts of the world the works of which are very much lighter and inferior to what they are on this line.

*Mr. Belbin.*—Are there several heavy timber works on this line, and will the timber used therein bear a favourable comparison with that employed in similar works in Europe? There are some considerable bridges and viaducts on the line, the design of which will bear favourable comparison with the best structure of the kind both in England and on the Continent. As regards the quality of the timber, I can only state that we have used the best that it was found possible to obtain, and we have taken a very great deal of trouble in procuring it, and it is never used in the works until it has been carefully inspected.

MONDAY, 27TH OCTOBER, 1873.

MR. DANIEL CLIMIE *further examined.*

*By Mr. Castley.*—Are you now able to give the Committee any practical opinion of Wylie's line from the Jordan at Brighton to the north side of Constitution Hill, at a place called Forster's Basin? I have carefully examined the district, taken the levels, and made a section, a copy of which I now hand in.

Do you consider the grades favourable for a Railway? I consider them favourable when compared with those now used by the Contractors; there are none more steep than 1 in 42—the average throughout the section is 1 in 66.

Are the earthworks of a very expensive character? No, certainly not; there are really no heavy earthworks.

Can you give a rough idea of the expense, say within £100 per mile, of these works? I should say they would not exceed £700 to £800 per mile.

What would be the expense of the culverts? £150 per mile; there are no over-bridges except one.

Would you save the tunnel on the top of Constitution Hill marked on Wylie's plan by this route? Certainly.

Then the line would be less expensive? Very much less.

Does this line of yours run within say 120 chains of Wylie's line as marked on the chart? There are no parts of it so far as that,—it runs nearly parallel with it.

Can you give a decided opinion as to the practicability of Mr. Wylie's line as a whole from Bridgewater to York Plains? I am not prepared to give a decided and positive opinion on the whole of it, but I have levelled and made a section of over more than thirty miles of it, and I have been over the remaining portion and carefully examined it. The route that I have examined from Picton to Anstey Barton, which I have not levelled, I believe to be perfectly practicable; from Anstey Barton to York Plains I have made a section of, and it can be carried out, for earthworks £600 per mile, and culverts £100 per mile.

Taking Wylie's line from Bridgewater to York Plains as a whole with such reasonable deviations as the nature of the country would enforce, can you say it is reasonably a practicable route for a Railway? It is quite practicable according to the gradients and curves specified in the Contract.

*Mr. Swan.*—What is the steepest gradient you know of in a tunnel in the United Kingdom? 1 in 48, at Edgehill near Liverpool. This tunnel it has been frequently endeavoured to work by locomotives, but the Engineer for the line stated in evidence some time ago that it almost amounted to an impossibility in consequence of the condensation of the steam upon the rails preventing the wheels from biting, and it is still worked by a stationary engine. There are two other tunnels on the same line, one with a gradient of 1 in 54, and the other of 1 in 90, both worked by stationary engines.

Do you know of any tunnel with a grade of 1 in 40? I never heard of such a one.

What is the steepest grade in a tunnel that you know of as being worked by a locomotive? One on the Central Wales Railway about 500 yards, which is on a grade of 1 in 90, (on a 4ft. 8½ in. gauge); but engines have very frequently great difficulty in ascending this tunnel on account of the slippery state of the rails, and have often to leave a part of their load behind them.

Is it not considered much more difficult for an engine to take a load up an incline through a tunnel than to take the same load up a similar incline through an open cutting? Most decidedly. An engine has been known to take a load up a cutting in the line I have just alluded to of 1 in 60, and yet was stuck up in the tunnel with the same load, the grade being, as I have stated, 1 in 90. In an open cutting, 6 tons of adhesion is sufficient for 1 ton of steam force to act upon, whereas in a tunnel the least that could be allowed for the same force would be 12 tons, and some engineers say 15. I mean that the same engine could take a load up an open cutting of 1 in 20, that could not take the same in a tunnel of 1 in 40.

Can you imagine any special circumstances that would make rails less likely to become greasy in a tunnel than in an open cutting? I cannot imagine any circumstances.

When rails are quite wet does not this greasiness disappear; Yes, when wet with rain.

Might not a tunnel be so damp that the rails would be thoroughly wet? I never knew such a thing: they are nearly always greasy.

Did you ever know a tunnel to be perfectly dry? Never.

Then rails in tunnels are bound to be greasy? I never knew them otherwise.

Would such a state of rail require a greater weight of engine to draw the same load? I believe that if an engine of 24 tons were to take a given load up an open cutting of 1 in 40, another of 38 tons would be required to act as an auxiliary to the first to take the load through a tunnel of the same grade.

Would not these heavier engines require heavier rails? Certainly.

Do you think a steam jet would overcome the difficulties of the greasy state of the rails in a tunnel? All such contrivances have been tried at the Edgehill tunnel and found to fail.

Would sand-boxes answer the purpose? No, I have seen them fail even on rails in the open, the sand gets crushed and turned into mud.

*Mr. Castley.*—Would an engine starting from Hobart Town with its maximum load for going up open inclines of 1 in 40 ever be able to go through that tunnel without auxiliary power? Certainly not.

What would be the average cost of the line from Bridgewater to York Plains? As far as I can ascertain it could be carried out at a cost under £5000 per mile, including everything.

Have you any doubt that you can find a line from Bridgewater to York Plains without a tunnel, and with grades no steeper than 1 in 40? I have no doubt whatever; and I am prepared to find a substantial firm of Contractors who would be willing to carry out the work upon that line and complete it in a substantial manner, including everything necessary for working the traffic, for the sum mentioned in my estimate.

Can a 3 ft. 6 in. gauge line, with curves four chains radius, and grades of 1 in 40, be safely worked at an average speed of 23 miles per hour, stoppages included? Decidedly; on the Festinog 2 feet gauge Railway, with curves as sharp as  $1\frac{1}{2}$  chains radius, Captain Tyler, the Government Inspector of Railways, has given it in evidence that he has frequently travelled on that line at a speed of over 35 miles per hour; and he considered it perfectly safe at even a higher speed.

TUESDAY, 28TH OCTOBER, 1873.

HONORABLE W. D. GRUBB, *M.L.C.*, examined.

*Mr. Castley.*—Your name is William Dawson Grubb, and you are a Member of the Legislative Council? Yes.

Did you in company with Mr. Douglas and myself, as Members of the Legislature, some short time since pay a visit to Mr. Grant? I did.

Was it to obtain some information as to cattle-guards? Yes, it was.

While there was the question of speed likely to be obtained on the Main Line Railway brought under consideration? It was.

Will you give us Mr. Grant's statements on that subject? He stated that the utmost speed which could be obtained on that line would be 16 miles per hour, unless the Company expended half as much more money.

Did you consider this statement made in a bantering or serious manner? Certainly in a serious manner.

Launceston, 22nd October, 1873.

To the Committee of the House of Assembly appointed to enquire into the Main Line Railway Contract.

GENTLEMEN,

I HAVE the honor to reply to the questions contained in note of the 21st instant.

*Questions.*

1st. Is the Main Line Railway in your opinion being constructed in a way sufficiently substantial to admit of travelling with heavy loads at Contract speed; viz. 23 miles per hour?

*Answers.*

1st. The earthworks generally are sufficient for any amount of weight travelling at the Contract speed of 23 miles per hour, with the exception of a few banks where, made from side ditches and cuttings near Evandale, Ross, and Tunbridge, the slopes of the banks are too steep,—not more than  $\frac{3}{4}$  horizontal to 1 vertical; this, in conjunction with the sandy and gravelly nature of the materials, will, with the action of the weather and the vibration of the trains passing over, fall to its natural angle of rest, thus reducing the width of the formation surface of the bank.

The bench between the foot of the slope of the Railway bank and the upper edge of the side ditch is too narrow, the ditches in some instances being cut down perpendicular and not more than three feet from the foot of the slope of the bank; this perpendicular side to the ditch will naturally fall to its angle of rest as the adhesive properties of the material are destroyed, thus reducing the width of the benching, already too narrow to allow the bank slopes to fall to their natural angle, and will in a short time allow the bank to run down into the side ditch.

2nd. Are the culverts and bridges in your opinion sufficiently capacious and well built to render travelling safe in times of flood?

2nd. Some few of the culverts are, in my opinion, too small; one, for instance, at Evandale made of 3-inch hardwood planks, capacity  $9 \times 6$  inches; there certainly is little water to come through in ordinary weather, but in storms and continuous rains, if this should get choked—which is likely, being from 30 to 40 feet long, under a bank 8 feet deep—it might overflow and tend to carry away the bank.

About Snake Banks are some wooden culverts; the bottom and sides generally good: the tops in some instances are covered with small round timber, from 6 to 9 inches diameter; a deal of it only the limbs of the small gum trees near the works.

The culverts about Ross are well built of good freestone: some of them south of Ross are, in my opinion, not capacious during the heavy floods common to this district.

The culverts between Ross and Brighton are well built, and are capacious enough: but a great error has been made in building so many of them of wood when there is such an amount of good freestone in the immediate neighbourhood (Campania.)

From Bridgewater to the Gardens in Hobart Town, what few culverts and waterways are built are good and capacious enough for the work they have to do.

Some of the culverts about the Domain and Government House Gardens are well built of freestone, so far as the walls and bottoms are concerned, but the covering stones are too thin, only from 3 to 4 inches thick, not sufficient if a sleeper happens to come over culvert.

There are two dry stone culverts near the ship-building yards should be taken out and rebuilt, being put together with dry rubble-stone, and built on the turf—no foundations.

The bridges generally are very weak in the substructure,—those at Clarendon over the South Esk and the one at Bridgewater over the Derwent; the one over the Jordan was not begun on my last visit. The piling of these bridges is quite insufficient,—many of them being 60 feet long, being 10 inches diameter at the small end, and from 14 to 18 or 19 inches at the butt end. In the Bridgewater bridge some of the piles have one or two scarfs between the bed of the river and the surface of the water. I do not know what means they intend to take to brace them together under water.

None of these piles should have been under 16 inches at the small end, to allow for decay between wind and water.

The remarks as to the size of the piles are applicable to all the bridges in progress.

The superstructure of all the bridges are sufficiently strong to carry any weight that can be put on them.

The bridge over the Risdon road is of good construction, good workmanship, and sufficiently strong, but requires 2 ties along the centre, 2 rows of standards at the foot of the spurs to equalise the discharge of the passing weight, and to stiffen the standards.

I would not, if there is not something more substantial done to stiffen the piles, or if larger piles be not put in at the Bridgewater bridge, give a certificate for powers to run a traffic under the requirements of the Board of Trade in England as required by the Contract.

3rd. Will there be any danger in travelling through a tunnel three quarters of a mile long of an incline of 1 in 40, and a continued incline with curves of five chains radius, regard being had to the speed mentioned in the Contract, viz. 23 miles per hour, &c.?

3rd. I do not think there would be any danger in travelling 23 miles per hour through a tunnel on a grade of 1 in 40, providing the road through the tunnel were straight. It would undoubtedly be unsafe to run at the rate of 23 miles per hour over a curve of 5 chains radius; the practice is to slacken

speed on nearing a sharp curve, which should be done to about 6 miles per hour in this case.

I should not like to say the speed of 23 miles per hour could not be maintained in the through journey in this age, but looking at the weight of rail and the size and weight of engine the rails will carry I think it very unlikely.

4th. Any other information respecting the stability of line or contract speed being maintained that may be within your knowledge?

4th. The fencing on the line as now put up is very inferior, the dimensions very small, the sizes given to the Sub-contractors being posts  $5 \times 3$ , rails  $5 \times 1\frac{1}{2}$ ; some posts I measured being  $4 \times 2\frac{1}{4}$ , and rails many only 1 inch thick. Some chock and log fencing now done the logs are not more than 4 inches diameter.

I would call your attention that at Brighton, Ross, and Hobart Town cattle-guards are being put in in place of gates as per Contract. I think where there is much traffic or many cattle or sheep they are objectionable.

I am,  
Gentlemen,

Your obedient Servant,

JOHN R. FRITH, *Inspecting Engineer*  
*M. L. Railway.*

*Colonial Treasury, 16th May, 1873.*

MY DEAR SIR,

PRAY read and return the enclosed communication. Without entering into any debate with you as to the professional reasons which have governed you in laying out the Main Line, or obtruding the vexed question of the powers of the Government in that matter, I wish to represent to you the very earnest desire which the Government feel that the convenience of existing centres of population should be kept in view. I think I may say that this was always held to be a cardinal feature of any Contract which might be entered into when the question of the Main Line originally engaged the attention of Parliament and the Country.

I am encouraged to take this means of communicating by your repeated assurances to me of the desire of your Company to act towards the Colony in a spirit of accommodation and concession.

Yours very faithfully,  
(Signed) FRED<sup>K</sup>. M. INNES.

C. H. GRANT, *Esq., C.E., Main Line Railway.*

*Tasmanian Main Line Railway Company, 19th May, 1873.*

MY DEAR SIR,

YOURS of the 16th instant, enclosing a letter from Mr. George Wilson, junr., of the 10th ultimo to yourself, is duly to hand. The letter I return herewith as requested.

You may confidently rely upon the Oatlands people being as well served by the Railway as it is possible to make them, but they are aware that if we divert the Line from Mr. Littlechild's to Oatlands it has to be taken back again to the same locality over precisely the same ground; and it is surely unreasonable to expect that the Railway Company would run all their trains an extra, and wholly unnecessary, distance of seven miles, and take the great trouble to reverse each train at Oatlands in order that the very few inhabitants there should be taken slightly nearer home on the rare occasions they might patronise the line of Railway.

An equal accommodation could be provided for them at a fractional part of the cost by making a steam tramway along the road; and this I believe they could do for themselves under "The Public Works Act," while I am sure the Company would be glad to give them every possible facility and assistance in making this road.

I hope to arrange to carry the Line rather nearer to Oatlands than was proposed by Messrs. Doyne, Major, and Willett, but this will involve a large additional expense.

After much time spent in surveying and travelling, I find it quite impracticable to get from Oatlands, or from Mr. Littlechild's, to York Plains and Antill Ponds by any other route than that adopted by Messrs. Doyne & Co., and, very unwillingly, by myself.

*The Hon. Colonial Treasurer.*

I am, &c.,  
(Signed) C. H. GRANT.

## B.

## AUSTRALIAN COLONIES.

*INTEREST guaranteed by the Government of Tasmania under Acts of Parliament 33 Vict. No. 1, and 34 Vict. No. 13, during the Construction of the Line, on the Instalments paid in, as stated in the Contract, and for 30 years after the Completion and Opening of the entire Railway.*

## TASMANIAN MAIN LINE RAILWAY COMPANY, LIMITED,

From HOBART TOWN (the Capital of the South) to LAUNCESTON (the Capital of the North) through the centre of the Colony, 125 miles in length.

ISSUE OF 6500 FIVE PER CENT. PERPETUAL DEBENTURE BONDS OF  
£100 EACH.

Forming a First Charge on the payment guaranteed by the Government of Tasmania and on the whole of the Revenue of the Railway.

Price of Issue £92 10s. per £100 Bond. Interest payable Quarterly.

## Directors :

JOHN CHAPMAN, Esq., *Chairman of the Salisbury and Yeovil Railway Company, London.*  
WILLIAM DENT, Esq., *Chairman of the Oude and Rohilkund Railway Company, London.*  
CAPT. JAMES GILBERT JOHNSTON, *Director of the Great Southern of India Railway Company, London.*  
ALBERT RICARDO, Esq., *Deputy-Chairman of the Bedford and Northampton Railway Company, London.*  
GEORGE SHEWARD, Esq., *Chairman of the Sambre and Meuse Railway Company, London.*

## Engineer :

H. LEE SMITH, Esq., M.I.C.E., 9, Victoria Chambers, Westminster.

## Solicitors :

MESSRS. WILSON, BRISTOWS, & CARPMAEL, 1, Copthall Buildings, London, E.C.

## Bankers :

THE UNION BANK OF LONDON, 2, Princes-street, London, E.C.  
THE COMMERCIAL BANK OF TASMANIA, Hobart Town.

## Secretary :

J. B. DAVISON, Esq.

OFFICES : 4, GREAT WINCHESTER-STREET BUILDINGS, LONDON, E.C.

THE DIRECTORS of the TASMANIAN MAIN LINE RAILWAY COMPANY, LIMITED, are prepared to receive Applications for 6500 Five per cent. Perpetual Debenture Bonds of £100 each, at £92 10s. per Bond, payable as follows :—

£10	per Bond, payable on Application.
£20	" " Allotment.
£15	" " 1st July, 1872.
£15	" " 1st September, 1872.
£15	" " 1st November, 1872.
£17 10s.	" " 1st February, 1873.
£92 10s.	

Interest at the rate of £5 per cent. per annum will accrue on each Instalment from the date of payment thereof.

Subscribers will be allowed the privilege of paying up the whole of the Instalments on allotment, in which case interest on the full £100 Bond will accrue from the date of such payment.

Interest will be payable quarterly, on the 1st January, 1st April, 1st July, and 1st October in each year, and will be payable at the Union Bank of London, 2, Princes-street, E.C., London. The first payment will be made on 1st July, 1872.

The return to the investor on the amount paid by him will be £5 8s. per cent. per annum.

The construction of the Tasmanian Main Line Railway has been undertaken by this Company under a contract direct with the Government of Tasmania, after a long and exhaustive preliminary investigation by a Royal Commission, resulting in Special Acts of the Legislature authorizing the Line.

By such Acts, considering the vast importance of the Line to the entire Colony, the Government have authorised the Governor to guarantee interest at the rate of five per cent. per annum on the amount expended on the construction of the Line, up to £650,000, for 30 years after the completion and opening of the Railway. The Government also guarantees interest at the same rate during the construction of the Line upon the Instalments to be paid into the Bank of New South Wales, in London, at the dates specified in the Contract.

A copy of the Contract between the Tasmanian Government and this Company is issued with this Prospectus.

As it is confidently expected the Revenue of the Line will amount of itself to nearly double the sum required to meet the interest on these Bonds, irrespective altogether of the Government guarantee (upon the whole of which Revenue they are a first charge), it will be seen the security they present is of the highest character.

Power is given to this Company to connect the undertaking with the Launceston and Western Railway with unning powers over the same.

The railway to be constructed will be owned by this Company in perpetuity. The Government, however, may purchase the line and its privileges, both existing and prospective, at any time after the line shall have been opened for traffic, upon giving twelve months' notice—the price to be paid by the Government, unless fixed by mutual agreement, to be decided by a majority of five valuers.

A contract has been entered with Messrs. EDWIN CLARK, PUNCHARD & Co., of London, to complete the Railway, Telegraph, and all the works, and to open the Line for traffic by 24th December, 1874, for the sum of £1,025,000, of which £400,000 is to be paid in the Shares of the Company. The Share Capital issued will then stand at £400,000, and the Debentures at £650,000.

Provisional Certificates will be issued on the applications accepted, which, on due payment of all the instalments, will be exchangeable for Debenture Bonds, which will be issued to subscribers free of all Stamp Duty.

Should any applicant receive no allotment, the deposit paid will be returned forthwith without deductions; and should a smaller amount be allotted than applied for, the balance paid on application will be applied towards payment of the amount payable on allotment.

Failure to pay instalment at the due date will render all previous payments liable to forfeiture.

Applications, which must be accompanied by the payment of £10 on each £100 Debenture Bond applied for, must be made on the annexed Form.

Prospectuses and Forms of Application can be obtained of the Secretary, at the Offices of the Company, 4, Great Winchester-street Buildings, E.C., London, or from any London Stock Broker.

4, Great Winchester-street Buildings, E.C.  
London, 22nd March, 1872.

### **Tasmanian Main Line Railway Company, Limited.**

THIS Company has been formed under the direct sanction of the Governor and Legislature of Tasmania, under the provisions of the Acts of the Legislature, 33 Vict. No. 1, and 34 Vict. No. 13, for the purpose of constructing a main line of Railway from the City of Hobart Town, (the Capital and Chief Port of Tasmania), through the centre of the Colony, to the City of Launceston, (the Capital of the northern portion thereof), the whole being about 125 miles in length.

Starting at Hobart Town, the proposed Line will pass through Pentonhille, Melton Mowbray, Spring Hill, Anstey Barton, Oatlands, Tunbridge, Ross, Campbell Town, and Evandale, where it will join the Western Railway, and run over it into Launceston, from whence direct steam communication is available by the River Tamar, to Adelaide, to Melbourne, to Sydney and Brisbane and other ports.

It will, therefore, be at once seen that the importance of the Railway to Hobart Town is very great, and a glance at the accompanying map will show that the Line traverses the centres of the trade and population of the Colony, and one of the finest and most productive agricultural districts in the world, a considerable portion of which is in a high state of cultivation.

The Line crosses a country abounding in Mineral wealth, comprising Copper, Iron, and Coal, and opens up extensive forests of Timber of extraordinary growth. The Government statistics show that the expected traffic from these several sources will produce a considerable revenue to the Company.

The Tasmanian Government, seeing the great importance of the Line, and (as stated by the Royal Commissioners in their Report to the Governor) that, "besides the great advantages which will flow from its construction, there are others which, though indirect, are scarcely less important," have, as before mentioned, guaranteed to this Company interest at 5 per cent. per annum on the amount expended in the construction of the Line up to £650,000 for thirty years from the date the Line is opened for traffic, besides paying interest at such rate, during the construction of the Line, on the Instalments as paid into the Bank nominated by them, in accordance with the Contract. The Contractors have agreed to find the supplementary sum required for the payment of interest to persons paying up in full on allotment.

Estimates of the probable traffic of the Railway have been prepared by the Tasmanian Government from the following reliable sources:—

- 1st. From Returns made to the Tasmanian Government;
- 2nd. From Evidence given before the Tasmanian Legislature;
- 3rd. From Evidence given before the Royal Commission on the Tasmanian Main Line Railway.

*The Commissioners appointed by the Government, report that their estimate of the traffic of this Railway, as based on the existing Road Traffic, taken from the reports made in the year 1869, is nearly £100,000 per annum; and they add, that it may be assumed that the traffic shown in the returns (upon which such estimate is founded) would soon more than double itself, if the advantages of railway transit were within reach, and also that large development may be expected of the present traffic in cattle, sheep, meat, bark, and especially in coal, no account whatever has been taken by them of such probable increase in their enquiries.*

A second estimate, prepared by Mr. Edmund Hodgson (who has resided 45 years in Tasmania, and is thoroughly acquainted with the country), amounts to £130,568 per annum, and in this he only takes a Railway rate for carriage of goods across the Island at £1 per ton, whereas the (then) "present cost of carriage of goods on the main road is from £6 to £7 per ton."

This statement is taken from the evidence before the Royal Commission, and will give an idea of the great reduction in traffic rates which will be offered to the Colony on the completion of the Railway.

Taking, however, the *average* of these two estimates, the result would be a revenue of £115,284 per annum, which, after allowing 50 per cent. for the working expenses, will leave a net income of £57,500 per annum. The amount required to meet the interest at 5 per cent. per annum on the Debenture Bonds now offered for Subscription amounts only to £32,500, whilst the estimated net income amounts to nearly double that sum.

The effect of the Government guarantee, irrespective entirely of the large revenue to arise from the traffic of the railway, will ensure the due and punctual payment of the Interest on the Debenture Bonds now offered for Subscription.

A copy of the Act of the Legislature of Tasmania, of the Contract with the Governor of Tasmania for the construction of the Line, and the Contract between the Company and the Contractors, and the printed official documents relating to the Colony, comprising the statistical returns, may be seen at the offices of the Company.

By Order of the Board,

J. B. DAVISON, *Secretary*.

LONDON, 22nd March, 1872.

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## MEMORANDUM OF ASSOCIATION

OF THE

### TASMANIAN MAIN LINE RAILWAY COMPANY, LIMITED.

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1. The name of the Company is the "TASMANIAN MAIN LINE RAILWAY COMPANY, LIMITED."
  2. The Registered Office of the Company will be situate in England.
  3. The objects for which the Company is established are—
    - To undertake the establishment, maintenance, and working of railway communication between Hobart Town and Launceston, and other parts and places in Tasmania, and all necessary works in connection therewith.
    - To acquire and hold lands in Tasmania for the purposes of the undertaking.
    - To establish and work electric telegraphs on any such railway, or elsewhere, in Tasmania.
    - To enter into any arrangements with the owners or occupiers of any other railway in Tasmania, for the purpose of maintaining or working the railways and telegraphs constructed by the Company, in connection with any such other railway.
    - To acquire or obtain existing or other concessions or privileges from the Government of Great Britain, or from the Tasmanian or any other Government or authority, available in furtherance of the Company's undertaking, and to fulfil the obligations thereof.
    - To enter into and fulfil any contracts relative to the construction, acquisition, maintenance, letting, selling, hiring, use, or working of any railways or telegraphs in Tasmania, in furtherance of the Company's undertaking.
    - To amalgamate, unite with, or absorb into the Company, or to co-operate with and acquire shares and interests in any Companies or Associations already or hereafter established for, or engaged in objects similar or analogous to those of the Company.
    - To do all such other things as are incidental or conducive to the attainments of the above objects.
  4. The liability of the Members is limited.
  5. The Capital of the Company is One Million Pounds, divided into One hundred thousand Shares of Ten Pounds each.
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*Hobart Town, 23rd October, 1873.*

SIR,

I HAVE the honor to address you on behalf of the Tasmanian Main Line Railway Company, Limited, to request that before you close the evidence in the enquiry on the Main Line Railway you would examine Mr. Henry Dobson, who acted with the late Mr. Wylie and with Mr. Coote in negotiating with the Government on the part of the Company in arranging the Contract.

Mr. Dobson is better able to afford information as to the late Mr. Wylie's views and intentions than any living person, and therefore I feel sure that the Committee would find it advantageous, in eliciting the facts of the case, to hear what evidence he can give; and certainly the Company cannot be considered to have brought their case before the Committee if Mr. Dobson is not examined.

I have the honor to be,

Sir,

Your most obedient humble Servant,

C. H. GRANT.

*The Chairman of the Select Committee on the Main Line Railway.*

**MEMO.**

On this day, 28th October, I met Mr. Dobson, and offered to call the Committee together to hear his evidence if he desired it: Mr. Dobson declined, saying he supposed he could not give us much information.

JOHN SWAN.