

(No. 2.)

ROYAL COMMISSION

ON

THE NORTH MOUNT LYELL MINING DISASTER

REPORT OF THE COMMISSIONER

Presented to both Houses of Parliament by His Excellency's Command.

[Estimated cost of printing (325)—£5 14s. 3d.]



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COMMISSION.

George V. by the Grace of God King of the United Kingdom of Great Britain and Ireland and of the British Dominions beyond the Seas Defender of the Faith Emperor of India.

To Our trusty and well-beloved ERNEST WILLIAM TURNER WILLIAM HARRIS ALEXANDER JOHN SCOTT DONALD SALTER WILLIAM HENRY TAPSELL JOHN HORNBY HUGH THOMAS and JOSEPH HENRY PALMER

GREETING—

WHEREAS on the twelfth day of October one thousand nine hundred and twelve an accident occurred in a certain Mine known as the North Lyell Mine situate at or near Gormanston in Our State of Tasmania the property of the Mount Lyell Mining and Railway Company Limited which accident resulted in loss of life to many persons employed in the said Mine at the time of the said accident—And whereas owing to none of the bodies of the persons who met their deaths by reason of such accident as aforesaid having been recovered no Coroner's Inquests have been held touching such loss of life as aforesaid—And whereas we have thought it expedient to enquire into the cause or causes of the said accident and the loss of life resulting therefrom—Now know ye that We reposing great trust and confidence in your fidelity discretion and integrity have authorised and appointed and by these presents do authorise and appoint you ERNEST WILLIAM TURNER WILLIAM HARRIS ALEXANDER JOHN SCOTT DONALD SALTER WILLIAM HENRY TAPSELL JOHN HORNBY HUGH THOMAS and JOSEPH HENRY PALMER to enquire into the cause or causes of the said accident and the loss of life resulting therefrom in the same manner as far as you lawfully may as a Coroner or a Coroner's Jury might have done touching any of the deaths of the said persons resulting from the said accident—And for the better discovery of the truth in the premises We do by these presents give and grant unto you or any one or more of you full power and authority to call before you all such persons as you shall judge necessary by whom you may obtain information in the premises—And Our further will and pleasure is that you or any one or more of you shall reduce into writing under your hands what you shall discover in the premises and do and shall on or before the thirty-first day of December next certify unto Us in Our Executive Council in Tasmania in writing under your hands respecting your several proceedings by force of these presents together with what you shall find touching or concerning the premises upon such enquiry as aforesaid—And We further will and command and by these presents ordain that this our Commission shall continue in full force and virtue and that you Our said Commissioners or any one or more of you shall and may from time to time proceed in the execution hereof and of every matter or thing herein contained although the same be not continued from time to time by adjournment—And We do hereby command all and singular Our loving subjects whomsoever within Our said State of Tasmania that they be assistant to you and each of you in the execution of these presents—And We appoint that you the said ERNEST WILLIAM TURNER shall be President of Our Commissioners—And We further direct and appoint that FRANK BATHURST EDWARDS shall be Secretary to Our said Commissioners and We command that he be assistant in the execution of these presents.

In testimony We have caused these Our Letters to be made Patent and the Public Seal of Our said State and its Dependencies to be hereunto affixed.

Witness Our trusty and well-beloved MAJOR-GENERAL SIR HARRY BARRON Knight Commander of the Most Distinguished Order of Saint Michael and Saint George Commander of the Royal Victorian Order Governor in and over the State of Tasmania and its Dependencies in the Commonwealth of Australia.

HARRY BARRON Governor.

By His Excellency's Command

G. H. BUTLER Chief Secretary.

KNOW all men by these presents that We do hereby extend the period within which you shall enquire into the several matters within mentioned to the twenty-eighth day of February next and we do hereby extend the date on or before which you shall certify to Us in Our Executive Council in Tasmania as within expressed to the said twenty-eighth day of February next anything in the said Commission contained to the contrary notwithstanding.

In testimony whereof We have caused these Our Letters to be made Patent and the Public Seal of Our said State and its Dependencies to be hereunto affixed.

Witness Our trusty and well-beloved MAJOR-GENERAL SIR HARRY BARRON Knight Commander of the Most Distinguished Order of Saint Michael and Saint George Commander of the Royal Victorian Order Governor in and over the State of Tasmania and its Dependencies in the Commonwealth of Australia at Hobart in Our said State the ninth day of January one thousand nine hundred and thirteen and in the third year of Our reign.

HARRY BARRON Governor.

By His Excellency's Command

G. H. BUTLER Chief Secretary.

REPORT.

*To His Excellency MAJOR-GENERAL SIR HARRY BARRON, Knight
Commander of the Most Distinguished Order of Saint
Michael and Saint George, Commander of the Royal Victorian
Order, Governor in and over the State of Tasmania and its
Dependencies, in the Commonwealth of Australia.*

MAY IT PLEASE YOUR EXCELLENCY:

By His Majesty's Letters Patent we were authorised and appointed to enquire into the cause or causes of an accident which occurred on the 12th day of October last in the North Mount Lyell Mine, situate at or near Gormanston, in Tasmania (the property of the Mount Lyell Mining and Railway Company Limited), and the loss of life resulting from the said accident, in the same manner, as far as we lawfully might, as a coroner or a coroner's jury might have done, touching any of the deaths of persons employed in the said mine at the time of the said accident.

The date limited by the said Letters Patent for our report to be presented upon the matters aforesaid was subsequently extended, at our request, to the 28th day of February next.

The Commission was formally opened at Zeehan on the 27th day of November last, and for the greater convenience of witnesses it was decided to adjourn for the hearing of evidence to Queenstown, at which place we sat on ten days, and twice visited the mine and descended into and viewed those several portions thereof which were accessible, and of which we considered an examination would assist us in our deliberations. We then sat at Zeehan for the hearing of further evidence on four days, and on three occasions for deliberation. Fifty-four witnesses were examined. A number of useful plans and diagrams were prepared for our assistance by the Mount Lyell Company, and these and other documents submitted in evidence are set out in the schedule hereto.

Throughout the proceedings we had the assistance of the following counsel, of whose services we wish to express our appreciation:—The Crown and public were represented by the learned Solicitor-General (Mr. E. D. Dobbie, I.S.O.); the Honourable B. R. Wise, K.C., with whom was Mr. A. J. Douglas, appeared for the Federated Mine Employees' Association; the Honourable N. K. Ewing, Mr. Harold Crisp, and Mr. A. G. Omant (instructed by Messrs. Butler, McIntyre, and Butler and Mr. A. A. Winch), presented the case for the Mount Lyell Mining and Railway Company Limited; and during the earlier portion of the proceedings Mr. T. J. Crisp appeared for the relatives of Mr. E. F. McCasland, one of the men who lost his life in the disaster.

We regret that, from lack of convincing evidence on several matters arising in the course of the enquiry, we cannot report with that degree of certainty which we should desire. Forty-two men are said to have lost their lives in the disaster in various parts of the mine; and, with so many voices lost to us in the silence of death, the evidence is necessarily incomplete, and we can only deplore the fate of those whose testimony concerning the happenings in the mine on the fatal 12th of October will never be given before an earthly tribunal.

On our visits to the mine we could not view any level below that at 700 feet, as we were informed that the mine was still flooded at the lower levels. We were able to visit the ruins of a pump-house at the 700-foot level, but that part of the level was blocked (as we saw) beyond the pump-house by an immense fall of rock. We visited, also, the 200-foot, 300-foot, 400-foot, and 500-foot levels, and three of the members of the Commission (Messrs. Harris, Hornby, and Palmer) negotiated the two passes referred to in the evidence as leading through Pacey's stope and Heffernan's stope respectively. We also visited, at the adjacent Mount Lyell Mine, a pump-house underground, with motor and pumps at work, and the necessary electric appliances appertaining, which were deposed to as being of identical nature with the machinery in the destroyed pump-house.

After the careful and complete marshalling of the evidence contained in the addresses of counsel we consider it unnecessary to recapitulate the details of the testimony given before us.

We find the following facts to be established by the evidence:—

On Saturday, the 12th day of October last, at about 10·40 a.m. and thereafter, the odour of burning was observed and smoke seen in various levels of the North Mount Lyell Mine. It was discovered that the pump-house at the 700-foot level was afire, and smoke issuing therefrom in such quantities as to prevent all approach to it. Apart from slight gusts which followed the cage up the shaft, the smoke at first quickly drew down the shaft and entered the lower levels. It subsequently permeated in greater or less degree the upper levels also. On the evidence before us we find that this fire originated at this pump-house.

It is stated that 170 men were below at the time in different parts of the mine; the figures are not given us as conclusive, though it appears they may be adopted as correct. Such of these men as had warning and appreciated the danger, escaped by way of the main shaft, but others did not appreciate the existence of danger and made no attempt to reach the surface until that became impossible, while yet others were early cut off from communication with their fellows, even on the same level (so extensive are the ramifications of the mine), and could not be warned, though efforts were made to reach them. Seventy-four men escaped on the day of the fire, four men were rescued from the 500-foot level by means of the main shaft on the following day (Sunday), and 50 more were rescued by way of the engine winze on the following Wednesday.

The ten men whose bodies have been recovered died of poisoning by carbon-monoxide gas which was generated by the fire, and the effect of which is clearly described in the evidence of Dr. Love.

Here our finding of facts must cease; all else lies in the region of conjecture. Yet so much evidence was taken and argument expended on other matters arising incidentally that it may be useful for us to make some reference thereto.

The assumption appears to us well warranted that the remainder of the men not rescued also died by the same means, though the possibility exists that one or more may have met their death from some other mishap in the mine arising incidentally from the fire.

As to the cause of the fire, three possibilities were presented to us—

- (1) INCENDIARISM.
- (2) CARELESSNESS OF THE MEN.
- (3) SOME DEFECT IN THE ELECTRICAL INSTALLATION IN THE PUMP-HOUSE AT THE 700-Feet Level.

(1) It was suggested by counsel for the mineowners that certain incidents deposed to indicate the possibility of incendiarism, and also of one or more separate fires occurring in various distinct parts of the mine at about the same time as the fire at the pump-house.

There is, in our opinion, no foundation in the evidence for such a finding. The suggestion is based on questions of time as to the first appearance of smoke in the different levels, but we consider that many of the times deposed to are mere guess-work, and the variation of watches and clocks would also account for the comparatively slight discrepancies occurring. In this connection the remains of a fire in an ore-pass remote from the pump-house on the 700-foot level were shown us; but until the 600-foot level (now in ruins) above that pass is completely cleared and explored, it is impossible to declare that to have been an independent fire; and on the evidence before us (but with reservations as to any disclosure which time may bring) we conclude that it was not so.

Some suggestions were made against certain of the men, but we have to report that we find no evidence of any sinister or careless act causing the fire on the part of anyone.

(2) One witness alone (Gillies) deposed to having seen at the steel-house (near the pump-house) candles burning under the men's billies to warm their tea, and the possibility of fire from this quarter was suggested. But we do not consider it safe to rely on this evidence without some corroboration and in the face of the evidence to the contrary. And we cannot understand this witness' actions under the circumstances he relates.

There is no evidence at all as to any other source from which a fire might have arisen through carelessness.

(3) We consider that the attempt to prove that the fire was caused through defect in the electrical installation fails. The reports of the experts are unanimous that the fire was not electrically caused in the pump-house, but arose externally to the machinery there. We consider especially useful the evidence and report of Mr. Medhurst, an independent electrician employed on behalf of the Crown, and who was permitted by the Company to take to pieces and thoroughly investigate the ruined machinery.

On this head certain rules, stated to be those of the Board of Trade, and others of the Institution of Electrical Engineers, were cited to us, and it was alleged that any failure to comply with these would have constituted a failure to take the due precautions demanded by the law.

Apart from the question whether these rules have any bearing on the question of "reasonable precaution," we are unable, after a careful perusal of the evidence, the rules, and counsels' arguments thereon, to say that the rules to which our attention was called have any applicability to the particular circumstances of this installation. On the evidence before us we consider that the Company did not, under all the circumstances, fail to take all reasonable precautions against accidents in the instalment and care of this machinery. But we say this subject to the question raised under Rule 44 mentioned below.

The evidence as to alleged previous fires in this pump-house establishes one actual fire only, which occurred about three and a half years ago, and the evidence of its origin is quite inconclusive. The pump-house was remodelled thereafter and the electric appliances rearranged, and we find it impossible to found any conclusion as to the fire on the twelfth of October last upon that previous fire.

As further causes of the loss of life from this disaster the following are suggested :—

(A)—THE EMPLOYMENT OF ONE MAN TO ATTEND TWO PUMP-HOUSES, ONE AT THE 700 AND ONE AT THE 1100-FEET LEVEL.

Reference was made to Rule 44 under "The Mining Act, 1905," as having been infringed in this particular. What is the correct interpretation of that rule is disputed, and no determination of this Commission can settle this question of legal construction. But we record the fact (freely admitted by the Company) that one man (Burns) attended to all the electric motors and pumps at the 700 and 1100 feet levels. The pumps are automatically worked and started, and the duties of any attendant constantly stationed at either pump-house would be limited to those of a watchman.

(B)—THE ABSENCE OF SPECIAL MEANS TO PUT OUT ANY FIRE.

Neither the management nor the men, nor the inspector of mines, nor the men's 'check inspectors' ever contemplated the possibility of any fire at this pump-house or elsewhere in the mine, and the Company frankly admits that no special provision against fire was ever made or thought necessary. It happened that there was a constant supply of water close to the pump-house at the 700-foot level, and there was also a hose for use in running "mullock" in the vicinity, with a connection inside the pump-house; but there is no evidence that anyone attempted to use water to the fire. Witnesses state that it was impossible to get near it for the smoke, consequently the presence or absence of fire-fighting apparatus did not affect the result.

(C)—THE FAILURE TO PROVIDE ANY OTHER EXIT THAN THE MAIN SHAFT.

We are advised by the learned Solicitor-General that the law does not require more than one exit from a metalliferous mine; but in any event we find that there were at

the time of the disaster passes extending in various directions to all the levels throughout the mine, whereby in the event of the collapse of the main shaft, or almost any occurrence other than the generation of deadly fumes, men could have been rescued; but while this fire was in progress many of these became mere passages for smoke and fumes, and rendered rescue work very difficult and hazardous. We find that at the time of this disaster there were no connecting ways fitted with ladders from the 500 to the 300 feet levels, other than the main shaft.

(D)— FAILURE TO "PULL THE SHIFT."

This charge is not, in our opinion, substantiated. We consider that under the unprecedented conditions all that was reasonably possible was done. The man in actual charge underground (Robert Cox, the underground foreman) laboured nobly with others to get the men out, until he was overcome by the fumes and was assisted to the surface. The shift bosses did all that was humanly possible.

No witness could tell us of any systematic method, either prescribed or in actual use in Australia, whereby the men throughout a large mine can be immediately warned of danger and called to the surface. One witness informed us, from hearsay, of a system whereby the electric light is used to flash the warning through the mine. This appears to us worthy of consideration with a view to its adoption.

Without further comment we commend for earnest consideration the proposals of the Chief Inspector of Mines (Mr. W. H. Twelvetrees) to embody in legislation the lessons of this disaster.

We desire to suggest further that, as an extreme precaution and in view of the entirely unforeseen circumstances of this disaster, no building in a mine at which there is not some person constantly present during the working hours should be constructed of pine or other easily combustible material.

IN CONCLUSION

We wish to record our appreciation of the readiness with which facilities were supplied by the Mount Lyell Company to us for viewing any accessible portion of their works which we expressed a wish to see.

We desire also to acknowledge the great assistance rendered us by the Secretary to the Commission (Mr. F. B. Edwards), and to express our sense of the excellent manner in which he carried out the extensive arrangements involved in the course of the enquiry.

We cannot close this report without recording our profound admiration for the heroic work done by masters and men in the endeavour to rescue the entombed miners. We took no evidence specially directed to the deeds of heroism which belong to the story of this disaster. That was not our duty. But from time to time the testimony of witnesses unconsciously revealed to us the simple grandeur of sentiment which prevailed amongst the men in the mine and the rescue parties during this disaster.

We have the honour to be

Your Excellency's most Obedient Servants,

E. W. TURNER, President.
W. HARRIS.
A. J. SCOTT.
D. SALTER.
W. H. TAPSELL.
H. THOMAS.
G. HORNBY.
J. H. PALMER.

FRANK B. EDWARDS, Secretary.

22nd January, 1913.

SCHEDULE.

LISTS OF EXHIBITS.

(1.)

FILED BY COUNSEL FOR THE CROWN.

- C1. List of men on the day shift on 12th October, 1912.
 C2. Plan of 700ft. level—North Lyell Mine.
 C3. Photograph of Pumphouse ruins, 700ft. level, North Lyell Mine.
 C4. Chart of Pumphouse before fire.
 C5. Detail Plan, Underground Workings, to 31st Dec., 1910.
 C6. Detail Plan, Underground Workings, to 31st Dec., 1910. } (Filed 1910.)
 C7. Section on Line BB, looking north, undated, but to 31st }
 Dec., 1910. }
 C8. Section on Line BB, looking north, to 31st Dec., 1911. }
 C9. Detail Plan, Underground Workings, to 31st Dec., 1911. } (Filed 1911.)
 C10. Detail Plan, Underground Workings, to 31st Dec., 1911. }
- } These plans were
 filed in Mines
 Office under "The
 Mining Act."

(2.)

FILED BY THE COUNSEL FOR THE MT. LYELL COMPANY.

- A1. Portion of Electric Cable (Main Cable).
 A2. Portion of Electric Cable.
 A3. Inspection Book—North Lyell Mine.
 A4. Check Inspector's Book—North Lyell Mine.
 A5. Hoist Chart for 12th October, 1912.
 A6. Plan of 500ft. level.
 A7. Plan of 600ft. level.
 A8. Plan of 850ft. level.
 A9. Plan of 1000ft. level.
 A10. Plan of 1100ft. level.
 A11. Composite Plan of levels from 700ft. to 1100ft. inclusive.
 A12. Copy of Agreement between Mt. Lyell Co. and the A.M.E.A., dated 31/1/1912.
 A13. Vertical Projection of North Lyell Mine, showing means of exit.
 A17. Plan of 300ft. level.
 A18. Plan of 400ft. level.
 A19. Copy of letter—M. Kean and M. Cunningham—to the Minister of Mines, dated 3/12/1910.
 A20. Copy of Official Report of Award of Federal Conciliation and Arbitration Court; Federated
 Engine-drivers and Firemen's Association of Australasia v. The Broken Hill Proprietary Co.
 Limited; the Mt. Lyell M. & R. Co. Limited, and 175 others (12th May, 1911).
 A21. Extract from Report of the Secretary for Mines, Tasmania, for year ending December 31, 1911.
 A22. Institute of Electric Engineers, Wiring Rules, &c.

(3.)

FILED BY THE COUNSEL FOR THE F.M.E.A.

- M1. Copy letter, A. Bigwood to R. M. Murray, dated 20/7/12.
 M2. Copy letter, R. M. Murray to A. Bigwood, dated 24/7/12.
 M3. Copy letter, Gadd and another to Murray, dated 27/9/12.
 M4. Letter, Murray to Gadd and another, dated 28/9/12.
 M5. Letter, Sticht to Gadd and another, dated 28/9/12.
 M6. Copy of letter, Gadd and another to Sticht, dated 3/10/12.
 M7. Letter, Murray to Gadd and another, dated 30/7/12.
 M8. Practical Engineers' Electrical Pocket Book.
 A14. Copy of Testimonial by R. M. Murray for Trembath, dated 27/8/12.
 A15. Copy of Testimonial by L. A. Harris for Trembath, dated 26/8/12.
 A16. Two Blown-out Resistance Coils.
 M9. Copy of Resolution passed at Meeting of F.M.E.A., held 10th June, 1912.
 M10. Copy of letter, Cunningham (Sec. F.M.E.A.) to C. H. Curtain, dated 11th June, 1912.
 M11. Original letters from Inspector Curtain to Chief Inspector of Mines, re means of egress from
 the North Lyell Mine.
 M12. Medhurst's Report.