

The South African OHS Commissions

MARAIS

1963

Report Of The Commission Of Enquiry
Regarding Safety In Mines

Electronic Copy By

David W. Stanton

PDF File Version 1.0
January 2004

Notes

This electronic copy (Version 1.0 January 2004) of the *Report of the Commission of Enquiry Regarding Safety in Mines (1963)* has been prepared from an original Government Printer Report. The text was captured with a flat bed scanner (HP OfficeJet G85) and Optical Character Recognition Software (OmniPage Pro 14). The captured text was proofread in printed form and via text to speech. The file was exported to Microsoft Word 2002 for text and layout editing and then published as an Adobe PDF file.

Care was taken to ensure that the text in this PDF file is an exact reproduction of the text in the original Commission report (some spelling errors have been corrected). The Figures have been captured as images.

If you spot any mistakes in this copy of the *Marais Commission Report* please notify the below contact who will correct the PDF file which is available on the Internet (Commissions section at asosh.org).

Dr. David W. Stanton

Association of Societies for Occupational Safety and Health (ASOSH) and
Chamber of Mines of South Africa
Email: davidws@asosh.org
Web: <http://www.asosh.org>

7 January 2004

COMMISSION OF ENQUIRY REGARDING SAFETY IN MINES

INTERIM REPORT

SUPERVISION OF MINES FOR SAFETY

Organisation and Functioning of the Department of
Mines and the Division of the Government Mining
Engineer

Published by Authority

Price R1.60
Overseas R2.00
Post Free



REPUBLIC OF SOUTH AFRICA

THE GOVERNMENT PRINTER, PRETORIA

R.P. 21/1963

G.P.-S.3648827—1962-63—750.

Cost of Printing: R720

COMMISSION OF ENQUIRY REGARDING SAFETY IN MINES

FIRST INTERIM REPORT

SUPERVISION OF MINES FOR SAFETY

Organisation and Functioning of the Department of
Mines and the Division of the Government
Mining Engineer



REPUBLIC OF SOUTH AFRICA
THE GOVERNMENT PRINTER, PRETORIA

COMMISSION OF ENQUIRY REGARDING SAFETY IN MINES

FIRST INTERIM REPORT

CONTENTS

Paragraph

Preamble	
Principal Recommendations on the Fourth Term of Reference	
Terms of Reference	

CHAPTER I. INTRODUCTORY

Resume of Minutes of Commission April-December, 1960.....	1 - 5
Scope of First Interim Report.....	6 - 9
Closer Definition of the Task of the Commission.....	10 - 22
Finding of Commission on Fourth Term of Reference	23 - 27

CHAPTER II. THE GOVERNMENT MINING ENGINEER

Outline of System of Supervision.....	28 - 40
The Post of the Government Mining Engineer.....	41 - 50
The Government Mining Engineer and the Minister.....	51 - 59
The Government Mining Engineer and the Secretary for Mines.....	60 - 63
Cost of Transferring the Division to Pretoria.....	64 - 65
The Government Mining Engineer and the Division of Geological Survey.....	66 - 80
The Government Mining Engineer and the Chief Inspector of Explosives.....	81 - 83
The Government Mining Engineer and the Public Service Commission.....	84 - 87
Head Office Assistants of the Government Mining Engineer.....	88 - 91
Expert Assistance for the Government Mining Engineer and District Inspectors.....	92 - 98
“Yearbook of the Government Mining Engineer”	99 - 102
The Salary of the Government Mining Engineer.....	103 - 108
Summary	109

CHAPTER III. STATUTORY AMENDMENTS RECOMMENDED

Orders Having an Effect on the Economy of the Country.....	110 - 118
Notice of Appeal.....	119 - 121
Composition of Special Commissions.....	122 - 124
Procedure on Appeal.....	125
Procedure for Enquiries under Section <i>Five</i> of the Mines and Works Act.....	126 - 136
Appeals from Decisions by the Government Mining Engineer.....	137 - 138
Appointment of More than One Inspector to Hold an Enquiry.....	139
Special Enquiries at Request of Workers or Otherwise.....	140 - 141
Trials in Inspectors’ Courts: Jurisdiction and Procedure.....	142 - 150
Sub-Inspectors and Senior Sub-Inspectors.....	151 - 161

CHAPTER IV. SUNDRY RECOMMENDATIONS

Inspection of Mine Plans.....	162 - 163
Transfers of Inspectors of Mines.....	164 - 166
Additional Inspectorate in the Division.....	167
Overseas Study Visits for Technical Officers.....	168
Deputy Commissioner of Mines, Natal.....	169

CHAPTER V. CONDITIONS OF EMPLOYMENT

General Observations on Shortage of Staff	170 - 186
Entry to Career of Mining is Restrictive and Selective	187 - 191
Scope of Employment is Restricted	192
Effect of Shortage of Staff on Salary Structure	193 - 194
Service in Division has no Advantage over Industry	195
Scope for Advancement	196 - 199
The Government Mining Engineer.....	200 - 201
Disparity between Service in the Division and Industry	202 - 204
No Competition with the Mining Industry	205
Decline Follows Shortage of Staff	206
Conclusion	207 - 208
Notes on Individual Salaries and Salary Scales	209

CHAPTER VI

Financial Implications of Recommendations.....	211 - 212
Annexure A. Oral evidence.	
Annexure B. Resolution dated March 25, 1960.	
Annexure C. Duties and functions of the Government Mining Engineer.	
Annexure D. Relationship of the Mining Industry with the Government Mining Engineer and his Department.	
Annexure E. Details of transfer of Government Mining Engineer's Division to Pretoria.	
Annexure F. Graph showing growth of Government Mining Engineer's Division in relation to growth of mining industry.	
Annexure G. Graph showing persons employed by the mining industry per district technical officer in the Government Mining Engineer's Division.	
Annexure H. Graph showing tonnage produced by the mining industry per district technical officer in the Government Mining Engineer's Division.	
Annexure I. Graph showing value of minerals produced by mining industry per district technical officer in the Government Mining Engineer's Division.	
Annexure J. Graph showing average trend of salaries in the Government Mining Engineer's Division from 1935 to 1960.	
Annexure K. Graph showing salary scales offered in the Government Mining Engineer's Division compared with the equivalent positions held in the mining industry.	
Annexure L. Graph showing comparison of staff salaries in industry and the Government Mining Engineer's Division.	
Annexure M. Comparison between salary scales offered in the Government Mining Engineer's Division and the mining industry for equivalent responsibility.	

COMMISSION OF ENQUIRY REGARDING SAFETY IN MINES

First Interim Report: Term of Reference No. 4

TO HIS EXCELLENCY THE HONOURABLE CHARLES ROBBERTS SWART,
GOVERNOR-GENERAL OF THE UNION OF SOUTH AFRICA.

MAY IT PLEASE YOUR EXCELLENCY

We, the undersigned, appointed by order of Your Excellency to the Commission of Enquiry regarding Safety in Mines, by virtue of Terms of Reference sealed and dated at Cape Town on the first day of April, One Thousand Nine Hundred and Sixty, and of Proclamation No. 98 of the 4th of April, 1960, and made known in *Government Gazette Extraordinary* No. 6408, bearing the last-mentioned date, have the honour to submit herewith for Your Excellency's gracious consideration our First Interim Report, on the Fourth Term of Reference, which reads:

In the light of the accident at the Coalbrook North Colliery on 21st January, 1960, to enquire into and report on the following matters:—

- (4) Whether the supervision of mines exercised by the Department of Mines in terms of the said Act and regulations is adequate; if not, in what respects it should be improved in the interests of safety.

THUS DONE AND SIGNED AT JOHANNESBURG THIS TWENTIETH DAY OF DECEMBER
IN THE YEAR ONE THOUSAND NINE HUNDRED AND SIXTY.

(Sgd.)	J. F. MARAIS,	Chairman.
(Sgd.)	R. J. J. RADEMEYER,	Member.
(Sgd.)	C. D. TUDHOPE,	Member.
(Sgd.)	C. A. STRAUSS,	Member.
(Sgd.)	A. E. EDGE,	Member.
(Sgd.)	G. F. RAUTENBACH,	Member.
(Sgd.)	D. E. ELLIS,	Member.
(Sgd.)	N. J. UYS,	Secretary.

PRINCIPAL RECOMMENDATIONS ON THE FOURTH TERM OF REFERENCE

1. The status of the Government Mining Engineer should be restored to the pre-1937 level.
2. The salary of the Government Mining Engineer and of all the technical officers of his Division must be adapted to the restored status level.
3. It is desirable that the Department of Mines be reorganised so that—
 - (a) the posts of Government Mining Engineer and Secretary for Mines are combined in one person, administratively assisted by a Deputy Secretary for Mines;
 - (b) the Division of Geological Survey forms an integral part of the Government Mining Engineer's Division; and
 - (c) the Inspectors of Explosives fall under the direction of the Government Mining Engineer.
4. The Division of the Government Mining Engineer should be moved to Pretoria.
5. It is recommended that the number of Assistant Government Mining Engineers be increased to four.
6. Every effort must be made to restore the lost confidence of the mine workers in the competence and integrity of the technical officers in the Division.
7. Special Commissions should have as a fifth member a workers' representative, and their procedure should be prescribed in detail. Appeals to the Government Mining Engineer must be abolished.
8. The powers of inspectors of Mines in regard to the closing of mines or parts of mines must be circumscribed in the Act.
9. The Government Mining Engineer must have at his disposal a panel of experts appointed by the Minister to assist the Division in regard to safety problems, special enquiries under section 5 (2) of the Act and enquiries into accidents.
10. The procedure followed at Inspectors' enquiries should be such as to simplify proceedings and to achieve useful results.
11. The jurisdiction of Inspectors' courts may be slightly increased, provided the basic rules of a fair hearing are observed.
12. It is recommended that Ministerial Commissions be appointed to hear appeals from decisions of the Government Mining Engineer.
13. Sub-Inspectors must resume their original rôle of welfare workers.
14. A new grade, that of Senior Sub-Inspector, is recommended—one appointment to each inspectorate.
15. Mine plans should be inspected more thoroughly and more frequently, as to accuracy as well as form, and systematic inspections should be resumed as soon as possible.
16. The Welkom inspectorate should be divided into two units.

COMMISSION OF ENQUIRY REGARDING SAFETY IN MINES.

Terms of Reference

COMMISSION

BY HIS EXCELLENCY THE HONOURABLE CHARLES
ROBBERTS SWART, GOVERNOR-GENERAL OF THE
UNION OF SOUTH AFRICA.

TO: THE HONOURABLE JACOBUS FRANCOIS MARAIS;
CUTHBERT DRYDEN TUDHOPE;
GEORGE FREDERICK RAUTENBACH, B.Sc. (Eng.);
ARTHUR EDWIN EDGE, M.I.MIN.E.;
DANIEL EDWARD ELLIS;
ROELOF JOHANNES JANSEN RADEMEYER, B.Sc.;
CHRISTIAAN AURET STRAUSS, D.Sc. (Geol.).

GREETINGS:

WHEREAS I deem it expedient to appoint a Commission, to be known as the Commission of Enquiry regarding Safety in Mines, to enquire into and report on the matters mentioned hereinafter:

NOW, THEREFORE, reposing great trust in your knowledge and ability, I hereby authorise and appoint you—

JACOBUS FRANCOIS MARAIS as Chairman, and you—
CUTHBERT DRYDEN TUDHOPE,
GEORGE FREDERICK RAUTENBACH,
ARTHUR EDWIN EDGE,
DANIEL EDWARD ELLIS,
ROELOF JOHANNES JANSEN RADEMEYER, and
CHRISTIAAN AURET STRAUSS

to be members of a Commission, with the following terms of reference:—

In the light of the accident at the Coalbrook North Colliery on 21st January, 1960, to enquire into and report on the following matters:—

- (1) The principal systems of coal mining practised in South Africa, with special reference to safety;
- (2) The adequacy of the provisions of the Mines and Works Act, 1956, and the regulations promulgated thereunder concerning safety in coal mines, *inter alia*, in comparison with the safety requirements applicable in similar circumstances in other mines;
- (3) Any amendments of the said Act and/or regulations as may be considered advisable or necessary in the interests of safety in coal mines and the extent, if any, to which such amendments should be applied to other mines, having regard in both instances to technical and other operating considerations;
- (4) Whether the supervision of mines exercised by the Department of Mines in terms of the said Act and regulations is adequate; if not, in what respects it should be improved in the interests of safety;
- (5) Any other matter arising out of or connected with the said accident which, in the opinion of the Commission, has not been adequately covered from a safety point of view by any other investigation or which relates to safety in mines generally and which the Commission may consider it necessary to examine for the purpose of its enquiry.

GIVEN under my Hand and Great Seal at Cape Town on this first day of April, One Thousand Nine Hundred and Sixty.

C. R. SWART,
GOVERNOR-GENERAL.

BY COMMAND OF HIS EXCELLENCY THE
GOVERNOR-GENERAL-IN-COUNCIL
J. DE KLERK.

CHAPTER I.—INTRODUCTORY.

RESUMÉ OF MINUTES OF COMMISSION.

APRIL–DECEMBER, 1960.

1. The Commission, having been appointed on April 1, 1960, held its first meeting in the Palace of Justice, Pretoria, on April 11, with the assistance as Secretary of Mr. J. A. Gilfillan. The Commission regrets to have to record that before its second meeting, in Johannesburg on April 25, the secretary fell ill. He died in Johannesburg on May 3, 1960. The Commission extends its condolences to his widow.

2. Mr. N. J. Uys, of the Department of Mines, was thereupon appointed secretary to the Commission and he has officiated since.

3. The third and fourth meetings of the Commission took place during an inspection of collieries in Natal, namely, at Dannhauser, on June 22 and at Dundee, on June 23.

4. During the periods August 15-19, September 12-16, October 17-21, November 14-18 and December 7-8 oral and written evidence was heard and considered. A list of the witnesses who testified orally before the Commission appears herein as *Annexure A*.

5. Since its appointment members of the Commission have, in furtherance of its task, visited Sigma Colliery; the Government Miners' Training School at Crown Mines; Crown Mines; Durban Navigation Colliery; De Beer's Mines; and Phoenix Colliery; and the Division of Geological Survey. Members also attended an accident enquiry at West Driefontein Mine and another at the East Rand Proprietary Mines.

SCOPE OF FIRST INTERIM REPORT.

6. After a brief survey of the whole field for investigation outlined in the terms of reference and after putting in hand certain statistical research work to be used later, the Commission decided to hear evidence on the fourth term of reference, i.e. the adequacy of the supervision exercised by the State over mines in the interests of safety. This appeared to be the most urgent as well as the most essential; a system of supervision and control in every way sound and effective would be the best guarantee against mining accidents, and would relieve the Commission of much detail work.

7. The nature of some of the matters that had to be canvassed in evidence compelled the Commission, much against its will, to hold all its sessions on this part of its work behind closed doors and to treat the record of the evidence as confidential. The event, we feel, has justified the precaution, in that witnesses spoke more freely than they would probably have done in public.

8. On September 13, after 12 witnesses had testified, one of the members of the Commission, Mr. Ellis, moved that all witnesses be required to testify on oath. The motion was defeated.

9. The Commission is deeply indebted to Mr. Gibbs (Acting Government Mining Engineer) for unstintingly giving a great deal of time to matters raised by the Commission during a period not free from official anxiety for this officer.

CLOSER DEFINITION OF THE TASK OF THE COMMISSION.

10. Despite the mention of the Coalbrook accident in the terms of reference, the latter do not reflect all the events which led up to the decision to appoint this Commission. Without that background it would not be possible to appreciate the view the Commission has come to take of its task as a whole. The disaster at the Coalbrook North colliery on January 21, 1960, was an important fact in the series of events having a bearing on the appointment of the Commission, and in due course, with Your Excellency's indulgence, the Commission will be giving its undivided attention to that occurrence. The cumulative effect of other events, however, both before and after the Coalbrook accident, appears to us to be important enough to merit consideration at the outset. A brief narration of the more important events follows.

11. During 1953, the underground workers at a certain gold mine—in this section of the Report names are omitted because identity is irrelevant to the inference sought to be drawn—began to complain about the gas and ventilation conditions on the mine. The matter was taken up by their Trade Union and one of its senior officials interviewed the District Inspector of Mines in whose inspectorate the mine was situated. He obtained no satisfaction from the Inspector nor from the then Government Mining Engineer. Officially no good reason for a special investigation into the ventilation arrangements existed. The Trade Union resorted to an illegal strike of all the underground workers to back up its demand for a special enquiry. Its success was immediate. The Government, as was to be expected, in the person of the Minister of Mines intervened and negotiated directly with the Trade Union concerned, overriding in the process the decisions of both the District Inspector and the Head of the Division. The strike was called off on the promise that an impartial Inspector acceptable to the Trade Union would be detailed to investigate conditions on the mine.

12. The Inspector selected by the Trade Union for this purpose was one who, though still a Deputy Inspector, had immediately before this distinguished himself in the eyes of the mine workers by being instrumental in the conviction and severe punishment of a Mine Manager found guilty in regard to safety measures on his mine. He was accordingly sent to conduct an exhaustive enquiry on a mine inside the inspectorate of another Inspector who was his senior in the service. In due course he submitted his report and the matter was officially closed.

13. The disturbing features of this whole matter seem to have been overlooked. Not only had the Minister encroached on the statutory jurisdiction of the Government Mining Engineer and thereby dealt a blow to his prestige, but a most unusual course had been taken in sending a Deputy Inspector from another inspectorate to do work for which the local District Inspector is by statute responsible. In such circumstances one would have expected the authorities to have diligently searched for means of preventing a similar occurrence in the future. Apparently nothing was done. On the contrary, the subsequent decision to keep the investigating Deputy Inspector's report secret from the Trade Union which had demanded the investigation to the point of calling a strike, served no other purpose than to confirm the workers' allegation that the mine was "a death trap" and their belief that it was their Union, and not the Government Mining Engineer's Division, that was looking after the safety of the workers. Doubt and resentment were beginning to destroy collaboration and mutual trust between the workers and the Inspectors.

14. Shortly after the special investigation the Deputy Inspector concerned was transferred from the inspectorate where the Mine Manager had been convicted. The workers immediately concluded that his transfer had been engineered by the other Mine Managers in the inspectorate and that the Government Mining Engineer had allowed himself to be persuaded to order the transfer because the Inspector was, as a result of his adverse report on the gas conditions in the gold mine he had investigated, now *persona non grata* in the Division as well. The fact that the Deputy Inspector's transfer was coupled with his promotion to the post of District Inspector did nothing to convince the workers of the good faith of the authorities.

15. At this time, dissatisfaction with the protection afforded to mine workers by the Inspectors was so rife that the Trade Union asked the Government to appoint a judicial commission of enquiry into the whole system of mine safety. The request was refused. The uneasiness and friction continued to increase. The Union ceased to have any dealings whatever with the Government Mining Engineer and with the District inspector in whose inspectorate the gassy mine was. There is no record that the transfer of this Inspector to another district was considered or that any other means of resolving the deadlock were tried.

16. On December 24, 1959, an explosion took place at another gold mine, in the same inspectorate, killing 24 workers. Some delay occurred in the investigation of the accident. Conflicting evidence has been given as to the cause of the delay (it is unnecessary for present purposes to resolve the conflict), but the workers were at once convinced that the delay was intentional on the part of the District Inspector, and they demanded an impartial, competent enquiry by an investigator from outside the inspectorate. Again the demand was granted, and again it was the Inspector of the previous instance who was brought in to do the local Inspector's work.

17. The enquiry had hardly begun when the Coalbrook disaster shook the country. By-passing the Government Mining Engineer, the Trade Union confronted the Government with three demands: firstly, that the Government Mining Engineer should be dismissed from his post forthwith; secondly, that an *ad hoc* Committee of mining experts be appointed to investigate all mines where the workers had safety complaints; and, thirdly, that a judicial commission of enquiry be appointed to investigate the whole question of safety on all the mines of the Union. Motivated no doubt by the condition of near panic then prevailing in the industry and coerced by the uncompromising demands of the Union, the Government acceded to all these requests. The Government Mining Engineer was retired and one of his officers appointed in an acting capacity; the *ad hoc* committee of investigators was appointed with the same Inspector on it; and the present Commission was brought into being.

18. Two further events of major importance took place after the Coalbrook accident. The first relates to the Inspector whom the workers regarded as their champion against the alleged incompetence of the Government Mining Engineer's Division and the suspected negligence or indifference of the mine managements. On March, 25, 1960, the executive committee of the Trade Union passed a resolution to the effect that if the Inspector should be victimised for the energetic steps he had taken to expose the alleged defects in the safety machinery, a strike on all collieries would be ordered by way of protest. A translation of the resolution (omitting names) appears as *Annexure B* hereto.

19. The other event concerns the District Inspector on whose jurisdiction the encroachments had taken place. Quite recently the Trade Union succeeded in persuading the Government to order the removal of the Inspector from the post of District Inspector.

20. All these events have had the effect of hardening the suspicion of the workers that all is not well with the Government Mining Engineer's Division, and of encouraging them in the stand they have taken, successfully, against the Division. This has brought about an unhappy state of affairs where the worker is at loggerheads, if not worse, with the very organisation whose task it is to collaborate with him for his safety. The contention of the Trade Union is that it had no option but to take the stand it did take in the interests of the members' health and safety, and there is no reason to doubt its bona fides in this regard.

21. The events have also had the effect of unsettling the staff of the Division and rendering it more difficult to attract recruits to a sorely depleted establishment. Morale and discipline have suffered grievously during the last seven years.

22. Finally, effective control and adequate supervision of the mines have been given a severe blow by the shortage of staff and the upheavals of the recent past. The present efficiency of the Division in ensuring safety is to be attributed to the zeal of the staff, in particular of the acting incumbent of the Government Mining Engineer's post.

FINDING OF COMMISSION ON FOURTH TERM OF REFERENCE.

23. This Commission finds as a fact that the supervision exercised by the Government Mining Engineer's Division over the mining industry is, and has been for a number of years, inadequate for its purpose, and that, but for the vigilance of the industry itself, life and limb in the mines would have been exposed to intolerable danger.

24. The Commission mentions some of the features of the supervision which indicate deterioration: Widespread loss of confidence by workers in the competence and the integrity of the Division; increasing loss of prestige in the estimation of the mining industry; lack of discipline; insufficiently frequent and thorough routine inspections of mines; no systematic inspections of mines; almost complete absence of inspection of mine plans for accuracy; wholly inadequate dust sampling, resulting in some cases to the *ex post facto* declaration of mines as controlled mines; inadequacy of staff in almost all ranks; lack of leadership from the higher to the lower ranks in the Division, with many signs of suspicion and disloyalty. These, and other, factors all played a part in bringing about the almost complete failure of the Division to meet the crisis precipitated by the Coalbrook disaster.

25. In the light of the foregoing it is the Commission's humble submission that its main task is to try and restore confidence, especially the workers' confidence, in the Government Mining Engineer's Division. To that end it must devise means of eliminating friction points, sources of suspicion and other obstacles to full collaboration at all levels between the Unions, the industry and the Division. At the same time, the endeavours of the Commission should be directed to the improvement of the functioning, technically as well as organisationally, of the Division.

These two objectives, which are interdependent, form the subject matter of this First Report which we are herewith submitting for Your Excellency's consideration.

26. Before leaving the subject at this stage, the Commission feels constrained to record what it considers to be the rôle of the workers' unions in matters such as these. It is apparent from what has been said above that the workers have it in their power to undermine and render futile the State machinery created for their protection in the form of the Government Mining Engineer's Division. It is likewise in their power to assist in making it an efficient and dependable instrument for safety. It would be absurd to expect that they would willingly choose the former course to their own detriment, as long as those in charge of the Division, particularly the Government Mining Engineer himself and each of the District Inspectors individually, are at all times alive to the fact that the services being rendered by them are services rendered to the workers, whose views, and fears, are therefore as much pertinent facts as any other data on which they are working.

27. Collaboration between workers and inspection staff would, in addition to all the obvious advantages it would have for both parties, eliminate any need for the Government to resort to the kind of intervention which was witnessed in the last seven years and which was never contemplated by the designers of our system of safety and health supervision.

CHAPTER II.—THE GOVERNMENT MINING ENGINEER.

OUTLINE OF SYSTEM OF SUPERVISION.

28. The need for supervision, and the basic principles of our system of supervision, can be stated in simple terms.

29. Mining is inherently dangerous, both to life and to health. Those who wish to extract anything from under the surface of the earth by digging a hole must be prepared to devote some of their resources to safety. It is an "unnatural" activity giving rise to "unnatural" conditions. But safety measures invariably cost money, and the employer must bear the expenditure. Thus a perpetual conflict of interest arises between employer and employee as to the nature and extent of the safety measures that may be considered reasonably practicable and reasonably necessary.

30. This conflict can, and does, lead to industrial unrest, unless an effective system of arbitration is established by the legislature. In this country the arbiter whose duty it is to hold the scales evenly between employer and employed is the Government Mining Engineer, who is appointed by the Governor-General and under whose direction the Inspectors of Mines work. To each Inspector is entrusted an inspectorate—there are eleven of these in the Union—in which a dozen or more mines are being operated. The Inspector, usually referred to as "District Inspector" to distinguish him from his subordinates who are also statutory inspectors of mines, is assisted by one or two Deputy District Inspectors and two or more Assistant Inspectors, all of them qualified mining engineers.

31. On the side of the industry the District Inspector's counterparts in the inspectorate are the Mine Managers, each of whom is by law responsible for the safety and health of every human being in and about the mine under his control.

32. In the mine itself the Shift Bosses supervise the activities of the miners or gangers in the interests of safety and of the due observance of the regulations (which are primarily framed for safety); their counterparts, on the District Inspector's side, are the so-called Sub-Inspectors, who are experienced miners, not engineers, and whose primary function may be likened to that of mining welfare officers. In

each inspectorate there is normally only one Sub-Inspector and he spends most of his working hours underground in the various mines in the inspectorate.

33. A system of reporting exists in both organisations: from the miner to the Shift Boss and upwards to the Mine Manager; and from the Sub-Inspector to an Assistant Inspector and upwards to the District Inspector.

34. Co-ordination and policy direction originate in the headquarters of the Division, where the Government Mining Engineer is assisted by a Deputy and three Assistants. Monthly and special reports emanating from the eleven inspectorates keep the Government Mining Engineer and his staff informed of conditions in all the mines.

35. At this level, consultation with the owners of mines, mostly represented by so-called "mining houses" employing Consulting Engineers, as well as with the head offices of the Miners' Unions, who are kept informed by their local organisers, has to take place.

36. Briefly, then, Shift Bosses and Sub-Inspectors, Mine Managers and Mine Inspectors, Mining Consulting Engineers and the Government Mining Engineer and the Trade Union leaders concerned represent the contract points at the various levels and make up the framework of the safety system and its supervision.

37. It is an admirable system. Interaction between policy maker and executive and between controller and controlled takes place spontaneously at all the levels where it would be desirable, and it takes place without unduly straining the resources of the industry and without wasting control manpower. It is a system with which the Commission cannot find any fault except in minor respects.

38. But its success in practice depends almost exclusively, if not wholly so, on the qualities of a single person. That individual is the Government Mining Engineer. If he should be incapable of bearing the immense responsibility of the post, the best assistance from his subordinates will not save the day, nor—needless to say—the most rigid lay control from above.

39. Compared with conditions in Great Britain, mine workers in South Africa are handicapped by a lack of expert technical advice in their dealings with their well-equipped employers; the workers are wholly dependent for technical assistance on the Inspectors of Mines, in whom they may sometimes repose less than complete trust. This lack has been remedied in Great Britain, where organised mine workers have appointed qualified engineers to assist the Union officials in disputes with mine managements on safety issues. The system was introduced in 1958 and 12 Trade Union Mining Engineers now constitute, with the mines inspectorate and the safety officers of the employers, the third (workers') safety organisation. This has brought the "opposing forces" into more stable equilibrium and rendered the task of the Mines Inspector, as arbiter, much easier.

40. The mine workers in South Africa are not unaware of the defects in the present arrangement. Thus the Mining Unions' Joint Committee has urged upon the Commission the desirability of creating such a third safety organisation. Briefly, their suggestion is that the links in the chain should be the Sub-Inspectors and two or more roving Inspectors of Mines, with the Minister of Mines (instead of the Government Mining Engineer) at the head. Although the suggestion appears to be organisationally unsound and impracticable, it does demonstrate the workers' desire to have technical experts devoted first and foremost to their interests.

THE POST OF THE GOVERNMENT MINING ENGINEER.

41. The two sources of his responsibility were, in the Transvaal, finally circumscribed by the Gold Law of 1908 and the Mines Act of the following year. For reasons that will appear presently, the Transvaal Legislature created an almost unique position for him: he was to be an appointee of the Governor (now the Governor-General), holding office therefore at the pleasure of the Governor; his main duties were laid down by Act of Parliament, in the widest terms, which could not be varied by regulation or Ministerial instruction; and he was to perform his duties without reference to the Minister of Mines.

42. Under the Mines Act of 1909 (the terms of which are essentially the same as those of the Mines Act of 1956) he is the guardian of the health and safety of all workers in mines and works. He is today the guardian of the safety of every one of the 652,900 persons employed in mining operations in this country. The ultimate blame for avoidable accidents, such as that at Coalbrook North, must be his, not that of any subordinate, nor that of the Minister of Mines. This is so because it has always been, and must continue to be, in his power to remedy defects in his organisational as well as his statutory machinery, and, by means of that machinery, defects in the safety measures taken by the industry; provided always that he is not hampered by control such as is contemplated in the Public Service Act. This is eminently a point at which divided responsibility will be disastrous.

43. The responsibility for thousands of human lives is rendered the more onerous because of the economic factor. The Government Mining Engineer must of necessity be satisfied with a good deal less than perfect safety for those entrusted to his care; perfect safety is possible only when no workers go underground. Every safety measure, however imperfect, entails some expenditure or loss of productivity, for a time at least. If safety regulations are too stringent mining becomes unprofitable or border-line mines have to close. It is the Government Mining Engineer who holds the balance between safety and the reasonable claims of the industry. Towards both the worker and the mine owner he has a duty of the highest order. He alone is the arbiter between hundreds of thousands of lives and an industry worth hundreds of millions of pounds per year to the national economy.

44. He carries out this function by taking care that he personally is at all times correctly informed of all that happens in all the mines in the Union; that those who inspect the mines on his behalf are enabled to, and do, carry out their duties properly; and that the safety regulations are adequate and scientifically up-to-date.

45. Enough has been said to show that, in this respect at least, the Government Mining Engineer cannot be divested of the ultimate responsibility for the "safety policy" of the mining industry.

46. The other responsibility of the Government Mining Engineer, namely the one imposed by the Gold Law, is of the greatest importance to the Treasury. Elsewhere (in *Annexure C*) the duties of the Government Mining Engineer are set out in more detail, but in this context his functions can be crisply summarised in a generalisation: the total yield in 1959 of all the mines under his control amounted to £394,423,000, and of that amount the Treasury received directly by way of lease moneys, taxes, royalties and the like, an amount of £37,454,500; and it is on the advice of the Government Mining Engineer that the royalties or the share of profits payable to the State are determined. He is, in effect, the arbiter between the State and the industry.

47. Here, too, it would be idle to consider the possibility that some other person might supervise or check the decisions of the Government Mining Engineer.

48. All this was clearly realised as far back as 1907. Sir Robert Kotze, before his appointment as the first Government Mining Engineer (a post he held with high distinction from 1909 until 1926), had this to say, amongst others, of the future incumbent of such a unique position of responsibility: "In making the appointment your intention is to secure a man who, besides having the necessary technical and other qualifications will maintain a frame of mind absolutely unbiased and uninfluenced by any considerations other than those which affect the merits of any question. More especially is it necessary to have one who shall not be influenced by the attitude that he thinks may be taken up by the large mining firms. As you know, there has been a feeling that men in the Department do not care to express too freely opinions which they feared might not suit the mining houses, since the time might come that they would be thrown on their own resources and have to depend largely on these houses for support and advancement in their further career. Under these circumstances an insufficiently paid man might lay himself open to the suspicion that he was working with an eye to the day when he could better his position by relinquishing his appointment and rejoining some private firm—that he was suppressing, consciously or otherwise, opinions and judgments that ran counter to the interests of the big firms. The necessity is obvious of removing temptations and suspicions of this kind, and it seems to me—whether myself or someone else is appointed to the position, makes no difference—that a comparatively high salary should be attached to the office. In expressing an opinion of this nature I do so not only in my own interest but also with the sincere desire that, even if I myself do not accept the position the Government may not make a mistake of the nature indicated."

49. An authoritative reflection of the views the mining industry has on the post of the Government Mining Engineer appears in an extract from a memorandum reproduced in *Annexure D*.

50. Having touched on the duty of the Government Mining Engineer to maintain a relationship of complete trust with the workers in the mining industry, on his responsibility in regard to safety, on his duties towards the State in regard to its share in the mineral wealth of the country, and on the independence of his post, we must turn now to his position vis-à-vis the Minister of Mines and the Secretary for Mines.

THE GOVERNMENT MINING ENGINEER AND THE MINISTER.

51. As the Government Mining Engineer is the senior technical adviser of the Minister of Mines in a Department that is almost exclusively engaged on work of a technical or semi-technical nature, one could expect to find a free exchange taking place of views and information on the many problems which a huge industry necessarily creates in the fields of administration, control and policy. This is not so, nor has it been so for a considerable period.

52. The chief reason for this lack of direct contact seems to be a geographical one. The Government Mining Engineer works in Johannesburg, the Minister in Pretoria or Cape Town. It would be surprising if close touch could be maintained in such circumstances more especially when the Minister of Mines is almost invariably responsible for one or more other State Departments as well as Mines.

53. A further obstacle to full collaboration arises from the constitution of the Department of Mines, of which the Secretary for Mines, not the Government Mining Engineer, is the administrative head. This means, according to public service procedure, that communications from the Government Mining Engineer—which must of necessity be almost always in writing—have to proceed via the Secretary for Mines' office to the Minister. This arrangement tends to strengthen the natural barrier of distance.

54. The Minister of Mines is primarily responsible for the choice of the person appointed to the post of Government Mining Engineer and he can expect to be placed in a position where he can watch the progress of the appointee, even though he has no power to influence his decisions. The Minister is entitled to the advice and ready assistance of the Government Mining Engineer in all matters where it is required. Similarly, the Government Mining Engineer has a right to learn from the Minister personally the details of the policies the Minister contemplates or desires to be followed in conjunction with the national policies of the Government. We are satisfied that if this ideal, and wholly feasible, arrangement had been in operation, many of the unfortunate events of the last seven years would have been avoided.

55. We are confirmed in these views by the considered opinions expressed by the Chamber of Mines and the Acting Government Mining Engineer.

56. The Commission accordingly has no option but to recommend that the Government Mining Engineer should have his office, during the Parliamentary recess, in close proximity to that of the Minister and, while mining matters are being discussed by Parliament, in Cape Town.

57. Traditionally, Cabinet Ministers are domiciled in Pretoria and we are hesitant to go so far afield from our terms of reference as to recommend an exception in the case of the Minister of Mines. We shall rather confine ourselves to the facts as we have found them. In favour of making Johannesburg the seat of the whole Ministry of Mines is the fact that Johannesburg is the domicile of all the mining houses, the Transvaal and Orange Free State Chamber of Mines, the Pneumoconiosis Bureau, the Pneumoconiosis Board, the Registrar of Mining Titles, the head offices of all the Trade Unions concerned in the industry, the stock exchange, and the head office of the Division of the Government Mining Engineer. Even though the actual centre of gravity of the industry may move elsewhere it is to be doubted whether this situation will be disturbed on that account. The move to Johannesburg would entail no more than the transfer of some 20 administrative staff from Pretoria to Johannesburg (where office accommodation is available); for it is not suggested, at this stage, that the head office of the Division of Geological Survey, now housed in Pretoria, should be transferred, too.

58. In favour of transferring the Division of the Government Mining Engineer to Pretoria rather than moving the Department to Johannesburg the first consideration is that of the Minister's administrative domicile, which would be a decisive factor when he is in charge of a second portfolio. A further consideration is that the removal of the Government Mining Engineer from Johannesburg would tend to counteract the popular suspicions of which Sir Robert Kotze made mention. The Chamber of Mines agrees with the Commission that the advantages of having the Government Mining Engineer in close touch with the Minister outweigh by far the single disadvantage of distance, the more so because the mining houses have dealings with many other Government Departments necessitating frequent visits to Pretoria.

59. On balance, the Commission is of the opinion that the Government Mining Engineer's Division should be moved to Pretoria.

THE GOVERNMENT MINING ENGINEER AND THE SECRETARY FOR MINES.

60. The Commission has given serious consideration to the present arrangement in the Department whereby the Secretary for Mines is its administrative head and the conduit between the Government Mining Engineer and the Minister. It is one which in our opinion is not without potential danger, for it is a possible source of future disruption if it should happen that the two persons occupying the two posts are temperamentally incompatible. We cannot believe that sound administration permits of a situation where a technical adviser, senior in status to an administrative officer, is compelled to use the latter to convey his communications to the policy-making head of the organisation. (The phrase "senior in status" is explained below.) This factor becomes compelling if it is pointed out that when, as now in the Department, the Minister is precluded by his manifold duties from regular personal discussion with his senior Mines Department officers, almost all communications have to reach the Minister in writing, above the signature of the Secretary of the Department. Failing important reasons for a contrary view, basically unsound principles of administration of this nature (whose ill effects can be alleviated only by the fortuitous circumstance of phlegmatic temperaments in both the incumbents) should be avoided.

61. The only reason appearing from the evidence for retaining this unsound arrangement is the statement that the Minister, in making policy decisions, is entitled to the assistance of an experienced administrative officer rather than that of a technical man.

62. This principle has, however, been departed from in the case of some Government Departments providing technical services (e.g. Agricultural Technical Services, Forestry, Water Affairs, Public Health). The reason for this departure is probably the fact that experienced administrative officers capable of advising the Minister are not confined to the ranks of departmental heads; a system of deputy secretaries has been introduced. When a departmental secretary is for any reason not on duty near the Minister, his deputy takes his place without more ado.

63. The Commission humbly suggests to Your Excellency that the advantages would be impressive if the Government Mining Engineer were to take over, with the assistance of a Deputy Secretary and under-secretaries, the functions of administrative head of the Department of Mines in addition to his present duties. At the risk of repeating ourselves we ask leave to enumerate the advantages: The senior officer in the Department would be its head; the Department being mainly one for technical services would have as its chief officer a technically trained man, obviously better able to co-ordinate such services as mining engineering and geological surveying than a purely administrative officer normally having no knowledge (when he is appointed to the post of Secretary for Mines) of the technical functions of the Department; research projects, such as that now being planned in respect of collieries, would be conveniently administered by the Division, where all mining research work should be co-ordinated; the possibility of friction and disruption is reduced to normal; efforts to co-ordinate the administrative and technical functions of the Department and all the paper work that goes with such efforts are rendered superfluous; immediate contact between the Minister and the vitally important Division of the Government Mining Engineer is spontaneous and the latter is kept authoritatively informed of the broad policy pursued by the State in regard to our most important industry; and, finally, the Minister is enabled to keep his finger on the pulse of development trends in all sections of the mining industry.

COST OF TRANSFERRING THE DIVISION TO PRETORIA.

64. The Commission has made a study of the circumstances of the persons likely to be involved in the proposed transfer to Pretoria of the Government Mining Engineer, his deputy and assistants and the economic section of the Division. The results are set out briefly in Annexure E. The question of compensation for personal losses of a capital nature resulting from the transfer was considered, but unanimity could not be reached by the Commission. Mr. Ellis, on the one hand, suggested that such losses should be made good to the officers in question because many of them must have joined the Division on the understanding that they would stay in Johannesburg for the whole of their service; on that footing some of them acquired fixed property which, on re-sale, may be the cause of loss. The majority of the Commission, on the other hand, were of the opinion that the possibility of transfer is one necessarily contemplated by every person joining the public service and that, though one sympathised with those who actually suffered loss, an undesirable precedent would be created if the established practice in the public service were to be departed from on this occasion. Moreover, the transferred officers would not be compelled to sell their fixed property forthwith: they could commute or let the properties until conditions are suitable for selling in Johannesburg and buying in Pretoria.

65. The Economic Sub-Division of the Government Mining Engineer's Division stated that it would wholeheartedly support such a move if it is regarded as being in the interests of the State, but added that the officers in question would welcome financial assistance from the State to defray any losses of a capital nature which they may suffer as a result.

THE GOVERNMENT MINING ENGINEER AND THE DIVISION OF GEOLOGICAL SURVEY.

66. A mining group cannot function without an efficient and active geological department, nor can the manager of a mine efficiently run a mine without competent geological advice. The Government Mining Engineer, also, cannot satisfactorily discharge his statutory, economic and administrative duties without the necessary geological information and advice. This information and advice can only, and must, be supplied by the Division of Geological Survey. It is therefore essential that the latter, on the one hand, play an active and positive rôle in the investigation of our mineral wealth and its exploitation, and on the other hand, be in constant and direct contact with the Government Mining Engineer's Division.

67. The Commission is of the opinion that neither of the above conditions is fulfilled. This opinion is supported by weighty evidence before us.

68. It is realised that the Geological Survey does carry out investigations of mineral deposits and does publish information on mineral deposits, but the Commission feels that too little work of a direct economic nature is done by it and that far too little of this information is made available to the Government Mining Engineer, and to the public, in the form of publications and that much of the information is somewhat outdated by the time it is published. The Geological Survey may have much information in its possession, but it is not available to the Government Mining Engineer nor to the mining industry. Furthermore, the Government Mining Engineer has no say in the selection of the projects to be undertaken by the Geological Survey, and he is apparently not consulted in the choice of such projects by the Director, who according to his evidence has the sole discretion in directing the activities of his Division.

69. It would also seem that the relationship between the Geological Survey and the Government Mining Engineer's Division is not wholly satisfactory. It was said in evidence that the Government Mining Engineer would be furnished with all the assistance and information he requires if he should ask for it, in the same way that the Survey offers its services on request to other Government departments and institutions and the public; at the same time, the acute shortage of staff which militated against the proper execution of all these duties was emphasised.

70. The Commission gained the impression that the Director of the Geological Survey does not regard the Survey as an integral part of the Mines Department, and that he does not consider it to be a primary duty of the Survey to assist the Government Mining Engineer and the mining industry—it is no more than one of his many functions; the fact that the Survey was administratively under the Minister of Mines was merely fortuitous; it could as well administratively be under the Department of Water Affairs or any other department. The Geological Survey seems to regard itself as an autonomous entity which distributes its services at the discretion of the Director, and the services rendered to the Government Mining Engineer are not automatic and preferential, but merely incidental and then given only on request and if the staff position permits.

71. The Commission is unable to accept this state of affairs, the more so when it affects safety in mining; because the Government Mining Engineer cannot be expected to request the advice of the Geological Survey on a geological problem of the existence of which the Government Mining Engineer may not be aware. As an example may be quoted the case of a mine accident some years ago where an inrush of subterranean water caused the death of a number of persons. It is alleged that the geologists in the employ of the mining company had warned the management of the possibility that very large quantities of water under very high pressure may be encountered, but that the warning had not been heeded. If the Geological Survey had been in direct contact with actual mining activities in this country, it would have been aware of the potentially dangerous hydrological conditions in that particular area, and if the co-operation between the Survey and the Government Mining Engineer had been on a sound basis, the Geological Survey would have informed the Government Mining Engineer, who through his Inspector of Mines could have instructed the mine management to take the necessary precautions. In this manner this disaster, which also had serious financial repercussions, could possibly have been prevented.

72. Many statutory duties of the Government Mining Engineer, other than those imposed by the Mines and Works Act and Regulations, cannot be properly discharged without expert geological advice.

These include—

- determination of the life of a mine [S. 20 (7) of Act No. 31 of 1941.];
- determination of the effective value of assets passing when a change of ownership of a mining property takes place [S. 21 (4) of Act No. 31 of 1941];
- determination whether a new mine is an independent workable proposition [S. 3 (b) of Act No. 55 of 1946];
- decision whether adequate prospecting may prove the existence of precious metals in payable quantities [S. 12 *bis* (2) of Act No. 35 of 1908];
- determination of mineralized area [S. 20 (1) of Act No. 35 of 1908];
- issuing certificate for deproclamation [S. 31 (1) of Act No. 35 of 1908];
- advising the Minister on the working of state mine [S. 49 (2) of Act No. 35 of 1908];

determination whether extent of ground is sufficient to constitute a workable proposition [S. 52 (2) of Act No. 35 of 1908];
 decision in regard to surface permit where land unlikely ever to be required for mining purposes [S. 72 (1) (b) of Act No. 35 of 1908];
 conversion of precious metal licence to base metal licence [S. 119 (7) (b) of Act No. 35 of 1908];
 decision whether precious or base metals exist in payable quantities (S. 124 of Act No. 35 of 1908);
 determination whether proposed lease of proclaimed land constitutes workable proposition [S. 3 (1) of Act No. 30 of 1918];
 decision whether adequate prospecting may prove existence of base metals [S. 3 (1) of Act No. 39 of 1942];
 recommendation *re* undermining of gardens, orchards, etc. [S. 11 (1) of Act No. 39 of 1942];
 recommendation *re* use of land for aerodrome (S. 8 of Act No. 16 of 1923);
 determination of the life of a precious stones mine (S. 116 of Act No. 44 of 1927);
 investigation of possible occurrence of prescribed materials (S. 5 of Act No. 35 of 1948).

73. Also in the investigation of accidents the Government Mining Engineer requires geological assistance, but at the Coalbrook North disaster, for example, for the first two weeks while various company geologists were making almost superhuman endeavours to gather and correlate the information from the various "rescue boreholes", and studying surface fracture patterns and subsidences in an attempt to throw light on the possible causes of the disaster, the Geological Survey was not present. The reply of the Director of the Geological Survey to this is that the Government Mining Engineer did not consult him or ask for his assistance.

74. It would serve no useful purpose at this stage to try and apportion blame for this unfortunate incident. Clearly, if the organisation had been sound within the framework of the Department of Mines it would not have occurred; and the Commission considers it a duty to suggest what it considers to be a *sine qua non* for harmonious and effective co-operation between these two vitally important Divisions in the Department, namely that the Director of the Geological Survey serve directly under the Government Mining Engineer, so that the policy of the Survey may be formulated in consultation with the Government Mining Engineer and so that the Division as a whole may be kept more effectively alive to the requirements of the mining industry and of those who have to control it in the interests of health and safety. This arrangement should in no way affect the usefulness of the services the Geological Survey Division has to render to other Government departments.

75. The Commission asks leave to recommend that the Division of Geological Survey be placed under the Government Mining Engineer in such a manner that the Director will enjoy the status and salary of an Assistant Government Mining Engineer and be directly responsible to the Government Mining Engineer. The duties and functions of the Geological Survey are to remain as at present, except that the activities of the survey will be more directly linked with mining problems, including safety in mines and research into safety in mines. The accent will then primarily be on actual mining and on mineral economics, with basic research and the services to other departments as important but ancillary duties of the Survey. The staff of the Survey may have to be considerably enlarged, but the Commission felt that it would undertake an enquiry into this subsidiary aspect of its task only if Your Excellency should explicitly so desire it.

76. The Acting Government Mining Engineer expressed himself in favour of some such change but the Director of the Geological Survey vigorously opposed it, his primary objection being the alleged loss of status the Survey as such, and geologists individually, would suffer by being placed in a subservient position to an engineer. The Commission is not impressed by this argument; the geologists will only administratively be subservient to an engineer, as they are in the mining industry all over the world, because the geologists, like so many other types of professional men, will be in an advisory capacity to the Government Mining Engineer, who bears the final responsibility in the fields of statutory power and duty, economics and policy formulation.

77. The Director also opposed such a step on the ground that the Geological Survey will, under the Government Mining Engineer, develop a mining bias to the detriment of the other functions and duties of the survey. The Commission is of the opinion that this would not happen, if the Government Mining Engineer and the Director of the Survey are men with vision and a sufficiently broad outlook on scientific as well as practical matters.

78. The Commission wishes to point out that if the Government Mining Engineer becomes the administrative as well as the technical head of the Mines Department, as the Commission feels he should, the objections of the Director of the Geological Survey to serve directly under the Government Mining Engineer fall away, as was conceded by him in evidence before this Commission. In such an event, however, the Commission still advises that the activities of the Geological Survey should have a more pronounced bias towards the fields of practical mining, mineral economics and mine safety than at present.

79. Subsequent to the hearing of evidence on the above matters, the Commission was informed by the acting Government Mining Engineer that a meeting had been held between himself, the Director of the Geological Survey and other senior officials of both Divisions, and that it had been decided to appoint a committee consisting of the Government Mining Engineer, the Director of Geological Survey, the Director of the Government Metallurgical Laboratory and senior officials of the three Divisions, the committee to meet at least once in three months to discuss matters of common interest and problems which should be tackled jointly.

80. This step confirms the belief that the co-operation between the two Divisions in the past has left much to be desired, and that this is now realised in both Divisions. The Commission feels that the existence of such a committee will not remedy the defects within the Mines Department. This liaison between the Government Mining Engineer and the Director of Geological Survey should be direct and functionally inevitable, and not through a committee meeting four times in a year, where the discussion may end in futile differences of opinion, and where no decisions binding on either party may be reached. In any organisation one official should have the final say and carry the full responsibility, and the Commission is of the opinion that in the Mines Department, that official should be the Government Mining Engineer.

THE GOVERNMENT MINING ENGINEER AND THE CHIEF INSPECTOR OF EXPLOSIVES.

81. The bulk of the explosives handled in this country is used in mines. Both the 1911 Mines Act and the 1956 Mines Act provided that the supervision over all mines and works (which include explosives factories) is to be exercised by the Government Mining Engineer and, subject to his direction, by Inspectors of Mines, Inspectors of Machinery and Inspectors of Explosives.

82. At present there is not one Inspector of Explosives in the Division of the Government Mining Engineer, nor even in the Department of Mines. Up to 1937 Inspectors of Explosives functioned under the Minister of Mines but in that year they were placed under the Department of Commerce and Industries, by virtue of what organisational principle, the Commission finds it impossible to say.

83. The Commission recommends that the pre-1937 position be restored by returning the Chief Inspector of Explosives to the Division of the Government Mining Engineer, under the latter's direction. The Commission feels that the suggested change will receive the whole-hearted support of the mining industry.

THE GOVERNMENT MINING ENGINEER AND THE PUBLIC SERVICE COMMISSION.

84. The application of the Public Service Act to the Government Mining Engineer and to the Division of the Government Mining Engineer is not without legal and practical difficulties. It is not clear to the Commission that that Act was ever intended by Parliament to apply to the Division. Since the Governor-General appoints the Government Mining Engineer as well as the Inspectors, he is, failing an express provision to the contrary, the only authority empowered by Parliament to dismiss any of his appointees. This by itself excludes the disciplinary provisions of the Public Service Act. Moreover, the Public Service Act itself declares its provisions to be not applicable to servants of the State appointed in the manner in which the Government Mining Engineer is appointed. The Gold Law leaves no doubt that the Government Mining Engineer is not subject to the direction of the Minister of Mines.

85. The position set out above may be different in those Provinces where the Gold Law does not apply, but the Commission has not been able, to date, to discover what legal authority the Division has outside the Transvaal and the Orange Free State.

86. However that may be, the Commission emphasises that neither the Transvaal Parliament nor the Parliament of the Union desired the Government Mining Engineer or his Division to fall under the authority of the Public Service Commission or within the structure of the Public Service, and that what has been done to the contrary, is unlawful and, more important still, detrimental to the proper functioning of the Division. What has been said in this chapter, and what remains to be said when the staff shortage in the Division will be discussed, have satisfied the Commission that the present *de facto* arrangement, whereby the Government Mining Engineer is appointed and remunerated as if he were a public servant, and whereby he is hampered in prescribing suitable conditions of service for his staff and in disciplining his Inspectors, must be held responsible for the deterioration in the Division and the inadequate supervision of our mines, including Coalbrook North colliery.

87. The organization of the Division must, in the opinion of this Commission, be the unrestricted prerogative of the Government Mining Engineer, subject only to the supervision of the Governor-General-in-Council. We recommend accordingly.

HEAD OFFICE ASSISTANTS OF THE GOVERNMENT MINING ENGINEER.

88. At present the Government Mining Engineer is assisted by one Deputy and three Assistant Government Mining Engineers. In very general terms the duties of the Assistants may be described as follows: one is in charge of the economic section of the Division which as such has no direct bearing on matters of safety; one is in charge of five or six inspectorates in a supervisory and advisory capacity; and the other is similarly in charge of the remaining inspectorates.

89. In regard to the latter two the Commission is perturbed, by the inadequate personal contact between an Assistant Government Mining Engineer and the inspectorates in his charge. All District Inspectors who were asked about this aspect, confirmed the Commission's own impression; they stated that they would welcome more regular personal consultations with the Assistant Government Mining Engineer concerned in addition to the routine monthly reports. District Inspectors are required to furnish to the Government Mining Engineer.

90. The Commission is of the opinion that more duties than those of a routine nature should be undertaken by the Assistant Government Mining Engineers, but that this cannot be achieved without increasing their number to four. The details of the apportionment of duties between them are properly left for decision by the Government Mining Engineer, but the Commission is of the opinion that, for some time at least, one of them should pay particular attention to the question of safety in the collieries. The subject of colliery research is touched upon elsewhere in this Report and in a later Report it will be dealt with more fully, but it may be convenient to say at this stage that sustained research into safety in coal mines has lagged far behind that in gold mines—a handicap that should be made good with as little loss of time as possible.

91. The Natal Mine Managers' Association suggests, as an improvement of the supervision exercised by the Division over collieries, that a separate section of the Department of Mines should be created for coal mines, under the general direction of a Deputy Government Mining Engineer; that Inspectors (in coal areas) should be the holders of coal mine managers' certificates; and that all District Inspectors of Coal Mines should be required to have not less than three years' experience as managers, under managers or section managers. These views emphasise the urgent need felt for strengthening the colliery inspectorates and the Commission agrees that the Government Mining Engineer should, as soon as he is appointed, give consistent attention to colliery supervision.

EXPERT ASSISTANCE FOR THE GOVERNMENT MINING ENGINEER AND DISTRICT INSPECTORS.

92. Expert technical knowledge and wide experience of all branches of mining are available in plenty in this country. Disappointingly little use is made of it by the Government Mining Engineer's Division, to the detriment of safety and health. Whether it be due to financial considerations or to an official attitude that the public service engineers must have no dealings other than official contact with their colleagues in the industry, the Commission is of the opinion that the time has come to employ in the Government Mining Engineer's Division knowledge available outside the Division wherever and whenever there is need of it.

93. District Inspectors are often confronted with technical problems on which they would welcome or should have expert opinion of a specialised nature. One or other of the engineers at the headquarters of the Division may have the required knowledge, or may acquire it after devoting some time to a study of the problem; frequently it is a matter where practical experience only will provide the answer. In those cases where the Division itself does not have readily available that certainty of knowledge which matters of safety require, the Government Mining Engineer should have the right to constitute a commission of one or more retired or active experts in the particular field of the problem and send them to the inspectorate to consult with and advise the District Inspector.

94. The assistance or advice the District Inspector receives in this way does not take away from his statutory responsibility for what is done or omitted in his inspectorate; nor does it in any way affect the liability of the mine

management, which need not even be informed of the conclusions at which the experts arrive. In other words the presence of the commission does not affect the Inspector-Manager relationship.

95. In the same way, we are told, the availability of specialised expert knowledge could be of assistance to the Government Mining Engineer himself in some of the problems he is called upon to solve.

96. The Commission recommends the constitution of a panel of carefully selected mining experts appointed by the Minister personally, who could be called upon to assist the Government Mining Engineer or an Inspector when the need arises and who would be remunerated at a fixed fee per day. The choice of the panel personnel may be so contrived that it would be regarded an honour to belong to it. Every report by members of the panel could be published in the "Yearbook of the Government Mining Engineer" mentioned later in this Report, with identifying particulars suppressed where necessary. The selection of engineers for the panel would be made by the Minister on the advice of the Government Mining Engineer, who would appoint the individual commissions according to the type of task they have to perform.

97. Although the acting Government Mining Engineer is of the opinion that one of the senior officers of the Division should act as chairman of these commissions, this Commission would prefer the District Inspector to preside when the commission is called in to assist him, and the Government Mining Engineer or his Deputy when it is a matter on which the Division as such requires assistance. District Inspectors would be inclined to resent intrusion in their jurisdiction if they are not recognised in this way. The Government Mining Engineer would, of course, invariably appoint one of his senior officers to each such commission.

98. In cases of emergency, such as rescue operations or doubtful safety after a serious accident, such a panel would, we are confident, be a valuable complement to the resources of the Division. According to reliable evidence on mining conditions in Great Britain, the proposed panel would fulfil some of the functions in South Africa which the Safety in Mines Research Establishment fulfils in the former country. The Establishment is a body composed of mining experts, research workers and investigators, which directs general research work and, in the case of a serious accident, is available to assist with investigations at the accident site, and with advice on safety problems arising from the accident. They are, as the Mines Inspectors, full-time employees of the Ministry of Power. The Commission is, however, of the view that the proposed panel will, under our conditions, give better results at less cost.

"YEARBOOK OF THE GOVERNMENT MINING ENGINEER."

99. The Commission fails to appreciate the value of the present system of Annual Reports of the Department of Mines, in so far as the Reports are supposed to contain useful information for those interested in South African mining. The Reports are normally wholly outdated by the time they appear—the latest publication covers the calendar year 1958—and the information is of such a sketchy nature that it has no real value.

100. Nevertheless the need for a technical publication by the Division seems to be greater now than ever before. First and foremost, it would, by publishing carefully written reports on results of research and systematic study, give recognition to those, in and without the Division, who had during the preceding calendar year made contributions to our knowledge of mining. This in turn would act as an incentive to others. New knowledge would be pooled and disseminated

in this way. It used to be the custom in this country, and it still is in England, for District Inspectors to make annual technical contributions of more than a mere transitory or routine nature to the Annual Report of the Department of Mines. At a time when the country is in need of new investment capital a publication such as suggested could be used to attract investors here and abroad.

101. At the same time, contributions from the Geologists of the Division of Geological Survey, where dissemination of useful, up-to-date information is also lacking, though not for want of enterprise on the part of the technical staff, could form a substantial part of such an authoritative publication.

102. The Commission, in recommending a serious effort in this direction, must mention the prerequisite of up-to-date publication. The Yearbook for a calendar year should not appear after the month of May in the following year and should contain all relevant statistics up to December 31 of the previous year. The Commission is satisfied that this calls for no unreasonable effort from the editors or the printers.

THE SALARY OF THE GOVERNMENT MINING ENGINEER.

103. Up to the year 1935 the Government Mining Engineer (a post then held by the late Dr. Hans Pirow, the eminent second incumbent of the post) received a salary considerably in excess of that paid to the Secretary for Mines. The relative figures were £2,500 and £1,600. The ratio had been approximately of that order since 1909, for good reason as already indicated. As from January 1, 1937, however, the Secretary for Mines received an increase in remuneration without a corresponding increase in the Government Mining Engineer's salary, and the ratio dropped to 25:18. Five months later, when a successor to Dr. Pirow had to be appointed, the salary attached to the post was reduced to that of the Secretary for Mines.

104. The Commission is quite unable to find out why this radical departure from an established principle was made, and indeed why it was made in such a manner that no record of the grounds for the change seems to be in existence. The argument advanced in evidence that the salary was fixed according to the law of supply and demand is not understood, since the industry was, at that time, employing engineers who were regarded by their employers to be worth four times that salary. Or is it seriously contended that a Chief Consulting Engineer of a mining house then receiving £6,000 per year would have made himself available for a Government post carrying a salary of £1,800? The fact that a person was found willing to accept the post at that figure, whom a number of laymen considered worthy of appointment has nothing to do with the law of supply and demand. The Commission, rejecting as it does, the suspicion that it was engineered by administrative heads of departments who were receiving a lesser figure, is completely at a loss as to the reasons for a step which it must describe as retrograde.

105. The bargaining which must have preceded the appointment of Dr. Pirow's successor and the fixing of the salary in line with the rest of the public service had the effect of excluding for all time from the post of Government Mining Engineer the best talent in the country available at a reasonable salary. Appointments from outside stopped forthwith. The choice was confined to the ranks of the Division. For a position of such responsibility this is an intolerable handicap for the Minister who has to recommend appointments to it.

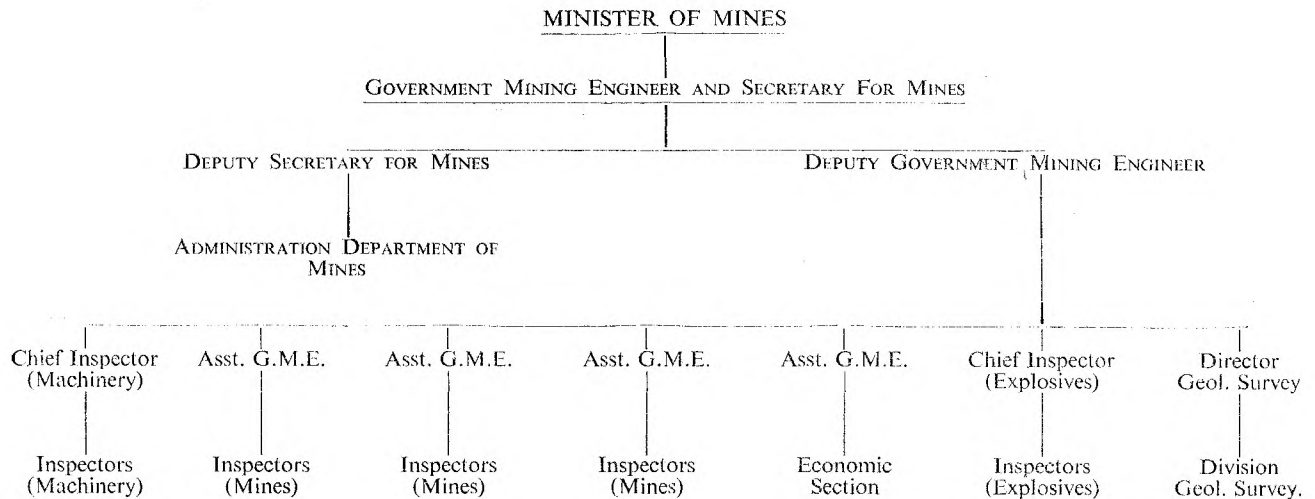
106. If the long established ratio between the salaries of the Government Mining Engineer and the Secretary for Mines had been retained at the level it was in 1936, the Secretary's present salary of £3,400 would have ensured for the Government Mining Engineer an income of £5,312.

107. That salary level (together with the other salaries in the Division) was checked against all data available to the Commission, as will more fully appear from a detailed account of the analyses in paragraphs 170 to 210, which need not be repeated here, and it was found to bear a satisfactory ratio to all known factors. Thus, for instance the relationship between a present-day salary of £5,500 for the Government Mining Engineer and the salary level of the corresponding posts in the industry (approximately £7,500), is of the same order it used to be before the 1937 change. Scaling down from the Government Mining Engineer's salary to the lowest paid technical officer in the Division (the Sub-Inspector) no anomaly was encountered.

108. The Commission believes that if the present vacant post were to be widely advertised in Southern Africa, as it should always be whenever it becomes vacant, at a salary of £5,500, the Government would be enabled to recommend to Your Excellency for appointment one from a number of men able to fill the post with complete competence—which, in final analysis, is the only real safeguard against mining disasters in South Africa.

SUMMARY.

109. The recommendations in this chapter on the organization of the Department of Mines may be diagrammatically summarized as follows:—



CHAPTER III.—STATUTORY AMENDMENTS RECOMMENDED.

ORDERS HAVING AN EFFECT ON THE ECONOMY OF THE COUNTRY.

110. It has been suggested in evidence before the Commission that Inspectors should not have the power to close a mine or a portion of a mine or to give any other order to a Mine Manager which is calculated, if enforced, to decrease substantially the normal production of a mine, unless he has previously consulted the Government Mining Engineer in that regard. The question arose pertinently this year. Before 1960 closure orders were rare and no rules of practice have been established.

111. It has not been suggested that the powers of Inspectors of Mines, who are essentially the official guardians of the safety of all persons who work on and in mines, should be drastically curtailed. At the same time certain events during 1960 have shown that the responsibility of closing a mine or a portion of a mine may be too onerous for a single official, and that District Inspectors should be encouraged to discuss proposed orders of far-reaching effect with the Government Mining Engineer, the Deputy or an Assistant Government Mining Engineer before issuing them.

112. It was pointed out, however,—and the Commission agrees with this view—that frequent and healthy consultation and collaboration between District Inspectors and the Government Mining Engineer's office is somewhat hampered, theoretically at least, by the fact that the Government Mining Engineer is obliged, whenever appellants so elect, to hear appeals from decisions of Inspectors of Mines. The anomalous position can, therefore, arise that the Government Mining Engineer or one of his

immediate subordinates may be obliged to sit on an appeal from a decision to which he has been a party by virtue of advice given to the Inspector in the first instance. The danger of a miscarriage of justice is stated to be slight, but it would appear to be in the interests of sound administration that the anomaly should be removed if it can be done without causing harm in other respects.

113. Briefly, the solution appears to the Commission to lie in relieving the Government Mining Engineer of his appeal functions. The advantage of such a step would include the following: the removal of the anomaly referred to; the relief of the Government Mining Engineer from an irksome duty; closer collaboration between the Inspectors and their head office—at present an eminently desirable objective; and affording the Government Mining Engineer a direct say in the issue of major decisions calculated to affect adversely the production of a mine.

114. Doubt is expressed by the mining industry on the question whether an Inspector of Mines has the power, under section 3 (2), to order the closing of a mine or part of a mine. The Commission is of the opinion that he should have that power and that it should be unequivocally stated in the Act. The interests of mine owners seem to be adequately safeguarded by the amendments proposed above.

115. The Commission proposes the following amendment to section *three* of the Act for giving effect to its views:—

3. (1) (retained without amendment).
- (2) Amend sub-section (2) by adding the following words:—
“Such notice may include an order suspending operations at a mine or part of a mine”.
- (3) (deleted and the following new sub-section substituted):—

“(3) An appeal, in the manner prescribed by regulation, shall lie to a special commission constituted for that purpose as prescribed by regulation, from any notice given under sub-section (2) by any such inspector.

(4) Due notice of appeal shall suspend the operation of the notice appealed from, except—

“(a) if the Inspector is of the opinion (which shall be stated in the notice) that any delay in giving effect to such notice would be immediately dangerous and that such notice, if given effect to by the manager, is not likely to cause a substantial decrease in the normal production of the mine or works or to have other consequences of a serious nature;

“(b) if the Government Mining Engineer, or any officer deputed thereto by him, is of the opinion (which shall be stated on his behalf by the Inspector in the notice) that any delay in giving effect to such proposed notice would be immediately dangerous.”

116. The innovations introduced by the proposed amendment of the Act would be as follows: (a) All appeals would be to a commission (continued to be called “Special Commission”) and no longer to the Government Mining Engineer or someone designated by him; (b) notice of appeal would, as is now the case in England but has never been in this country, normally at once suspend the order issued by the Inspector; but (c) cases are conceivable where the *immediate* execution of the order would be imperative in the interests of safety. In such a case the Inspector would have authority to order immediate execution, whether an appeal is noted or not. Before doing so, however, the Inspector would be required to direct his mind to the question whether the carrying out of his order, despite the notice of appeal, would have far-reaching effects on the mine and/ or the national welfare. If he is of the opinion that serious consequences would flow from the execution of his order, he is obliged to refer the proposed notice to the Government Mining Engineer, who would have the power, under the new sub-section (4), to require the immediate enforcement of the proposed order, despite any notice of appeal and despite the serious consequences the order will or may entail. The Government Mining Engineer may, of course, decide that the danger apprehended by the Inspector is not so immediate that the matter cannot follow the normal course, that is, that the order be automatically suspended pending the result of the appeal proceedings.

117. The advantages of the innovation with regard to appeals are: (a) The Inspector is not deprived, in any real sense, of authority in that it is still he who has to decide whether the danger is immediate and whether the unconditional enforcement of his order is likely to have serious consequences. (If he should decide wrongly he will have to answer for his error to the Government Mining Engineer); (b) this system would oblige Inspectors to consider in advance all the implications of any order they wish to give.

118. One of the disadvantages of the proposed system of appeals—the only one the Commission is aware of—is the increase in costs of appeal. The simplest subject-matter of an Inspector’s order would, on appeal, become a matter for decision by a Special Commission, with all the costs attendant upon such a procedure. It is, however, contended that mine managements should be discouraged from taking trivialities on appeal; they should rather abide by the decision of the Inspector in cases where no important matter or principle is at stake. The suggested arrangement, it is said, would tend to create a sound relationship between Inspectors and Mine Managers. The Commission is of the opinion that the advantages far outweigh the one disadvantage.

NOTICE OF APPEAL.

119. If appeals to the Government Mining Engineer are discontinued, Regulation 280 of the regulations promulgated under the Mines and Works Act will have to be recast. [It should perhaps be recorded in passing that the existing provisions of the Act do not authorise Special Commissions to be set up for the hearing of appeals and that Regulation 280 is, to that extent, null and void; also, that none other than the Government Mining Engineer in person has authority (under the existing provisions of the Act) to hear and decide appeals, so that he may not delegate to another the discretionary power vested in him by section *three* of the Act; any practice to the contrary would appear to be irregular.]

120. It is proposed that Regulation 280 should be amended to read as follows:—

“280. (1) The owner or manager of a mine or works or the user of any machinery, hereinafter referred to as the appellant, may, within fourteen days after the receipt of any notice referred to in section *three* of the Act or of any other notice of a decision or instruction given to the appellant by any inspector or other authorised person under the Act, other than the Government Mining Engineer or his deputy, lodge with the Government Mining Engineer a written notice of appeal from such notice.

“(2) The notice of appeal shall state clearly the grounds on which the appellant intends to rely at the hearing of the appeal.

“(3) When the appellant lodges a notice of appeal he shall at the same time deposit with the Government Mining Engineer the sum of £50 in cash.

“(4) The Government Mining Engineer may, in his discretion condone, on such conditions as he may consider just, the late noting of an appeal; provided, however, that the notice, decision or instruction so appealed against shall remain operative unless the Government Mining Engineer orders otherwise.”

121. This appeal machinery, it will be noted, does not apply to orders issued by the Government Mining Engineer or his deputy. Special procedure is envisaged in this regard and is set out below in paragraph 137.

COMPOSITION OF SPECIAL COMMISSIONS.

122. This Commission holds the view that Special Commissions under Regulation 280 should be so constituted as to give a voice to each of the three parties concerned in every appeal, viz. the employer (who is the appellant), the Inspector of Mines (whose decision is being questioned) and the workers (for whose sole benefit the system of Inspectors of Mines exists). Under the existing arrangement the workers affected by the subject-matter of the appeal have no say in the decision. Nor are they given any real information on the reasons for upholding or disallowing an appeal. This state of affairs should not be allowed to continue whereby the persons whose safety and lives depend on the correctness of decisions of this kind are not even informed of the factual findings of Special Commissions.

123. To reflect this Commission’s view on the composition of Special Commissions, Regulation 280 should contain the following provisions:—

“280. (5) The Government Mining Engineer shall forthwith appoint a special commission consisting of—

(a) two persons nominated by himself;

(b) two persons nominated by the appellant; and

(c) one person nominated by or on behalf of the workers most closely concerned with the subject-matter of the appeal, in the manner set out in the next paragraph.

“(6) The Government Mining Engineer shall, in his discretion, decide which class or type of worker in the mining industry has the greatest interest in the matter and appoint one of the persons, being not less than three in number, nominated in each case by the workers’ organisation of that class or type of worker, or, if such organisation fails to nominate such persons within 48 hours of being requested thereto by the Government Mining Engineer or no appropriate organisation is in being, appoint a person in consultation with the secretary of the Government department deemed by him to be most appropriate in the circumstances.”

The reference to Government departments has become necessary on account of the fact that some mineworkers are not organised in bodies recognised as Trade Unions.

124. Conflict of opinion appears on the evidence as to the appointment of a chairman to a Special Commission. It was strongly urged that the chairman should be nominated by the Government Mining Engineer when he constitutes a Special Commission. We do not share this view. There is no good reason why a Special Commission should not be enabled, by the prescribed procedure, to elect its own chairman. We recommend the following enactment for that purpose:—

“280. (7) The Commission shall meet on the day and at the time and place appointed by the Government Mining Engineer or his deputy, who shall preside, but have no vote, at the first meeting of the commission for the purpose of, and until, the election of a chairman by and from the members of the commission. The elected chairman shall have both a deliberative and a casting vote.”

Procedure on Appeal.

125. This Commission has decided to recommend that the basic rules of procedure for the hearing of appeals be embodied in regulations. No such guidance now exists and the lack appears to lead to uncertainty and irregularities. This is not surprising in view of the fact that mining engineers are legal laymen for whom the procedural pattern should be simply and firmly laid down. This Commission recommends the following additions to Regulation 280:—

“280. (8) The commission shall commence the hearing of the appeal on the date and at the time and place notified to the appellant and the inspector or other authorised person concerned.

“(9) The inspector shall, immediately upon receipt of the notice contemplated in the preceding paragraph, submit to the commission and the appellant a statement of the reasons for the notice, decision or instruction appealed from and inform the commission what witnesses and evidence are likely to assist the commission in deciding the appeal.

“(10) The hearing of the appeal shall consist of the hearing of oral testimony, given on oath or under affirmation, inspections of relevant objects or places, documentary evidence in the form of drawings, plans and the like, and addresses by the inspector and the appellant (or his representative) on all the evidence on record.

“(11) The commission shall first call the witnesses named by the inspector as aforesaid and afford the appellant or his representative an opportunity to cross-examine them; thereafter the witnesses on behalf of the appellant shall be heard and may be cross-examined by each member of the commission in the order indicated by the chairman. The commission may *mero motu* call witnesses and they may be cross-examined by the appellant or his representative.

“(12) Evidence gained at inspections shall be recorded within hearing of the inspector and the appellant.

“(13) All evidence shall be recorded mechanically or by means of shorthand and transcriptions thereof shall be made available to any person on payment of such fee as the Government Mining Engineer in each case may determine.

“(14) At the conclusion of the evidence the inspector or other authorised person shall first address the commission on the evidence, and thereafter the appellant or his legal representative.

“(15) All witnesses, except the appellant and the inspector or other authorised person, shall be excluded from the hearing until called to testify.

“(16) The commission shall support its decision with reasons for judgment, and its judgment shall be open to the public for inspection.

“(17) The provisions of sections *six* and *seven* of the Act, except sub section (2) of section *six*, shall *mutatis mutandis* apply to the hearing of an appeal.”

Procedure for Enquiries under section five of the Mines and Works Act not held in conjunction with Inquests.

126. Procedural rules laid down departmentally for the guidance of Inspectors holding enquiries under section *five* of the Act are observed more or less conscientiously, but there is evidence that where such inquiries are not held jointly with inquests under the chairmanship of a Magistrate shortcomings appear in practice. The most important of these are listed below.

127. Presiding Inspectors, in an effort to be fair and impartial, are apt to allow too much scope for cross-examination. In fact, an opportunity to cross-examine is given to practically all persons attending the enquiry. Extraneous matters are brought in and proceedings tend to become protracted. Some statutory limit, by way of regulation, is considered desirable. The primary objective of such an enquiry should not be lost sight of, namely, to discover the exact nature of the accident enquired into, its cause(s), the blameworthiness of persons or bodies, and the steps to be taken to prevent a recurrence. Such side-issues as safety in general on the mine or works in question and civil claims of the dependants of accident victims, though of great importance in other connections, should not obscure the real issues to be tried and correctly decided.

128. The presence of senior officials of the management at such an enquiry creates a suspicion in the minds of workers that junior officials of the management and mine employees giving evidence may be tempted to play down the responsibility of the management for the accident and emphasise that of the miners, in order not to offend or antagonise their seniors or employers. It is probably impossible to determine whether such suspicions might be well-founded, but a favourable probability cannot be excluded and wide-spread suspicion does exist. It is also a fact that mine officials, especially the Mine Manager, tend to dominate the proceedings and thereby inadvertently perhaps create an atmosphere of guiltlessness on the part of the management and blame on the part of the miners and labourers. Such favourable circumstances for undermining the workers’ confidence in what should be proceedings beyond suspicion should not be permitted to continue.

129. Similarly, the presence of witnesses at the enquiry whilst others are testifying is regarded as being unnecessarily conducive to perjury; the procedure in the courts is cited as an example of what good practice is in this regard.

130. Another complaint against the existing practice turns on the loose procedure followed by Inspectors who are legal laymen. The practice of indulging in leading questions is particularly deprecated. Leading questions are put by Inspectors, not with the purpose of concealing the truth, but to elicit it. The effect is, of course, to obscure the truth altogether under the preconceived ideas of the Inspector.

131. It is for these reasons, and in particular from a desire to set the minds of the workers at rest, that the Commission has decided to recommend a simple, straightforward code of rules for the conduct of enquiries whereby the undesirable features enumerated above would be minimized if not eliminated. The suggested code reads as follows:—

“CHAPTER XXXII.

PROCEDURE AT ENQUIRIES UNDER SECTION *Five* NOT HELD IN CONJUNCTION WITH INQUESTS.

“346. The following rules shall be observed at enquiries held in terms of section *five* of the Act in all cases where the enquiry is not being held conjointly with an inquest in terms of sub-section (5) of the section:—

- “(a) The inspector shall cause notice of the time, date and place and the nature of the proposed enquiry to be given in a manner calculated to inform all interested persons.
- “(b) The enquiry shall at all times be open to the public, but the inspector shall exclude from it all witnesses who have not yet testified.
- “(c) Whenever and as long as an employee of the mine or works in question testifies, no other employee of the mine or works or representative of the owner who may reasonably be regarded as superior in status or rank to the witness, shall be permitted to be present.
- “(d) If it appears to the inspector that any of the evidence led at the enquiry during the absence of any person excluded in terms of paragraphs (b) and (c) of this regulation tends to incriminate such person, he shall, at the conclusion of all the evidence, request such person to appear before him at the enquiry and inform him of that fact and read out to him the relevant passages in the recorded evidence or such succinct summary of such passages as the inspector considers adequate to inform him of his alleged blameworthiness. Such person may thereupon give and call such evidence in rebuttal as he may desire, and may cross-examine, either personally or through his lawyer or lay representative, the witnesses who have given the adverse evidence aforesaid. The case of more than one such person may, in the discretion of the inspector, be dealt with in this manner, simultaneously.”

132. The Commission is of the opinion that the right of incriminated persons, provided for in section 6 (2) of the Act, to try and free themselves from suspicion of guilt at this stage of the proceedings, should be retained. The advantage in the saving of time and costs seems to be obvious. It should not, however, be retained *pari passu* with the main enquiry into the nature and cause of the accident, partly because the issues may become confused if several are tried simultaneously, and partly because many of the persons concerned would be excluded from the enquiry either as witnesses or as senior officials. It is only when the Inspector will have heard all the evidence-in-chief and formed a fairly firm view of the whole matter that he should turn his attention to the question of individual liability and then proceed to deal with each case (or group of related cases) separately. Such a procedure would assist greatly in excluding honest but diverse cross-examination, since each person blamed would know, more or less precisely, what issues have to be canvassed before he commences his cross-examination.

133. Regulation 346 would continue as follows:—

- “(e) Save as provided for in the preceding paragraph, no representation (other than on watching brief) or examination shall be permitted at an enquiry”.

134. It appears from the evidence before the Commission that enquiries held by Inspectors serve a useful purpose which would be excluded under the proposed rules. An enquiry is often used by apprehensive or dissatisfied workers, in the hearing of the management, and in the watchful presence of an Inspector, to air grievances in regard to safety measures on their mine. By this means a speedy and satisfactory solution to the problems or fears raised is often achieved. The Commission is nevertheless satisfied that this is not an appropriate place for investigating questions of a general nature and that enquiries should be confined as closely as possible to the purposes for which they were originally created. However, under paragraph 140, below, a substitute for this function of Inspectors' enquiries is suggested.

135. Regulation 346 is to proceed as follows:—

- “(f) All evidence shall be given orally, on oath or under affirmation.
- “(g) All proceedings shall be recorded mechanically by the inspector dictating from time to time the gist of what has been said, or if no mechanical means of recording is available, in longhand by the inspector in narration form for evidence-in-chief and in question and answer form for cross-examination.
- “(h) Inspections *in loco* may be conducted by the inspector alone or in company with such persons as he may decide, and he shall, at the first resumption of the enquiry after such an inspection, record and announce all findings of fact made at such inspection.
- “(i) The production and admission of every exhibit shall be duly recorded and each such exhibit shall be marked for identification.
- “(j) The presiding inspector may lead the evidence or appoint any person under his authority to lead the evidence, but neither the inspector nor such person shall frame any question to a witness called by either of them in such a manner as to indicate to the witness the answer expected or desired by the questioner.
- “(k) At the conclusion of the proceedings the inspector shall announce (and record) the time, date and place for the public delivery, by himself or, by a person authorised thereto by him, of his findings, which shall be in writing and set out under the following headings:—

Exact Details of Accident.
Cause(s) of Accident.
Person(s) Blamed for Accident.
Reasons for Above Findings.

Steps taken or Suggested to Prevent a Recurrence.

- “(l) The record of the enquiry and the findings and reasons aforementioned may be copied by any person applying therefor to the inspector concerned or the Government Mining Engineer, and copies may be made available to the public by the Government Mining Engineer at such fee as he may in each case determine.
- “(m) Whenever a witness is not fully conversant with either official language, the inspector shall not proceed to hear his evidence without the assistance of a suitable interpreter, who shall take the oath of office before the inspector.”

136. The Commission is firmly convinced of the desirability of mechanical recording of evidence at Inspectors' enquiries. Numerous complaints were received that Inspectors do not keep satisfactory longhand records of the evidence. Once again it is a source of suspicion, and since it can be wholly removed at comparatively little cost, it should be done forthwith.

At the same time, it is undesirable to have a complete record of every word uttered at such an enquiry. The cost of transcribing would be prohibitive and its length would make study unnecessarily wearisome. It is suggested that the Inspector should have at his disposal a recording machine which he can use from time to time in the enquiry room to dictate the gist of what has transpired immediately before, making such emendations as the parties or the witness may desire.

The recordings from all the inspectorates could be transcribed at a central typing office.

APPEALS FROM DECISIONS BY THE GOVERNMENT MINING ENGINEER.

137. It has been suggested, rightly, we think, that an appeal tribunal should be set up to hear appeals from decisions given or made by the Government Mining Engineer. It would be a natural corollary to the appeal machinery existing at lower levels. To give effect to the suggestion an amendment to the Act would be necessary, as follows:—

To insert a new section after section *three* of the Act as follows:—

“3 *bis*. (1) An appeal shall lie, in the manner prescribed by regulation, to a Ministerial Commission, appointed in terms of sub-section (2) of this section, from any decision, instruction or notice given by the Government Mining Engineer or his deputy under this Act.

“(2) The Minister shall from time to time appoint three persons with knowledge of the mining and associated sciences and practices to constitute a Ministerial Commission, whose decision shall be deemed to be that of the Government Mining Engineer.”

138. The appropriate regulations could be in the following terms:—

“CHAPTER XXXIII.

“MINISTERIAL COMMISSIONS.

“347. The regulations governing appeals from the decisions of inspectors shall *mutatis mutandis* apply to appeals from a decision, instruction or notice by the Government Mining Engineer or his deputy.”

APPOINTMENT OF MORE THAN ONE INSPECTOR TO HOLD AN ENQUIRY.

139. Enquiries conducted by inspectors are sometimes of such importance or complexity that they merit the attention of two or more Inspectors. The Commission recommends that the Government Mining Engineer should be authorised under the Act to intervene in an enquiry under section *five* by appointing one or more additional persons to conduct the enquiry in collaboration with the Inspector concerned. This would necessitate the following amendment to the Act:—

To add two new sub-sections to section *five*:—

“(6) The Government Mining Engineer may, at any stage of an enquiry under this section, appoint so many and such persons as he may deem expedient, to assist the inspector holding the enquiry and may designate the inspector or any one of such persons chairman at the enquiry.

“(7) Persons appointed under sub-sections (2) and (6) of this section who are not Government officers shall be paid such fees as may be authorised from time to time by the Minister.”

SPECIAL ENQUIRIES AT REQUEST OF WORKERS OR OTHERWISE.

140. As foreshadowed in paragraph 134, the Commission

has given consideration to the creation of machinery whereby grievances or fears in regard to safety conditions can be speedily and satisfactorily disposed of without using Inspectors' enquiries for that purpose. Some such machinery already exists under sub-section (2) of section *five*, where it is provided that—

“where in the opinion of the Government Mining Engineer it is for any reason expedient that an enquiry be held as to any occurrence at any mine or works, he may depute any inspector of mines, machinery or explosives or any Government officer to hold an enquiry as to any such occurrence.”

The quoted provision falls short of the ideal in three respects. Its scope is much too limited as a result of employing the word “occurrence”; the Government Mining Engineer should be at liberty to order the most detailed investigation wherever and whenever he considers it necessary and not only when an “occurrence” has taken place. Moreover, it should not be left entirely to his discretion whether or not an enquiry is to take place. In order to allay timeously any general apprehension on the part of mineworkers a system will have to be devised whereby the Government Mining Engineer will have to accede to the workers' demand for an enquiry when it is seriously and responsibly made. Lastly, the sub-section should be amended to allow the employment of persons from outside the Government service (e.g. from the panel of experts mentioned in paragraph 96) on tasks of this nature, not only because this would give a wider choice, but mainly because it cannot be predicted with certainty when, if ever, the Division will not be experiencing a shortage of staff.

141. In the light of the foregoing it is suggested that section *five* be further amended in the following manner:—

Amend subsection (2) by substituting for all the words from “and where in the opinion” to the end of the sub-section the following words:—

“and where in the opinion of the Government Mining Engineer it is for any reason expedient that an inquiry be held as to any occurrence at any mine or works or as to the safety and health conditions at any mine or works, he may depute any person or persons to hold an enquiry, and he shall do so if requested thereto in writing by any organisation of workers at such mine or works or by the secretary of any Government department; and at such enquiry such organisation shall be entitled to be represented and to cross-examine the witnesses and to call witnesses in its own behalf.”

TRIALS IN INSPECTORS' COURTS: JURISDICTION AND PROCEDURE.

142. The Commission considered the extent of the jurisdiction of Inspectors' Courts for the summary trial of trivial contraventions of the Act and Regulations. The maximum fine of £5 was fixed in 1911, when it represented an effective deterrent to miners and labourers at the wage level then obtaining. Today the deterrent effect of the fine as such is, in the case of European miners, very slight. A lawyer who gave evidence on his experience in Inspectors' Courts stated that a reprimand by the Inspector would be as effective as a fine of that amount.

143. The mere fall in the value of money, however, is not sufficient ground for increasing a maximum penalty. Factors such as repetition of offences by the same person and too large an overflow of cases to the Magistrates' Courts must point in the same direction before the effect of the maximum punishment can be said to be too slight.

144. In the present case, all the known facts show that fines of £5 do not have the desired effect: miners who contravene the safety regulations in order to earn more money have come to believe that such a policy pays despite

convictions by Inspectors' Courts, and Inspectors have become inclined to transfer to the Magistrates' Courts cases they would have tried themselves if more adequate provision had been made for punishing persistent offenders. One of the Trade Unions concerned has complained that the legal costs for the defence of their members on charges of a trivial nature in the Magistrates' Courts are mounting up unduly.

145. From the above it would appear that £5 as a maximum fine for a first offender may still be adequate, but that second and third offenders should be more severely punished, and after the third conviction the case should be referred to a Magistrate's Court. It must be noted, however, that "second offender" is used in a different sense from the ordinary; it means the second contravention by the same person *of the same regulation or legal provision*.

146. The Commission, therefore, recommends that a sliding scale of £5 for the first offence, £10 for the second contravention of the same provision, £15 for the third contravention, and the remand of the case to the Magistrate's Court for the fourth and subsequent contraventions should be substituted for the present maximum penalty of £5 in section 4 (2) (a) of the Act. A member of the Commission, Mr. Ellis, is not in agreement with the foregoing recommendation; he wishes the existing provision to remain undisturbed.

147. Another step to save magistrates unnecessary work and mine workers unnecessary legal costs is embodied in the procedural rules proposed below; the provision is to the effect that a case in an Inspector's Court cannot be remanded to the Magistrate's Court without the prior sanction of the Government Mining Engineer or someone authorised by him.

148. It has come to the notice of the Commission that an instruction (No. 129/1/1 dated 1st February, 1951), is extant in the Division to the effect that mine officials are not to be tried by Inspectors. The Commission can see no good reason for making, in this respect, a distinction (of doubtful legal validity) between mine officials and mine employees and recommends that it be withdrawn.

149. Some dissatisfaction with the manner in which trials are being conducted by Inspectors under section *four* of the Act is apparent. Inspectors themselves feel that they are in need of legal guidance. A set of departmental instructions does exist, but on perusing it, the Commission doubted its efficacy. It was not even clear that all Inspectors were aware of its existence. Although the jurisdiction of Inspectors' Courts is limited, the lack of automatic review by magistrates renders it necessary, in the view of the Commission, that basic rules should be laid down in the regulations and conscientiously enforced by all concerned.

150. It is suggested that the following set of rules for Inspectors of Mines, Inspectors of Machinery and inspectors of Explosives is comprehensive enough without being complex.

“CHAPTER XXXIV.

“PROCEDURE FOR TRIALS UNDER SECTION *Four*.

“348. Subject to the provisions of the Criminal Procedure and Evidence Act, 1955, the following rules shall be observed by Inspectors conducting trials in terms of section *four* of the Act:—

Arrangement.

- “(a) The Inspector shall personally ensure that the accused is informed of the charge against him, that he is given reasonable notice of the time, date and place of the trial, and that he is informed of his right to call witnesses at the trial in his defence or in mitigation.

- “(b) At the trial the inspector shall read out to the accused the charge as framed and recorded and require him to plead to it.
- “(c) The Inspector shall forthwith enter the plea and ask the accused, if he has pleaded guilty, whether or not he wishes to call witnesses in mitigation and give evidence himself. The answer shall be recorded.
- “(d) If the accused pleads guilty and the Inspector is satisfied that the accused understands both the charge and the effect in law of his plea, the Inspector may convict him or, in his discretion, call evidence to clarify any aspect of the case and after hearing such evidence convict the accused on his plea or acquit the accused. After conviction the procedure set out in paragraph (k) of this regulation shall be followed.

Plea of Not Guilty.

- “(e) If the accused pleads not guilty, the Inspector may call such evidence in support of the charge as may be available and deemed desirable, the accused having the right to cross-examine such witnesses and to examine the exhibits, if any, produced by them.
- “(f) When the evidence in support of the charge has been led, the Inspector shall call the witnesses, if any, designated by the accused as witnesses for the defence, and may cross-examine any such witness, the accused having the right in each case to re-examine any witness so cross-examined.
- “(g) When the evidence for the defence has been led, the Inspector shall ask the accused whether he wishes to make an unsworn statement or to give evidence on oath. The question and the answer thereto shall be recorded.
- “(h) If the accused elects to make an unsworn statement, it shall be recorded, but he may not be questioned or cross-examined by the Inspector. If he testifies on oath in his own defence, he may be cross-examined by the Inspector.
- “(i) The production and admission of every exhibit shall be duly recorded and each such exhibit shall be marked for identification.
- “(j) At the conclusion of all the evidence the Inspector shall permit the accused to address him on the evidence. Such address need not be recorded except for the fact that it was made.

On Conviction.

- “(k) The Inspector shall thereupon give and record his judgment. On conviction, and after hearing such evidence in mitigation as may be given by witnesses, including the accused, he shall pass and record the sentence of the Court.

General Provisions.

- “(l) The Inspector shall, chronologically and as fully as possible, record or cause to be recorded all the stages of the trial as indicated in, or are to be inferred from, the foregoing paragraphs, and including all the evidence given on oath by all the witnesses (including the accused if he testified on oath). Evidence-in-chief may be recorded in narrative form, and cross-examination, whenever possible, in the form of questions and answers.

- “(m) Every witness shall swear or solemnly affirm to tell the truth in the evidence he is to give.
- “(n) The Inspector shall at every adjournment of the trial and at the conclusion thereof sign and date the record.
- “(o) The Inspector may, at any stage prior to passing sentence, terminate the trial and discharge the accused or refer the charge to the prosecutor of the Magistrate’s Court having jurisdiction, provided that such reference shall not be made without the consent of the Government Mining Engineer or a person authorised thereto by him.
- “(p) Whenever evidence is given in any language with which the accused is not fully conversant, such evidence shall be interpreted to him by a sworn interpreter sentence by sentence in a language with which the accused is fully conversant.
- “(q) The accused is entitled to be represented at his trial by a lay or a legal representative.
- “(r) Witnesses who have not yet testified shall not be permitted within earshot of any other witness giving evidence.
- “(s) Except when cross-examining the accused whilst he is giving evidence on his own behalf, or witnesses called by the accused, the Inspector shall not frame his questions to any witness in such a manner that the witness can infer from the form or manner of the question what reply thereto is expected of him.
- “(t) Except in cases where more than one person is alleged to be jointly responsible for the act or omission charged, accused persons shall be tried singly. An accused may not be convicted on any evidence not given in his hearing at his trial.
- “(u) Evidence may include findings of fact made as a result of the inspection by the Inspector, in the presence of the accused and his representative, if any, of any object or place, provided such findings are duly conveyed to the accused and recorded in his presence.
- “(v) No Inspector who is to give evidence at the trial of an accused shall preside at such trial.
- “(w) The provisions of sections *six* and *seven* of the Act, except sub-section (2) of section *six* shall apply to trials under this Regulation.”

SUB-INSPECTORS AND SENIOR SUB-INSPECTORS.

151. Attention has been given to the position, functions and status of Sub-Inspectors on account of complaints that their original function, namely, that of welfare officers for mine workers, has fallen into disuse to the detriment of the safety organisation as a whole. It was alleged that they had gradually become junior inspectors bent more on prosecuting than on assisting and advising the miner. It was alleged, too, that Sub-Inspectors lack status and prestige by reason of the fact, amongst others, that they have very little incentive to improve their position by study; the position itself is a dead end. This aspect is considered again in paragraphs 155-160, where the proposed new post of “Senior Sub-Inspector” is discussed.

152. The Commission had the privilege of hearing and seeing a few Sub-Inspectors, also to investigate certain complaints one Sub-Inspector raised against his District Inspector. The Commission has gained the impression that very little, if anything at all, is left of the welfare officer in present-day Sub-Inspectors, and we are forced to the conclusion that the neglect of welfare work is largely due to the lack of proper instruction. Sub-Inspectors are apparently

not told what their duties are in that respect. They are regarded by their seniors as handymen available for doing the less important underground tasks of the inspectorate—a position which, in the view of the Commission, should not have been permitted to arise.

153. In order to restore the function to the purpose for which it was originally created the Commission has decided to recommend a somewhat unusual course of action which will ensure that deviation will not recur. The recommendation is that the main purpose for which this officer is appointed be laid down in the Regulations under the Act, coupled with the instruction that every new appointee (as well as those already in the service) be given, with his letter of appointment, a copy of the regulations applicable to him.

154. The text of the proposed regulation reads:—

“CHAPTER XXXV.

“SUB-INSPECTORS AND SENIOR SUB-INSPECTORS.

“349. Whenever circumstances permit, there shall be appointed to the staff of each District inspector two officers, who shall be known as ‘sub-inspector’ and ‘senior sub-inspector’, respectively.

Sub-Inspector.

“350. (a) Generally, the function of a sub-inspection is to act as welfare officer to the mining employees in the inspectorate.

(b) More particularly the duties of a sub-inspector shall include the following:—

- (i) to inspect the note books kept by the shift-bosses in terms of Regulation 161 (6);
- (ii) to inspect the complaints books for scheduled persons and to determine, from time to time, what steps have been taken in regard to complaints entered in such books;
- (iii) to do early inspections as frequently as possible in order to ensure compliance with the regulations on waiting places;
- (iv) to accompany the early examiner as frequently as possible in order to determine whether all the facilities necessary for the proper performance of the work are provided and whether the examiner is not being overworked;
- (v) during day shifts, to visit the working places of miners in order to inspect working conditions and to see whether the prescribed provisions for health and safety are being observed;
- (vi) to carry out frequent inspections during blasting operations;
- (vii) to inspect, from time to time, any operations carried out by mines during night shifts;
- (viii) to enquire, whenever reasonably possible, after the well-being of all miners and labourers and to ask specifically whether there are any matters which should be brought to the attention of the District Inspector of Mines; and
- (ix) to carry out such particular instructions as the district inspector may give.

(c) The sub-inspector shall report irregularities and contraventions of a minor nature to the mine manager and matters of a serious nature to the district inspector’s office in writing.

“351. A copy of Regulations 349 and 350 shall be handed to each sub-inspector in the service and shall be annexed to every letter of appointment of a sub-inspector.”

SENIOR-SUB-INSPECTORS.

155. The gap between the now circumscribed duties of the Sub-Inspector and those of an Assistant Inspector of Mines is, in the respectful opinion of the Commission, unduly large. The temptation to allot duties to the Sub-Inspector which by all accounts fall outside the real scope of his functions, arise from this fact. Incentive for self-improvement is weakened by the formidable leap from a position requiring no academic qualifications to one of considerable status.

156. Moreover, it is apparent to the Commission that too many minor duties of a comparatively straightforward nature, which are nevertheless unsuitable for delegation to a Sub-Inspector, now devolve on overworked Assistant Inspectors. They could quite confidently be transferred to an officer in status and qualification somewhere between the ranks of Assistant Inspector and Sub-Inspector.

157. Finally, it must be conceded that Sub-Inspectors are unable to inspect the mines in their areas as often as they should. Thus in one instance a Sub-Inspector has 280 shifts boss sections under his care: it would be impossible for him to carry out his re-defined duties without some assistance such as a Senior Sub-Inspector would be able to give.

158. The Commission accordingly recommends the creation of a new rank to be known as that of "Senior Sub-Inspector", provisionally only one such officer for each inspectorate—a total of 12.

159. His qualifications should be matriculation and a mine overseer's certificate, and his duties would include the following:—

1. (a) General and special inspections of aspects relating to responsibilities of mine overseers, junior officials and daily paid employees.
- (b) Generally, the welfare of all employees, including the above classes.
2. Dust, water and gas sampling and ventilation measurements.
3. Taking of statements and carrying out investigations in connection with minor accidents,
4. Inspecting books and records required to be kept by the Regulations.
5. Such other tasks as the Government Mining Engineer may prescribe and as the District Inspector may from time to time assign to him.

This is a broad outline of the most probable duties of a Senior Sub-Inspector, but it is inevitable that there will be some overlapping in the duties of Sub-Inspectors, Senior Sub-Inspectors and Assistant Inspectors of Mines. It is, however, not proposed that Senior Sub-Inspectors should be allowed to hold formal inquiries or trials under the Act, or that they deal with important matters such as mining systems, restrictions necessary for undermining surface objects, determining of re-entry intervals, and the like.

160. The important feature of his work of which sight is not to be lost, is the welfare aspect, set out above as his first duty. For that reason, as in the case of Sub-Inspectors, the Commission recommends that his duties be circumscribed to that extent in a regulation:

"Senior Sub-Inspector.

"352. Generally, the senior sub-inspector shall have the same duties as the sub-inspector, but the district inspector may in his discretion entrust to him duties of a minor nature ordinarily entrusted to an inspector.

"353. No person shall be appointed to the post of senior sub-inspector who does not possess

- (i) a matriculation certificate or a certificate considered by the Government Mining Engineer to be equivalent thereto; and
- (ii) a mine overseer's certificate.

"354. A copy of Regulations 349 to 353 (both inclusive) shall be annexed to every letter of appointment of a senior sub-inspector."

161. If your Excellency should decide that it is for any reason undesirable to provide for the duties and qualifications of Sub-Inspectors by way of regulation, as suggested above, the Commission begs leave to recommend in the alternative that the position be firmly established for the future by providing in the Regulations that on the appointment of Sub-Inspectors and Senior Sub-Inspectors the letters of appointment shall state explicitly what their main duties and functions are.

CHAPTER IV. —SUNDRY RECOMMENDATIONS.

INSPECTION OF MINE PLANS.

162. Convincing evidence has been placed before the Commission that mine plans of collieries leave much to be desired and that the checking of the plans by the Government Mining Engineer's Division is by no means satisfactory. In some cases up to two years elapse between inspections.

163. The Commission is disturbed by this state of affairs and, though it intends to report on this matter more fully at a later date, it takes this opportunity of sounding a warning. In our view, colliery plans should be regularly and systematically examined, for accuracy as well as for form.

TRANSFERS OF INSPECTORS OF MINES.

164. Events in the Welkom inspectorate and elsewhere have convinced the Commission that the Division of the Government Mining Engineer should follow the example of the Department of Justice by arranging for the more or less regular transfer of Inspectors of Mines from one inspectorate to another, in the same way that magistrates are transferred as a matter of course. This is especially desirable where mine workers gain the impression that an inspector is on too friendly a footing with mine officials.

165. The exchange of Inspectors between one inspectorate and another will serve to broaden the knowledge and interests of Mine Inspectors to include all types of mining and mines, to the advantage of the Division as a whole. It could play a part, too, in strengthening discipline and loyalty and removing unnecessary friction between individual officers.

166. The disadvantages to Inspectors of such a policy can be eliminated to a considerable extent by providing official residences at all the inspectorate centres, as has been done in the case of the Welkom inspectorate and in the case of Mining Commissioners.

ADDITIONAL INSPECTORATE IN THE DIVISION.

167. The Commission is of the opinion, on the evidence before it, that the Welkom inspectorate is too large for one District Inspector. It comprises 12 mines, with a total of 92,500 mine employees, and embraces a great deal of development and shaft sinking operations. The Acting Government Mining Engineer endorses this view, which is supported by the fact that it is the only inspectorate having two Deputy District Inspectors. The proposed additional inspectorate would increase the number of inspectorates to twelve. The present staff of the Welkom District Inspector would, with the addition of one District Inspector, one Assistant Inspector and one Sub-Inspector, suffice for the two Orange Free State goldfields inspectorates, for the time being.

OVERSEAS STUDY VISITS FOR TECHNICAL OFFICERS.

168. The Commission was disappointed to learn that officers of the Government Mining Engineer's Division are not sent overseas on study visits to countries with mining problems similar to ours. It is hardly to be believed that such

visits would not benefit the whole Division and compensate handsomely for the cost incurred. The Commission recommends that a rotation scheme for overseas study should be drawn up and carried out as soon as the staff position in the Division improves.

DEPUTY COMMISSIONER OF MINES, NATAL.

169. In the Province of Natal is the only inspectorate where one man combines the functions of a District Inspector of Mines with those of a Mining Commissioner. The Commission is satisfied that the duties of the combined posts are too onerous for one officer and that they should be separated.

Natal Colliery Managers are dissatisfied with Pietermaritzburg as the seat of the District Inspector and suggests that it would have been moved if the District Inspector had not been Deputy Commissioner of Mines, too. Whether that be so or not, it is undesirable that a technical officer of the Division should also fill a Public Service post.

CHAPTER V.—CONDITIONS OF EMPLOYMENT

GENERAL OBSERVATIONS ON SHORTAGE OF STAFF.

170. The Commission has considered the structure of the Government Mining Engineer's Division, the adequacy of the present staff for the work of a more or less routine or recurrent nature, the establishment required for the due performance of all the work that could properly be expected to be done by a Division of this nature, the reasons for the disturbing shortfall from that scope, and the practicable measures that should be taken at once to remedy the more obvious shortcomings.

171. On the structure of the Division several observations have been recorded, including a brief motivation in each case. The most important are: the appointment of a fourth Assistant Government Mining Engineer; the appointment of eleven Senior Sub-Inspectors between the Sub-Inspector's grade and the Assistant Mine Inspector's grade; the circumscribing of the Sub-Inspector's function as welfare officer; and the creation of a panel of expert advisers to the Government Mining Engineer and District Inspectors.

172. A further observation at this stage may not be misplaced, to the effect that whereas the post of Government Mining Engineer should always be advertised, at the fixed salary of £5,500 (which figure has to be maintained at a commensurate level in the event of a sharp or consistent fall in the value of money), the Deputy Government Mining Engineer should invariably be filled by the officer in the Division considered to be best suited for it. This arrangement would ensure continuity of practice and administrative experience at the top of the organisation.

173. The inadequacy of the staff is immediately apparent from Annexures F, G, H and I. *Annexure F* illustrates graphically how the total of the actual staff in the Division has failed to keep pace with the total tonnage taken out in all the mines in the Union over the period from 1932 to the end of 1959 as well as with the labour force employed in the mining industry over the same period. (The widening gap between the total tonnage and the total labour force is chiefly due to increased mechanization since the War.)

Annexure G indicates the increasing disparity, since 1945, between the growth of the number of mine employees and the increase in the number of Inspectors: in 1945 each Inspector was responsible for the safety of 7,200 workers; in 1959, despite mechanization, there were 9,800 workers per Inspector.

Annexure H shows a similar comparison in respect of tonnage produced: in 1932 for each Inspector a little less than 1,300,000 tons per year were mined; by 1959 the figure per Inspector had more than doubled.

In *Annexure I* the vast increase in the value of the minerals produced by the industry per district officer during the period 1932-1960 is graphically shown. In 1932 the amount was about £1¼ million, compared with £6 million in 1960, on the basis of the actual staff of the Division.

174. In each of these graphs the corresponding levels of the authorised staff (as distinct from the number of actual staff we have been discussing) are also indicated. Although the authorised establishment shows a steadily increasing lag behind the growth of the industry, the Commission is not prepared, at this stage, to recommend any increase in the authorised staff (except where this has been specifically mentioned elsewhere). Efforts should rather be directed to the filling of the many vacant posts in the Division as demonstrated by the graphs. The situation is indeed alarming; by all indications it has been deteriorating still further this year, and rather more sharply than before. Five resignations have taken place in 1960 and the response to invitations to qualified persons to apply for vacant posts has been poor. Thus, in October, 1960, Assistant inspectors' posts were advertised at a higher commencing salary (increased from £1,380 to £1,680); for the posts of Assistant Inspectors of Machinery two applicants applied, of whom only one was suitable; for the vacant posts of Assistant Inspectors of Mines (of which there are more than a dozen) four applications were received, and of these only one applicant could be considered for appointment.

175. The situation is all the more disturbing because the Commission is firmly of the opinion that one of the most effective measures to prevent mining disasters would be the immediate resumption of systematic inspections of mines by newly recruited Assistant Inspectors. Systematic inspection (which entails the complete investigation of any given mine from every conceivable angle) was discontinued with the falling off in the number of recruits in the late forties, and it should be resumed.

176. In order to appreciate fully the two factors the Commission has found to be at the root of the shortage of staff in the Division, it has to be realised that all recruits for the Division have to be drawn from the mining industry, and that especially favourable circumstances (of a personal nature or in attractiveness of service in the Division) have to exist before a mine official would leave the industry to join the Division. The scope for recruitment is limited to the industry because of the requirements of the post of Inspector of Mines, where the ideal recruit is a young man who possesses a B.Sc. degree in mining engineering (now a five-year course, formerly four years) plus a Mine Manager's certificate, and where the minimum qualification is a Mine Manager's certificate.

177. To obtain a Mine Managers certificate candidates must comply, amongst others, with the following conditions: Five years mining experience, four of which must have been gained in the workings of a mine; six months experience as a Shift Boss; and a sufficient knowledge of mining, mine ventilation, mechanical and electrical engineering, mine surveying, geology, and the Act and regulations. The mining experience of such considerable duration required for the certificate and therefore for entry to the Division means, in effect, that most, if not all, officers of the Division joined the industry without consciously aiming at ultimate service in the Division.

178. The public service is often joined by men who value highly the security of office and the provisions for retirement benefits offered by the service. That consideration is absent in the case of the Division, for the mining industry, generally speaking, offers in that respect the same benefits today as does the public service. The only factor to some extent favourable to the Division is the less arduous physical exertion required of an Inspector of Mines compared with that of, say, an Underground Manager: less time has to be spent underground, which can be an important health consideration even in the case of healthy persons.

179. The basic consideration then is to maintain a certain attractiveness for service in the Division in order to recruit suitable officers from the mining industry. This cannot be done by adopting the extreme measures of offering more generous salaries than the industry, or even salaries commensurate with the conditions of service in the industry: public service salaries in other divisions and departments would be absurdly disproportionate to those of the Government Mining Engineer's staff. But what would be reasonable, in our respectful view, are salary scales that bear some reasonable ratio to salaries in the industry. A percentage figure in this regard cannot be calculated mathematically, but an analysis of the staff position over the past quarter of a century provides a strong pointer to a percentage of between 70 and 75 of the average ruling salaries in corresponding posts in the mining industry for the senior posts, with a favourable bias at and towards the recruiting point for the Division, i.e. at the level of the Assistant Inspectors of Mines.

180. We need not repeat here that the salary policy followed in the Division had no regard whatsoever, in the senior posts, particularly in that of the Government Mining Engineer, to the corresponding levels in the mining industry. It has been dealt with in the section on the Government Mining Engineer's post and salary. Two percentages may, however, be quoted by way of illustration: the present *commencing* salary of an Assistant Inspector of Mines is £1,680, the *average* salary of his counterpart in the industry (Underground Manager) £2,400, i.e. a proportion of 70 per cent; the *fixed* salary of the Government Mining Engineer is £3,400 and that of his opposite number in the industry (Chief Consulting Engineer) £7,500, i.e. a ratio of 45·3 per cent. If, however, the pre-1937 policy had been followed in regard to the Government Mining Engineer's salary, which would have resulted in a salary of about £5,350 in 1960, the percentage would have been 71 now. The recommended salary of £5,500 would represent 73·3 per cent of the corresponding Chief Consulting Engineer's post.

181. We do not, of course, suggest that an invariable percentage should be used for determining salaries in the Division, but we do feel that it is one of the ways of testing the adequacy of the attractiveness of employment in the Division.

182. By that test the present salary policy in the Division is the only direct reason for the gradual decline in the staff position to the point where the Division can no longer properly carry out its duty to protect the employees in the mines.

183. The other reason for the increasing shortage of staff stems indirectly from the 1937 decision to fix the Government Mining Engineer's salary at the same level as that of a Secretary of a Government department with complete disregard of what was happening in the industry. The result of that decision has been that the Division has not always had at its head the best man that could have been employed if a reasonable salary had been offered, i.e. a salary somewhat more than 45 per cent of what a man of the calibre of a competent Government Mining Engineer could earn in the industry. The effect of the policy has been making itself felt in

the Division for a number of years: the prestige of the Division was being lowered, discipline suffered, confidence in the Division all but vanished (as far as the miners were concerned) and as an organisation it could not meet a crisis such as the Coalbrook North disaster precipitated. The events outlined under "Closer Definition of the Task of the Commission" appear to us to justify this statement.

184. The Acting Government Mining Engineer expressed it as his considered opinion that the raising of salaries in the Division would by itself not suffice to attract recruits for the post of Assistant Inspector—the intake point of officers for the Division. Experience with the recent invitation for applications proved him right, and the Commission is forced to the conclusion that the loss of prestige the Division has suffered over a period of years, but especially since 1953, culminating in the appointment of a commission of enquiry in 1960, must account to a large extent, for the unattractiveness which service in the Government Mining Engineer's Division seems to have for possible recruits.

185. As will be pointed out later, the Division and the mining industry form a closed unit. Scarcity or abundance of engineers in other branches of our national activity has no significant bearing on the position in mining. But even if it were proved that there is a great dearth of mining engineers, the State will have no option but to make engineering posts in the Division attractive enough to keep them filled. One of the ways of doing so is to improve the conditions of service; the other, as important, is to ensure that the Division has that prestige and well-ordered functioning which only a well-paid, competent head can give to it. Insufficient attention to these two factors in the past is the cause of the critical conditions the Commission has found.

186. The salary scales and fixed salaries the Commission has decided to recommend were arrived at by weighing as carefully as possible all the known factors that are relevant. They are briefly set out in the following paragraphs.

ENTRY TO CAREER IN MINING IS RESTRICTIVE AND SELECTIVE.

187. Technical officers in the Government Mining Engineer's Division, as well as senior officials in the mining industry are required, in terms of Regulations 153 and 165, promulgated under the Mines and Works Act, No. 27 of 1956, to be in possession of Managers' or Engineers' certificates issued under Part IV of the regulations. These certificates are required over and above any university degrees in any branch of engineering the officers may hold.

188. Considerable practical experience and an age limit are pre-requisites for admission to the examinations for these mining qualifications. As a corollary, all officers in the Division are recruited from amongst suitably qualified candidates who commenced their careers within the mining industry.

189. Technical officers of the Division, by virtue of their duties, are compelled to spend a proportion of their time underground in mines, under the same unnatural and artificial physiological conditions that apply to all other underground mining employees. These conditions contribute largely towards their particular susceptibility to occupational diseases and expose them to unnatural and extraordinary hazards. According to figures furnished to the Commission by the Pneumoconiosis Bureau, the average periods of service underground causing pneumoconiosis are the following: in gold mines (silicosis), 23 years; in asbestos mines (asbestosis), 6-10 years; and in coal mines, 30 years. The fact that underground work adversely affects life expectancy is recognised actuarially by life insurance companies. For the

above reasons, Section 17 of the Pneumoconiosis Act, No. 57 of 1956, demands that stringent physical and health standards have to be complied with prior to obtaining permission for entry into the mining industry.

190. By legislation, therefore, entry to the mining industry, and accordingly to the Government Mining Engineer's Division as well, is selective and restrictive with reference to health, physique, experience and qualifications.

191. Reference to Table A below will serve to indicate that for the reasons outlined in paragraph 189, all underground mining employees throughout the industry enjoy a salary or wage advantage over all non-mining engineering and industrial employees of equal rank. We have had evidence to the effect that this applies to the mining industry throughout the world, including Russia.

TABLE A.

*MINIMUM WEEKLY EARNINGS FOR DAILY PAID EUROPEAN EMPLOYEES.

Industry.	Occupation.	Rates/ Week.	Index (Per- centage).
Mining.....	Miners.....	393/6	100
Printing.....	Type-setters.....	363/9	92.4
Iron and Steel.....	Artisans.....	319/11	81.3
Building and Civil Engineering.....	Artisans.....	317/-	80.5
Automobile.....	Artisans.....	276/9	68.0
Furniture.....	Artisans.....	256/3	65.1
Baking and Confec- tioners.....	Bakers.....	228/-	57.9
Clothing.....	Cutters.....	175/9	44.7

*(Bureau of Census and Statistics Bulletin 1960).

SCOPE OF EMPLOYMENT IS RESTRICTED.

192. In South Africa Mining Engineers have very limited scope, if any, for practising their profession elsewhere than in the Government Mining Engineer's Division or the mining industry. All other branches of the engineering profession have a wider field for selection of employment. The Government Mining Engineer's Division, together with the mining industry could, therefore be considered a closed entity with reference to providing employment for professional Mining Engineers. Salary scales offered by the Division should therefore be related to the scales obtaining in the mining industry, rather than to standards assessed on supply and demand for other engineering occupations in the Public Service.

EFFECT OF SHORTAGE OF STAFF ON SALARY STRUCTURE.

193. Reference to Annexures F, G, H and I will indicate that since 1945, staff shortages within the Division progressively increased and reference to Table B (in the next column) and Annexure J, will show that commencing salaries were constantly increased in an endeavour to attract new recruits to those sections of the Division where the shortages were considered most acute.

194. The desirability that new recruits should be potential senior officers, is a *sine qua non* to the successful functioning of the Division. Increases in commencing salaries without concomitant increases in senior salary scales cannot be considered a sufficiently strong incentive to attract and retain the services of desirable and competent recruits. This procedure is resulting in a convergence of the salary scales between the minimum and ultimate responsibility attached to the various posts in the Division (*Annexure J*). In this regard it must be realised that while the minimum responsibility remains constant by virtue of increased numbers, the ultimate responsibility shouldered by one man grows with the industry and the legislation anent thereto.

TABLE B.

SHOWING DEGREES OF SALARY INCREASE OF THE VARIOUS POSTS; BASED ON INDEX VALUE FOR 1935 = 100.

	1935.	1960.
(i) Assistant Inspector of Machinery.....	100	306.0
(ii) Deputy Inspector of Machinery.....	100	281.5
(iii) Assistant Inspector of Mines.....	100	266.7
(iv) Deputy Inspector of Mines.....	100	253.0
(v) Inspector of Machinery.....	100	240.0
(vi) Sub-Inspector of Mines.....	100	226.7
(vii) Chief Inspector of Machinery.....	100	223.6
(viii) Deputy Government Mining Engineer.....	100	191.0
(ix) Inspector of Mines.....	100	188.57
(x) Assistant Government Mining Engineer.....	100*	164.0
(xi) Government Mining Engineer.....	100	136.0

* 1940 Basis.

SERVICE IN THE DIVISION HAS NO ADVANTAGE OVER INDUSTRY.

195. Particularly with regard to this Division, the concept of sacrificing income for security within the service in the Division will not attract desirable candidates. Pensions, leave and other benefits offered by the mining industry are generally equal to or superior to those offered by the Division.

SCOPE FOR ADVANCEMENT.

196. In establishing suitable salary scales, cognisance should be taken of the scope for advancement and promotion within the Division. Of the total of 122 authorised technical posts, five are senior to that of inspector of Mines and two senior to that of Inspector of Machinery. This limited number leaves little hope for the fulfillment of the reasonable aspirations of those in positions junior to Assistant Government Mining Engineer. Frustration in the Division is real and in the Machinery section it has now become pernicious.

197. The young Mining Engineer normally does not aspire to become more than a Mine Manager. They realise that promotion above managerial status is for the outstanding few. It is submitted that the responsibilities attached to the position of Inspector in the Division are approximately equal to those of the Mine Manager or the Resident Engineer in the mining industry. Their salary and status should accordingly be aligned with those positions and not established arbitrarily somewhere between the commencing salary scales and the top salary in the Division.

198. An Inspector of Mines deals mainly with Mine Managers and should be able to meet them on a basis of equality. By establishing the position of Inspector as standard, the grading of positions senior or junior to Inspector is simplified and the difficulties arising from the scope for promotion mentioned in paragraph 196 will largely disappear.

199. The sequence of status attached to the various positions held by technical officers in the Division could be compared with those of equal responsibility and status obtaining in the mining industry, as follows:

<i>Department of Mines (Mining Section).</i>	<i>The Mining Industry (Mining Section).</i>
Government Mining Engineer.	Chief Consulting Engineer.
Deputy Government Mining Engineer.	Consulting Engineer.
Assistant Government Mining Engineer.	Senior Assistant Consulting Engineer.
Inspector of Mines.	Mine Manager.
Deputy Inspector of Mines.	Assistant and Sectional Managers.
Assistant Inspector of Mines.	Underground Managers and Senior Mine Overseers.
Sub-Inspector of Mines.	Junior Mine Overseer and Shiftboss.

(Machinery Section.)	(Machinery Section.)
Chief Inspector of Machinery.	Consulting Mechanical and Electrical Engineers.
Senior Inspector of Machinery.	Assistant Consulting Mech. or Elec. Engineers.
Inspector of Machinery.	Resident Engineers.
Assistant Inspector of Machinery.	Sectional Engineers.

THE GOVERNMENT MINING ENGINEER.

200. The salary attached to the position of Government Mining Engineer, has been arbitrarily fixed at various times, depending upon the pre-assessed competence and ability of the selected incumbent. (See Table C. below). The principle involved would appear to be that the salary was accorded to the selected individual and not to the responsibilities attached to the post. This state of affairs was allowed to continue because candidates considered suitable were not available from within the Division, nor, on account of the low salary, from the

TABLE C.

Government Mining Engineer.			Head of Administrative Division.
Date.	Name.	Salary £.	Salary £.
1/10/1919	Sir R. N. Kotze.....	2,000	1,500
1/10/1919	Sir R. N. Kotze.....	2,000	1,700
28/3/1923	Sir R. N. Kotze.....	2,000	1,600
1/12/1926	Dr. H. Pirow.....	1,800	1,600
1/4/1928	Dr. H. Pirow.....	1,800	1,600
1/8/1928	Dr. H. Pirow.....	2,100	1,600
1/8/1935	Dr. H. Pirow.....	2,500	1,600
1/1/1937	Dr. H. Pirow.....	2,500	1,800
1/6/1937	H. E. Barrett.....	1,800	1,800
18/3/1942	H. S. H. Donald.....	1,800	1,800
11/5/1946	D. G. Malherbe.....	2,100	2,100
11/7/1951	D. G. Malherbe.....	2,300	2,300
2/8/1953	W. G. Pyne Mercier.....	2,700	2,700
1/10/1958	W. G. Pyne Mercier.....	3,400	3,400

201. Reference to Table C. will show that, as from the 1st June, 1937, the salary attached to the position of Government Mining Engineer has been aligned to that of the Secretary for Mines. This salary is not considered sufficiently attractive to induce response by senior Mining Engineers to advertisement by the Government.

DISPARITY BETWEEN SERVICE IN THE DIVISION AND INDUSTRY.

202. The difficulties experienced in acquiring the services of a sufficient number of suitable officers for the Division stem largely from the wide disparity in salary scales offered for equivalent status in the Division and the mining industry. This disparity is graphically represented in *Annexure K*.

203. In terms of the Mines and Works Act, the personal responsibility of the various classes of official and daily paid workers vary considerably. The personal responsibilities of the daily paid worker forms the lower end of the scale. *Annexure L* shows the relationship between the salaries paid to the various officials in the mining industry and to the various officers of the Division, compared with the average earnings of daily paid development gold miners during 1960. These earnings were accepted as index=100.

204. An authority on mining practices in Great Britain expressed astonishment on learning that Mine Managers in the

Union were paid more than Assistant Inspectors of Mines. In fact, Mine Managers are paid More than any member of the Division, including the Government Mining Engineer. The Commission assesses the average salary of a South African Mine Manager to be about £4,000 (see *Annexure M*); in Great Britain a Mine Manager earns less than £2,000, compared with the commencing salary of £2,020 for Inspectors of Mines (corresponding to our grade of Assistant Inspector). The nationalisation of the coal mining industry (in 1945) is said to have brought about no change in this respect.

NO COMPETITION WITH THE MINING INDUSTRY.

205. The total number of technical posts authorised for the Division, is 122 compared with some 3,000 posts of similar status presently filled in the mining industry. This limited number cannot be considered serious competition with the mining industry, even if salaries offered by the Public Service were comparable with, or in excess of, those offered by the mining industry. The raising of salaries in the Division will have no effect on the salary structure in the industry. Nor should it have any effect on the salary scales of the Public Service, with which the Division is in no way comparable.

DECLINE FOLLOWS SHORTAGE OF STAFF.

206. The acute staff shortage in the Division experienced over the past decade, is a major contributory factor in the decline of the supervision exercised by the Government Mining Engineer's Division over the mining industry.

CONCLUSION.

207. In view of the facts disclosed in the foregoing paragraphs and taking due cognisance of the conditions of employment in the recruiting field, we have no alternative but to recommend a departure from the present salary scale determination for this Division.

208. Due consideration having been given to the absence of direct economic responsibility of the Inspector, insofar as the functioning of the industry is concerned, and to the fact that the final statutory responsibility devolves upon the Mine Manager, we accordingly recommend that the salary scales be amended as reflected in *Annexure M*.

NOTES ON INDIVIDUAL SALARIES AND SALARY SCALES.

209. The following observations are pertinent to *Annexure M*, with which they should be read:—

- (a) The salaries for the industry reflected in the first column of *Annexure M* are not calculated weighted averages, because it would be a formidable (and invidious) task to ascertain exactly what salary each comparable post in each of the mining organisations carries. The figures given are based on the maximum -minimum salary returns by the industry tested against the practical up-to-date experience of these matters that members of the Commission possess. The margin of error appears to be negligible.

The Government Mining Engineer.

- (b) The position of this officer has been discussed fully.

The Deputy Government Mining Engineer.

- (c) In most respects the duties and functions of this officer are similar and complementary to those of the Government Mining Engineer whose functions he must assume at all times when the Government Mining Engineer is not available for duty. He is also the senior executive officer of the Division and because of his having risen through the ranks thereof, he is conversant with all aspects of its functions. He would be an officer of indispensable value to any Government Mining Engineer appointed from outside. His position demands that at all times he must be able to discuss matters of importance with senior officials of the Industry as well as workers'

representatives. This Commission therefore considers that the salary attached to this position, should bear some relation to that of a Consulting Engineer which in the industry ranges from £5,000 to £7,000 per annum. The assessed average salary of a reasonably competent Consulting Engineer in the industry is of the order of £6,500.

The Assistant Government Mining Engineer.

- (d) This officer is an executive officer with control over a number of inspectorates. His duties are to collate information emanating from reports by Inspectors. At his discretion such reports and recommendations may be transmitted to and for consideration by the Deputy Government Mining Engineer or he takes such other action as he deems necessary. He supervises and visits the inspectorates within his section to ensure that the work therein is carried out efficiently and in accordance with the policy prescribed by the Government Mining Engineer and the laws which the Inspector is required to administer. As he has risen through the ranks he has similar experience to that of the Deputy Government Mining Engineer and is capable of assuming that officer's duties and functions when called upon to do so. His duties and responsibilities in the opinion of this Commission can be paralleled to those of the Senior Assistant Consulting Engineer in the industry whose salaries range from £4,000 to £6,000 per annum. The weighted average for the whole industry is assessed at an amount of £5,000.

Chief Inspector of Machinery.

- (e) This officer is the senior mechanical and electrical engineer in the Division. His functions are to advise the Government Mining Engineer on all matters relating to electrical and mechanical installations in mines. He is responsible for the approval of such items as hoisting ropes, flame proof machinery, mechanical safety devices, etc., in addition to being the Director of the Government Mechanical Laboratory and consulting, mechanical and electrical engineer for the State Alluvial Diggings. With the increasing installation and use of mechanical and electrical equipment underground in mines, he is in the opinion of this Commission similar in status to that of Consulting, Mechanical and Electrical Engineers in the industry whose salaries range from £4,000 to £6,000 per annum. The average for the industry is assessed by the Commission at £5,000.

Inspectors of Mines.

- (f) Inspectors of Mines are statutory officers and in addition to carrying out the supervision of Mines and Works under the direction of the Government Mining Engineer, they are vested with powers under the Mines and Works Act to try persons for breaches of the regulations and special rules framed under the Act, and to enquire into accidents and alleged breaches of the regulations. They are responsible for ensuring that the safety and health of mine workers are not endangered. They are responsible for ensuring that roads, railways and other surface objects are not endangered by undermining. They are expected to negotiate or discuss matters at managerial level and this demands qualifications and experience equal to that of Mine Managers whose salaries in the industry range from £3,000 to £5,000 per annum. The average is assessed at £4,000.

Deputy Inspectors of Mines and Inspectors of Machinery.

- (g) These officers are also statutory officers and have the same powers and duties as are prescribed for Inspectors of Mines. They assist the Inspector of Mines in carrying out his duties and therefore rank as Assistant or Sectional Manager or Resident Engineers in the industry whose salaries range from £2,000 to £3,600 per annum, the assessed average being about £3,000.

Assistant Inspectors of Mines and Assistant Inspectors of Machinery.

- (h) These officers are statutory officers who assist the inspector in his duties. They rank with Underground Managers and Sectional Engineers in the industry whose salaries range from £2,000 to £3,000 in the industry with an overall average of about £2,400. This is the level at which it is desirable that recruiting from the industry should be done. The Commission considers that the salaries of these officers should bear a close relationship to those of similar ranks in the industry. The Commission feels that the authorities in recruiting for these posts should emphasise the value of practical experience, e.g. by increasing the commencing salary of recruits of really extensive experience, or by stressing in advertisements for applications that preference will be given to experienced candidates.

Senior Sub-Inspectors of Mines.

- (i) The Commission has recommended the establishment of this additional grade within the Division. It is the Commission's opinion that sufficient attention has not been given to the welfare of underground workers and recommends that the creation of this grade will ensure that more attention will be given to this aspect. His qualifications and duties are set out below:—

Qualifications.

Matriculation.
Mine Overseers' Certificate.

Duties.

1. (a) General and special inspections of aspects relating to responsibilities of mine overseers, junior officials and daily paid employees.
- (b) Generally, the welfare of all employees, including the above classes.
2. Dust, water and gas sampling and ventilation measurements.
3. Taking of statements and carrying out investigations in connection with minor accidents.
4. Inspecting books and records required to be kept by the Mines and Works Regulations.
5. Such other duties as may be prescribed by the Government Mining engineer or assigned to him by the District Inspector.

The establishment of this new grade will provide an opportunity for promotion from the rank of Sub-Inspectors whose qualifications do not normally permit of their promotion to higher ranks in the Division. The salary recommended is equivalent to that of Mine Overseers in the industry which ranges from £1,300 to £2,400, averaging about £1,800.

Sub-Inspector of Mines.

- (j) This post was originally created for the purpose of attending to the welfare of underground workers and it was the intention that the incumbents should be drawn from the ranks of Shift Bosses and miners with the object of allaying the suspicions of the workers that their interests were being neglected. It is considered that the post should be retained and that the salary should range from £1,050 to £1,250 per annum, so as to be comparable with the salaries of junior Mine Overseers and Shift Bosses, which average about £1,500.

Mine Surveyors.

- (k) Mine Surveyors in the Division.—It is considered that these officers should rank, with regard to their salaries, *pari passu* with the equivalent ranks among the Inspectors of Mines, as they do at present.

Service to Count as if on New Grades.

- (l) In all cases where an officer by reason of his length of service in the Division would have qualified for the new recommended maximum salary for his grade, he should be placed on the said grade or such other grade as his length of service would have entitled him.

Annual Increments.

- (m) The number of annual increments in some of the recommended grades in Annexure M has been reduced, because the Commission is satisfied that some of the existing prescribed increments are pointless and because the larger annual increments may serve as an additional incentive to officers in the service, and as an additional attraction in the recruitment of new officers.

SUMMARY.

210. A summary of the recommendations contained in this chapter is to be found in Annexure M.

CHAPTER VI.—FINANCIAL IMPLICATIONS OF RECOMMENDATIONS.

211. The additional staff recommended in this Report comprise the following:—

- One additional Assistant Government Mining Engineer (see paragraph 90).
- One additional District Inspector in the Orange Free State goldfields area (see paragraph 167).
- One additional Assistant Inspector of Mines for the Additional inspectorate in the Orange Free State.
- One additional Sub-Inspector for the additional Inspectorate in the Orange Free State.
- Twelve senior Sub-Inspectors for the 12 district inspectorates (see paragraph 158).

212. Calculated on the maxima of the salaries recommended the total annual increase in the salaries vote for the Division as a result of all the recommendations of the Commission would be of the order of £100,000, reduced by the amount of the saving effected by combining the posts of Government Mining Engineer and Secretary for Mines, as recommended.

ANNEXURE A.
(Paragraph 4.)

ORAL EVIDENCE.

The Commission has had the benefit of oral evidence from the following:—

15-19 August, 1960.

Mr. T. L. Gibbs, Acting Government Mining Engineer.
Mr. W. G. Pyne Mercier, former Government Mining Engineer.
Mr. W. T. Dalling, Inspector of Mines, Witbank.
Mr. L. C. Geldenhuys, Inspector of Machinery, Welkom.
Mr. G. D. H. Bowden, Inspector of Mines, Natal.
Transvaal and Orange Free State Chamber of Mines (Messrs. Anderson, Hill and Robinson).
Mr. D. L. Taylor, Inspector of Mines, Klerksdorp.
Mr. F. A. Weitz, Sub-Inspector of Mines, Springs.

12-16 September, 1960.

Mr. W. T. Dalling (continued).
Mr. J. J. A. Nel, Secretary for Mines.
Mr. S. J. van den Bergh, former Sub-Inspector of Mines, Brakpan.
Mr. W. H. Cable, Mine Surveyor, G.M.E.'s Division.
Collieries Committee of the Chamber of Mines (Messrs. Reekie, Fraser and Robinson).
Mr. H. C. Schmuhl, Chief Inspector of Machinery.
Mr. F. Q. V. Leiding, Deputy Inspector of Mines, Johannesburg.
Mr. D. J. Kock, Sub-Inspector of Mines, Germiston.
Mr. J. W. L. de Jager, Sub-Inspector of Mines, Johannesburg.
Mr. I. D. W. Bell, Inspector of Mines, Heidelberg.
Mr. P. F. Henderson, Deputy Inspector of Mines, Heidelberg.
Mr. C. A. Bezuidenhout, Inspector of Mines, Springs.
Mr. C. T. Hardy, Inspector of Mines, Johannesburg.
Mr. P. J. A. de Bruine, Attorney, Welkom.
Mr. J. S. Enslin, Deputy Inspector of Mines, Welkom.
Mr. C. S. Weitz, mineworker.
Mr. D. G. Malan, Attorney, Johannesburg.
Mr. T. L. Gibbs (continued).

17-21 October, 1960.

Mr. O. T. Wright, Deputy Inspector of Mines, Welkom.
Mr. G. P. Badenhorst, Assistant Inspector of Mines, Welkom.
Mr. G. P. Dreyer, former Sub-Inspector of Mines, Welkom.
Mr. I. L. Myburgh, former inspector of Mines, Welkom.
Mr. H. Mathews, Assistant Government Mining Engineer.
Mr. T. L. Gibbs (continued).
Mr. A. P. Smith, Attorney, Witbank.
Dr. F. C. Truter, Director, Division of Geological Survey.

14-18 November, 1960.

Mr. T. L. Gibbs (continued).

7 December, 1960.

Mr. Keith H. Saunders, of the Miners' International Federation.

ANNEXURE B.
(Paragraph 18.)RESOLUTION TAKEN BY EXECUTIVE COMMITTEE OF CERTAIN MINING TRADE UNION ON MARCH 25, 1960.
Excerpt from Official Minutes (translated).

Mr. X—Inspector of Mines—W.

The General Secretary informs the meeting that it has come to his notice that many complaints had been received by certain officials of the Department of Mines and that a possibility exists that steps will be taken against Mr. X under

the Public Service Act and regulations. The General Secretary recommends that if action is taken against Mr. X all colliery workers be withdrawn from the various coal mines.

The General Secretary informed the meeting that in his opinion everything possible was being done by certain officials in the Department of Mines to irritate Mr. X. According to the General Secretary it is evident that some officials in the Department of Mines are afraid because they are aware that Mr. X has the necessary knowledge.

On a motion by Mr. E, seconded by Mr. M, it is unanimously resolved that the recommendation by the General Secretary be accepted and that if action is taken against Mr. X because he has the courage of his convictions and does not hesitate to air his opinions, the Union adopts only one slogan, namely, "no X—no coal".

ANNEXURE C. (Paragraph 46.)

DUTIES AND FUNCTIONS OF THE GOVERNMENT MINING ENGINEER.

GENERAL.

1. The Government Mining Engineer is the technical adviser to the State on matters connected with mining. He is appointed by the Governor-General under Section 6 of the Precious and Base Metals Act, 1908 (Act No. 35 of 1908 of the Transvaal) which reads as follows:—

"The Governor-General shall, from time to time appoint an officer to be styled the Government Mining Engineer, who shall carry out the powers and duties conferred and imposed upon him by this Act, or by regulation, or by any law, and such other powers and duties as may be lawfully assigned to him by the Minister. The Governor-General may further, from time to time, appoint properly qualified inspectors and other officers to assist the Government Mining Engineer in the carrying out of such powers and duties."

2. In terms of Section 2 of the Mines and Works Act, 1956, "the Government Mining Engineer and, subject to his directions, inspectors of mines, inspectors of machinery, inspectors of explosives and other officers appointed by the Governor-General under section six of the Precious and Base Metals Act, 1908 (Act No. 35 of 1908 of the Transvaal), shall exercise supervision over all mines, works and machinery."

This supervision which is concerned mainly with safety and health is the Government Mining Engineer's most important function.

3. The Government Mining Engineer is the sole assessor of mineral value in so far as the State and its various Administrations are concerned and has thus important statutory and other duties connected with the economic and allied aspects of mining and minerals. He also functions as Chairman of the Mining Leases Board.

4. Although many of the Government Mining Engineer's duties are laid down by statute, many others arise merely by virtue of his position which constitutes the technical link on matters connected with mining and minerals between the State on the one hand and the mining industry, public bodies and the general public, both here and overseas, on the other.

5. In the following paragraphs an attempt is made to outline the personal duties of the Government Mining Engineer and to give an indication of the quality and frequency of decisions and actions.

PERFORMANCE OF DUTIES.

6. *Supervision of mines and works in terms of the Mines and Works Act, 1956.*—The Government Mining Engineer gives instructions, rulings, advice and guidance to the Deputy Government Mining Engineer, the Assistant Government Mining Engineers and the Chief Inspector of Machinery in regard to safety and health aspects of mines and works and the work of Inspectors. An hour and a half each Wednesday and Saturday is devoted to regular meetings with these senior officers for this purpose. In addition, matters of an urgent nature on which advice or a decision is required or which are required to be brought to the Government Mining Engineer's notice occur daily and are discussed as they arise.

The Government Mining Engineer is kept informed in regard to the work in the inspectorates by the Assistant Government Mining Engineers and the Chief Inspector of Machinery and also by personal perusal of Inspectors' monthly, annual and special reports. A meeting of Inspectors, over which the Government Mining Engineer presides, is held annually and an attempt is made to visit each district office not less than once per year.

Discussions with consulting engineers and representatives of mining groups, companies, employers' and employees' organisations, etc., on complaints or matters connected with the administration of the Act and the Regulations are necessary two or three times a week, in addition to matters dealt with by correspondence.

Permissions to tunnel through ground not held by the mine owner, as well as approvals of conditions and restrictions proposed by Inspectors in connection with the undermining of surface objects or the erection of surface objects on or near undermined ground are among matters usually dealt with by the Government Mining Engineer personally because of their importance. This involves 3 to 4 hours per week.

The Government Mining Engineer's personal approval is required for the appointment of members of the various Commissions of Examiners and all certificates of competency, except blasting and lampmen's certificates, are signed by him. He also attends to appeals by candidates and to matters connected with suspensions of certificates.

7. *Gold Law, Precious Stones Act and other Mineral Laws.*—In order to fulfil the duties in this connection, the Government Mining Engineer has an economic branch falling under an Assistant Government Mining Engineer. This branch consists essentially of two Government Mine Surveyors' Sections, a Mining Leases' Section and a Mineral Development Section.

Frequent discussions between the Government Mining Engineer and the economic branch take place in regard to valuations, lease applications, supervision of lease mines, proclamation and deproclamation, etc. As Chairman of the Mining Leases Board, the Government Mining Engineer studies closely the proposals of applicants for leases and the reports of his staff in order to guide the Board in its deliberations. As an example of how carefully this work must be done can be quoted the case of a small lease recently negotiated where only a slight change in the lease formula made a difference to the State of £80,000 per annum. In the case of large leases this figure could be greatly exceeded.

The Government Mining Engineer's position in relation to the administration of the Union's mineral laws necessitates his granting interviews almost daily to top executives of mining companies, to prospective applicants for mining rights and to local and overseas parties interested directly or indirectly in the Union's mineral deposits. He is often called upon to give advice on financial aspects connected with minerals as well as on technical aspects of mining. Furthermore, information of a highly confidential nature is passed on to him by officials in the mining industry and by others.

Discussions are also necessary with representatives of other Government Departments (e.g. Bantu Administration, Water Affairs, Finance, etc.), Provincial Administrations and municipalities as these depend on the Government Mining Engineer for advice and guidance in regard to prospecting and mining contracts, mineral valuations and matters where mining, past, present or future, are concerned.

8. *Prescribed Materials.*—The Government Mining Engineer is chairman of the Uranium Production Committee, the Health Committee and the Security Committee of the Atomic Energy Board and a member of the Geological Committee. He is also a member of the Board of Directors of Calcined Products, Limited.

The work in connection with these committees was enormous during the years when uranium production in the Union was initiated. The work was all of an involved and highly confidential nature. Recently, the volume of work has fallen off, somewhat, but important duties, recommendations, decisions, etc., are still required.

In connection with health hazards associated with uranium production, extensive investigations are at present being carried out in collaboration with the Transvaal and Orange Free State Chamber of Mines and the Government Mining Engineer is a member of the steering committee for this work.

9. *Safety and Health in Mines.*—Apart from hazards associated with uranium and the administration of the Mines and Works Act, the Government Mining Engineer performs many and varied duties connected with the safety and health of workmen.

He is a member of the Prevention of Accidents Committee of the Transvaal and Orange Free State Chamber of Mines and of a number of sub-committees of that Committee. The sub-committees meet monthly and the main-committee, bi-monthly.

He will be chairman of the advisory committee of the important new research undertaking at present being formed by the Government and the coal mining industry to control and direct research in coal mines, particularly in connection with strata control.

In connection with pneumoconiosis, the Government Mining Engineer is a member of the Research Advisory Committee of the Pneumoconiosis Research Unit and of the Engineering Sub-committee, which subcommittee controls all research directed towards dust prevention and allied engineering aspects of the problem, and meets monthly. He also has important duties under the Pneumoconiosis Act, 1956, connected with the controlling of mines and the determination of places falling within the definition of "dusty atmosphere". Under amendments to be tabled at the next Session of Parliament, he will be chairman of, what will be termed, the "Pneumoconiosis Risk Committee". The functions of this committee will be to determine "dusty atmospheres" at mines, as well as the pneumoconiosis risk at mines, classes of mines, occupations, etc.

10. *Training of Miners.*—The Government Mining Engineer is appointed chairman of the Board of the Government Miners' Training Schools, as well as chairman of the Executive Committee and the Staff Sub-committee of that body. The activities of the Government Miners' Training Schools are being extended to cover coal mines as well as gold mines.

Regular monthly meetings of the Executive and Staff committees are held, but in addition much time is taken up in discussions with the Superintendent and others (e.g. Consuls), on training, feeding and accommodation, resolving disputes, etc.

11. *Development of Union's Mineral Industry.*—A section of the Government Mining Engineer's division deals with matters concerning the development of the base mineral industry and carries out Government prospecting when necessary. There is also a technical representative stationed in London.

The Government Mining Engineer must personally keep in close touch with developments throughout the country, and also outside the Union in so far as these affect markets for the Union's base minerals. This requires scrutiny of reports and publications, principally those by the Overseas Representative, the Officer-in-charge of the Mineral Development Section, Mining Commissioners, the Geological Survey and others.

Information regarding the Union's mineral deposits and their potential exploitation is passed on to local and overseas enquirers at personal interviews as well as by correspondence.

The Government Mining Engineer is chairman of the Management Committee of the Government Metallurgical Laboratory whose functions, apart from the investigations carried out on behalf of the Atomic Energy Board are directed towards extraction and beneficiation problems associated with precious and base minerals. The Committee holds regular monthly meetings.

The Government Mining Engineer is also chairman of the Coal Advisory Board. The function of the Board is to determine the extent of the Union's reserves of coking coal and advise the Minister on measures which may be necessary to ensure that these reserves are not depleted to an extent which will jeopardise the future of the steel industry.

12. *State Alluvial Diggings.*—The Government Mining Engineer is a member of the Control Board for the State Alluvial Diggings and his control functions are similar to those of a consulting engineer for a private mining concern. Apart from dealing with problems and policy matters by correspondence, he visits the Diggings personally every second month on a 3-day visit. The State is dependent on his advice in regard to such matters as mining policy, production, grade, ore reserves, prospecting, etc.

On return from his visits, he delivers the two months production of diamonds to the Government Diamond Valuator and Adviser in Kimberley.

He or his Deputy is an alternate member to the Government Diamond Valuator and Adviser on the Board of Management of the Diamond Producers' Association and this enables him to keep in close touch with world diamond production and sales, in addition to safeguarding the State's interests.

13. *Technical Societies, Technical and Financial Information, etc.*—The Government Mining Engineer is an honorary vice-president of the S.A. Institute of Mining and Metallurgy by virtue of his office but is also an ordinary member and is invariably elected to the Council. He is called upon from time to time to present papers to the Society and to make contributions towards papers presented by others.

In order to keep abreast with modern developments and trends much time, very often outside normal hours, has to be devoted to attending technical society meetings and to reading technical and financial journals and publications. He must also pay periodical visits to mines and works in order to view new and modern methods, techniques and appliances.

Time must also be found to represent the Union at overseas conferences and to visit other countries to keep abreast with developments there.

14. *Miscellaneous Committees.*—The Government Mining Engineer is the Department of Mines' representative on the Board of Control of the Deferred Pay Interest Fund which is administered by the Department of Bantu Affairs. He is also appointed from time to time to various *ad hoc* committees.

15. *Staff Control*.—Much of the Government Mining Engineer's time is in the aggregate devoted to staff matters to ensure efficient functioning of the Division as well as contentment and enthusiasm amongst its officers. This has been no easy task during recent years on account of the acute staff shortage.

16. *Public Speaking and Attendance at Functions*.—No attempt will be made to list the official, social and semi-social functions to which the Government Mining Engineer is invited in his official capacity—but there are many! He is often called upon to speak and to make presentations.

ANNEXURE D. (Paragraph 49.)

RELATIONSHIP OF THE MINING INDUSTRY WITH THE GOVERNMENT MINING ENGINEER AND HIS DEPARTMENT.

Representative Statement by Industry.

The following is an extract from a memorandum submitted by the mining industry on the subject of the Government Mining Engineer's Division:—

We submit that the post of Government Mining Engineer does not receive the recognition in the public service that is due to it. High technical and professional Qualifications are an essential background to the requirements of the position of Government Mining Engineer but, in addition to the need for a considerable background of technical knowledge and experience, the post is largely administrative and so requires also a high standard of administrative ability.

The Government Mining Engineer's responsibilities and the range of his administrative activities are considerable, embracing as they do direction in such widely diverse fields as organization of staff, safety in mines, health, law and finance. His decisions may, in some of these fields, have a considerable bearing on the economic well-being of the mining industry and hence on the country as a whole. More specifically, the functions and duties of the Government Mining Engineer are concerned with the responsibilities properly assumed by Government in relation to all mining operations carried out in the Union, including the mining of gold, uranium, coal, diamonds, platinum and base metals, and also various alluvial workings, quarries and pits. More particularly, mention should be made of the following:—

- (a) One of the most important aspects of the Government Mining Engineer's office, and one which he has to delegate through his subordinates, is close co-operation with the mining industry in matters affecting the safety of its employees through the observance of the regulations. All concerned in the mining industry have certain statutory obligations in addition to those applicable to the industry itself. The Mines Department has to ensure that the provisions of the Mines and Works Act and its regulations are properly observed by all concerned, particularly in regard to safety in mines. In addition, the department has a function in co-operating with and assisting the industry. All matters relating to the safety and health of employees in the industry are a direct responsibility of both the Mines Department and mine managements. The operations of the industry cover a vast field with many ramifications and it would be impossible for inspectors of mines to ensure full compliance with all the regulations concerned without their securing the co-operation of the many officials of the industry who are, in effect, themselves "safety officers" in the mines. This co-operation, while in no way removing from an

inspector of mines his independent judgment and authority, requires a harmony of relations between inspectors and all concerned; managers, officials and both European and Native workmen. From the lowest level of work in the mines to the senior levels of administration of the industry there thus must be the closest co-operation between the Mines Department and those responsible for the operations of the industry. Because safety so much depends upon the attitude of those who direct the operations, the Chamber of Mines as long ago as 1913 established a Prevention of Accidents Committee to promote to the utmost the inculcation of safety into the minds of all who work in the industry. On this committee are represented, in addition to senior officials in the mining "Groups" and the Chamber, the Government Mining Engineer, the Chief Inspector of Machinery, the Chief Explosives Inspector, the Chief Commissioner for Bantu Administration on the Witwatersrand and other Government officials, representatives of the associations of mine managers and of other mine officials and representatives of the trade unions. The result of the operations of this committee, which epitomises the harmony that exists between the bodies concerned in their fight to prevent accidents, has been a remarkable reduction in the fatal accident rates over the years.

- (b) In addition to the inspectors of mines and machinery who exercise supervision over mines and works, the following sections are established to assist the Government Mining Engineer to carry out particular duties concerned with mining:—
 - (i) *Mine Surveyors Sections*.—These are responsible, *inter alia*, for mineral valuations, estimating the lives of mines for income tax purposes, the establishment of townships on mining ground, the maintenance of correct records and plans of underground workings, and matters connected with the economics of the mining industry.
 - (ii) *Mining Leases Board*.—This Board, under the Chairmanship of the Government Mining Engineer, determines the terms, generally including the lease formula, under which mines may exploit a mineral deposit, and the size and shape of the lease area. The recommendations of the Government Mining Engineer may influence the future economic health of the industry and of the country.
 - (iii) *Inspector of Mining Leases*.—This office is responsible for the surveillance of mines in which the Government participates in the profits in terms of mining leases.
 - (iv) *Mineral Development Section*.—This section deals with matters concerning the development of the base mineral industry and the marketing of minerals.
 - (v) *Departmental Research Section*.—This department undertakes research, *inter alia*, into matters concerning pneumoconiosis.
 - (vi) *Mining Intelligence*.—This section undertakes the assembly of mining statistics.
 - (vii) *Commissions of Examiners*.—These commissions are appointed by the Government Mining Engineer to conduct examinations for Government certificates of competency required to be held by persons performing certain classes of work in mines and works.

- (viii) *Mechanical Laboratory*.—This laboratory undertakes the testing of wire ropes and other materials in terms of the Mines and Works Regulations.
- (ix) *Government Metallurgical Laboratory*.—This laboratory is run jointly by the Government and the Witwatersrand University and undertakes metallurgical research and the testing of minerals and metallurgical products.
- (c) The supervision of the State Alluvial Diggings.
- (d) The supervision of the Government Miners' Training Schools, in collaboration with the Chamber of Mines. These Schools undertake the training of European miners for work in mines in the Union.

From the above it will be appreciated that a fundamental requisite of the Government Mining Engineer is adequate technical and administrative knowledge and experience in all the phases of mining operations. Under these conditions we stress that the office of Government Mining Engineer is one of the most important in the public service and should be filled by a person who combines the highest technical and administrative ability.

We believe that the incumbent of this important post should have direct access at all times to the Minister in charge of the Department. We believe that in recent years successive Ministers of Mines have not used to the best advantage the services and advice of the Government Mining Engineer. In other Government departments the senior officials appear to be closer to their respective Ministers than the Government Mining Engineer. They are called to Cape Town during the Parliamentary sessions and in most cases are accommodated in Pretoria in close proximity to their Ministers. We consider that to maintain the closest direct contact between the Minister of Mines and the Government Mining Engineer, consideration should be given to the establishment of an office in Pretoria and in Cape Town, thus permitting the Government Mining Engineer to have close access at all times to the Minister while he is in Pretoria or Cape Town. The details concerning the basis on which the Government Mining Engineer controls his department under these circumstances should be one for him to decide and we do not wish to comment. In addition, as in the case of the senior officials of other Government departments, the Government Mining Engineer should be in attendance in Cape Town during the Parliamentary session to consult with and to advise his Minister when matters affecting the mining industry are under consideration by Parliament.

While fully aware of the difficulties facing the Government in regard to the adequate remuneration of its senior personnel generally, we nevertheless submit that, in view of the importance that should be attached to the office of Government Mining Engineer, the salary scale of its incumbent should be such as to ensure that the post is

recognized in the Civil Service as being amongst the highest, both from a technical and administrative point of view. In other words, the salary should be related to the scale of remuneration of mining engineers carrying comparable responsibilities in South Africa.

To sum up, the office of Government Mining Engineer is intimately bound up with problems of the greatest national importance such as:—

- (1) The whole future mineral development of the country.
- (2) The equitable sharing of mining profits between the State, by way of taxation and lease payments, and the shareholder.
- (3) The safety and health of about half a million workers.
- (4) The maintenance in operation of existing mines.

The whole national economy and well-being is largely dependent on the correct handling of these and similar problems. Decisions made in these matters will be felt through the whole country, as they directly or indirectly affect the living conditions of millions. Further, connected with these decisions are such important problems as the attraction of capital from this country and abroad and the recruitment of labour, both skilled and unskilled. So as to discharge their duties efficiently, it is vital that the Government Mining Engineer and his staff should not suffer from any political interference whether this be of a national or sectional character. We are very concerned about reports and rumours of recent interference in this Department and points out that, apart from destroying co-operation within the Department, this must lead, if it has not already done so, to a lowering of the calibre of entrants to the Department, as efficient officials generally prefer to work unencumbered by extraneous factors. It is also our opinion that the Government Mining Engineer should have complete control of his Department and be free to administer it as he sees fit. Further, we believe that up to the present the Government Mining Engineer and his Department have enjoyed a high reputation with institutions and individuals both in this country and abroad, who invest in the mining industry. It would be a severe blow to the country and the mining industry if this confidence were lost.

We do not wish to comment on the posts in the Mines Department under the Government Mining Engineer. We believe that the right choice of an incumbent for the post of Government Mining Engineer on the lines indicated above will lead to the improvements necessary in the posts under his authority and in the esprit de corps of his Department.

In the light of the above views and recent events, we are of the opinion that co-operation at the top level within the Department of Mines leaves much to be desired and that, to restore the position, it is necessary to have in office a Government Mining Engineer in whom the present and future Ministers of Mines, the mining industry and the employees of the industry, may have full and complete confidence on the basis that "confidence breeds co-operation".

ANNEXURE E.

(Paragraph 64.)

DETAILS OF TRANSFER OF GOVERNMENT
MINING ENGINEER'S DIVISION TO PRETORIA.1. *Officers to be Transferred.*

	<i>Number.</i>
Senior Technical Officers:—	
Government Mining Engineer	1
Deputy Government Mining Engineer	1
Assistant Government Mining Engineers	3
Chief Inspector of Machinery	1
Mine Survey Section:—	
Mine Surveyors	2
Deputy Mine Surveyors.....	3
Assistant Mine Surveyors	9
Principal Draughtsman	1
Senior Draughtsman	1
Draughtsman	1
Inspection of Mining Leases Section:—	
Inspector of Mining Leases	1
Deputy Inspector of Mining Leases	1
Assistant Inspectors of Mining Leases	3
Computer	1
Mineral Development Section:—	
Inspector of Mines	1
Deputy Inspectors of Mines	2
Administrative and Clerical Personnel (including Statistical Section):—	
Principal Administrative Officer	1
Senior Administrative Officer	1
Administrative Officers	3
Clerical Assistants, Grade I	5
Clerical Assistants, Grade II.....	8
Woman Assistants	5
Typists	7
Library Section:—	
Assistant Librarian	1
Library Assistant	1
TOTAL	<u>64</u>

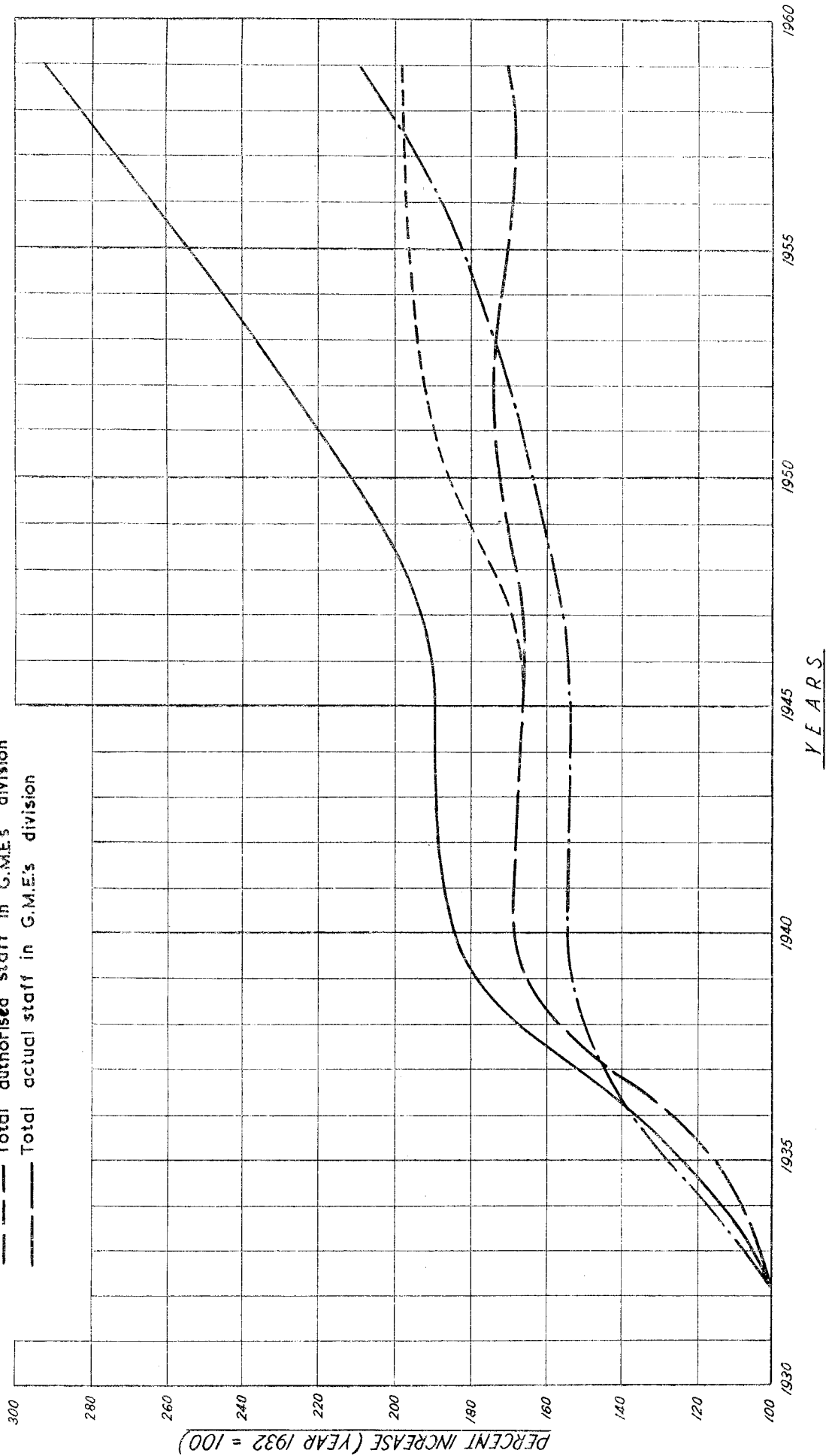
2. *Fixed Property on the Witwatersrand Owned
by Officers of the Division.*

Date of Purchase or Erection.	Purchase Price. £	Value of Improvements. £
1953	6,750	300
1955.....	5,750	-
1954.....	6,800	2,700
1945.....	2,500	1,200
1941	1,950	250
1954	4,000	1,000
1951.....	3,450	400
1952.....	4,200	1,000
1947	3,064	1,500
1943.....	2,000	7,000
1954.....	4,100	1,200
1947.....	3,700	250
1960.....	6,900	300
1953.....	3,750	1,250
1955.....	4,130	370
1953.....	3,250	200
1956.....	4,500	200
1958.....	5,600	500
1960.....	5,500	-
1946.....	1,850	1,950
1954.....	4,500	1,500
1958.....	5,200	-
1958.....	4,720	100
1956.....	5,350	250
1958.....	1,750	-
1935.....	950	2,000
1938.....	1,710	500
1936.....	1,250	600
1945.....	4,250	1,485

3. *Estimated Cost of Transfer of the Division to Pretoria .. £3,000.*

GROWTH OF GOVERNMENT MINING ENGINEERS DIVISION
IN RELATION TO GROWTH OF MINING INDUSTRY

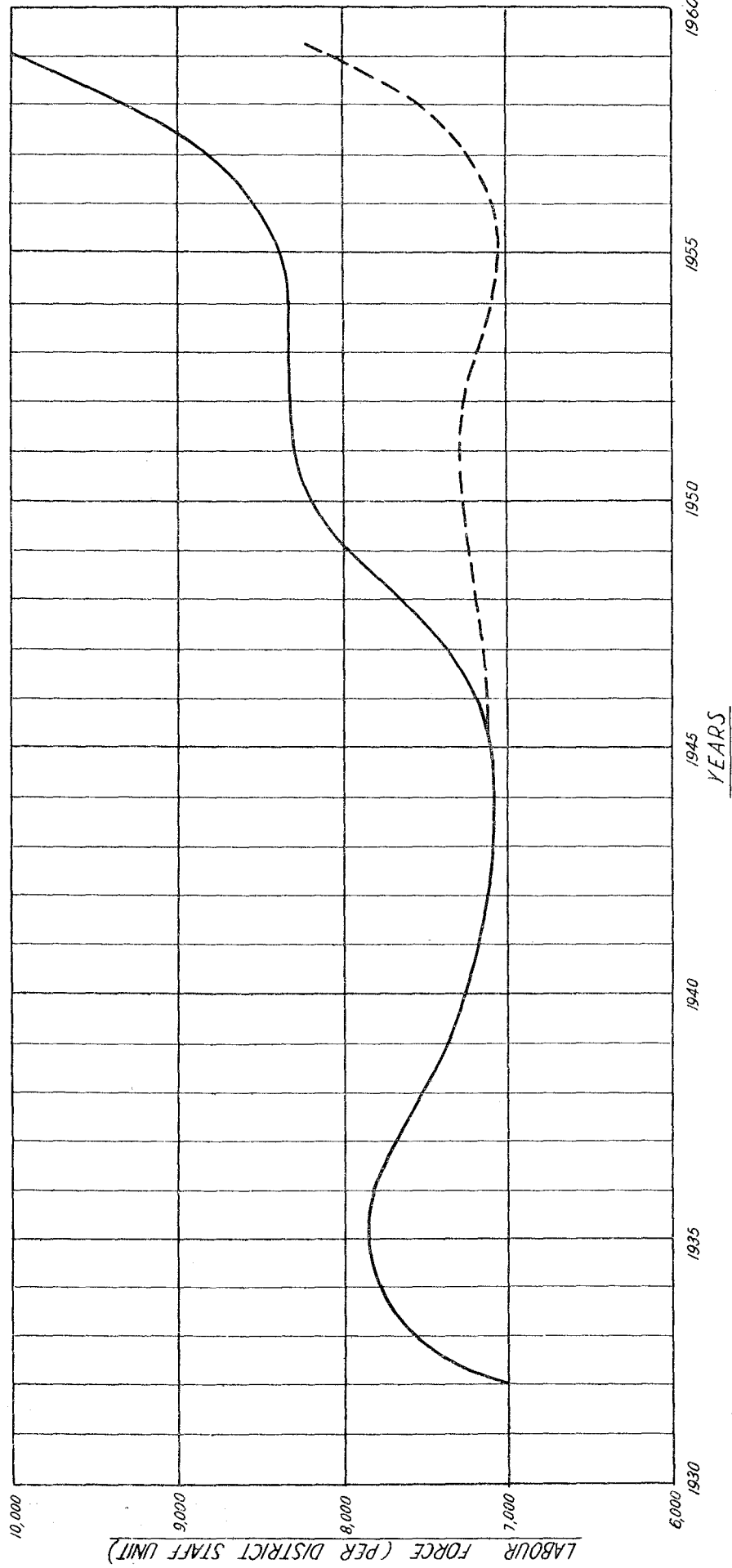
- - - Mining industry labour force
- Total tons in mining industry
- - - Total authorised staff in G.M.E.'s division
- Total actual staff in G.M.E.'s division



PERSONS EMPLOYED BY THE MINING INDUSTRY PER DISTRICT
TECHNICAL OFFICER IN THE GOVERNMENT MINING ENGINEERS

DIVISION.

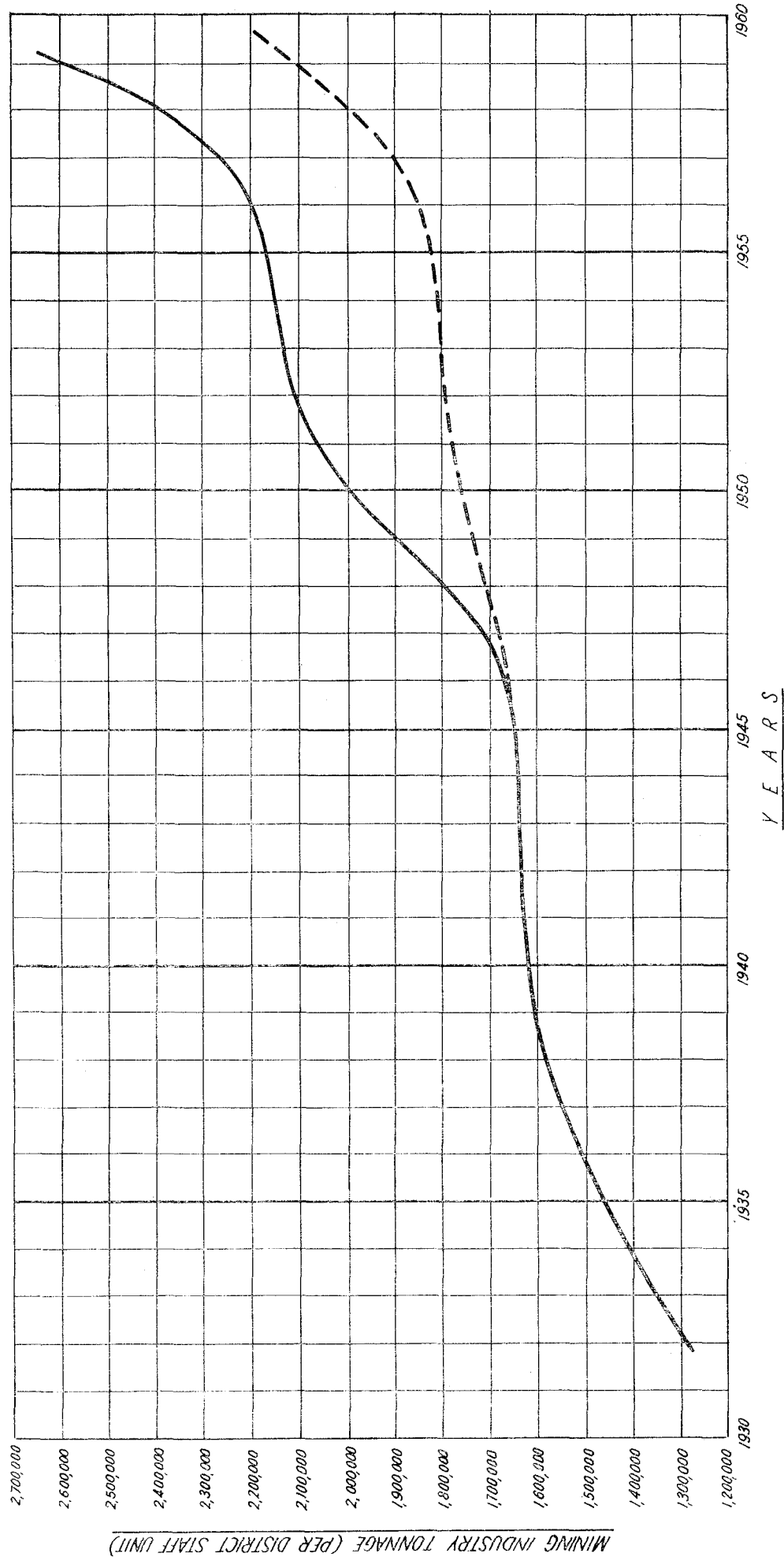
--- Authorised staff
— Actual staff



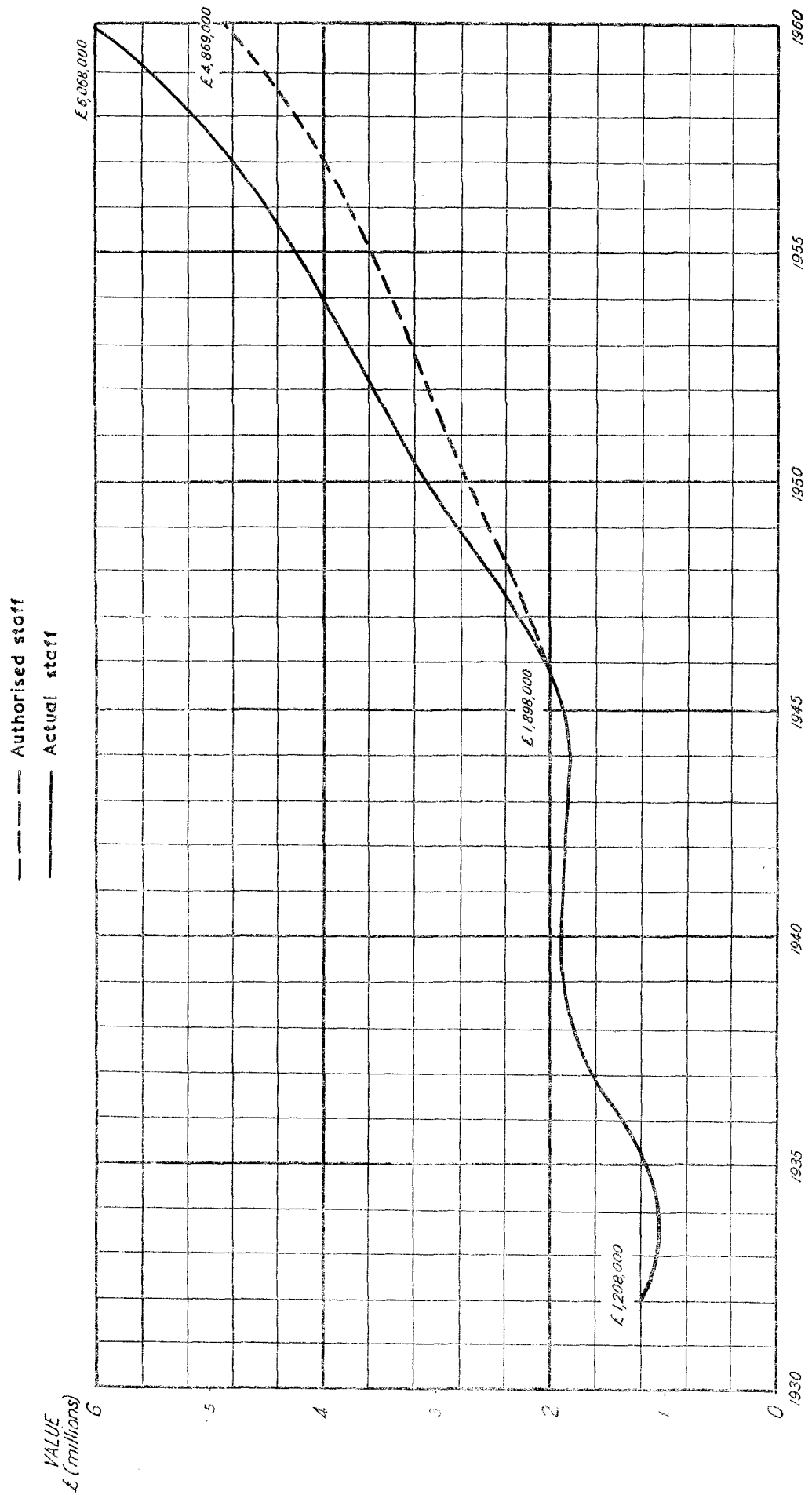
TONNAGE PRODUCED BY THE MINING INDUSTRY PER DISTRICT
TECHNICAL OFFICER IN THE GOVERNMENT MINING ENGINEERS

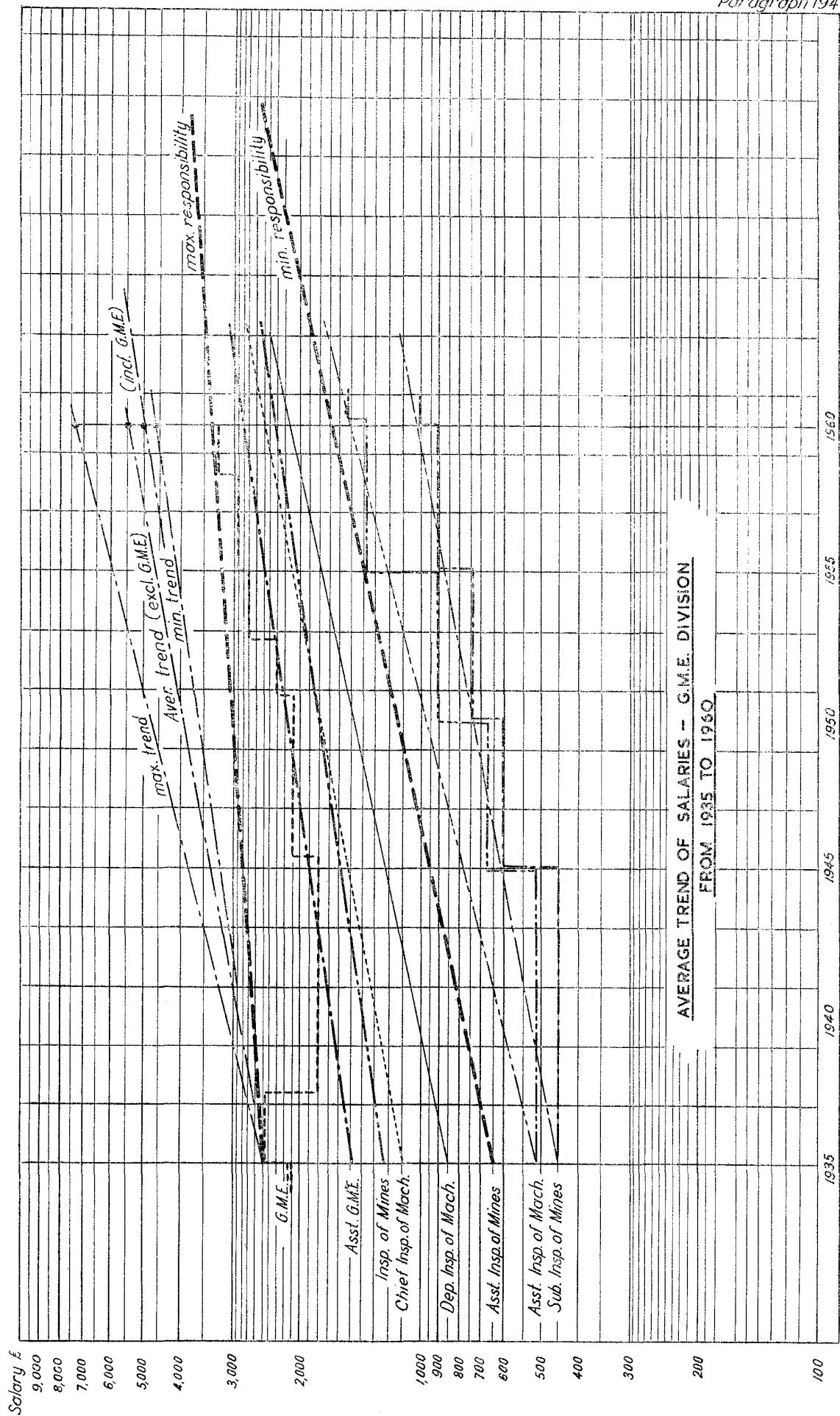
DIVISION

--- Authorised staff
— Actual staff



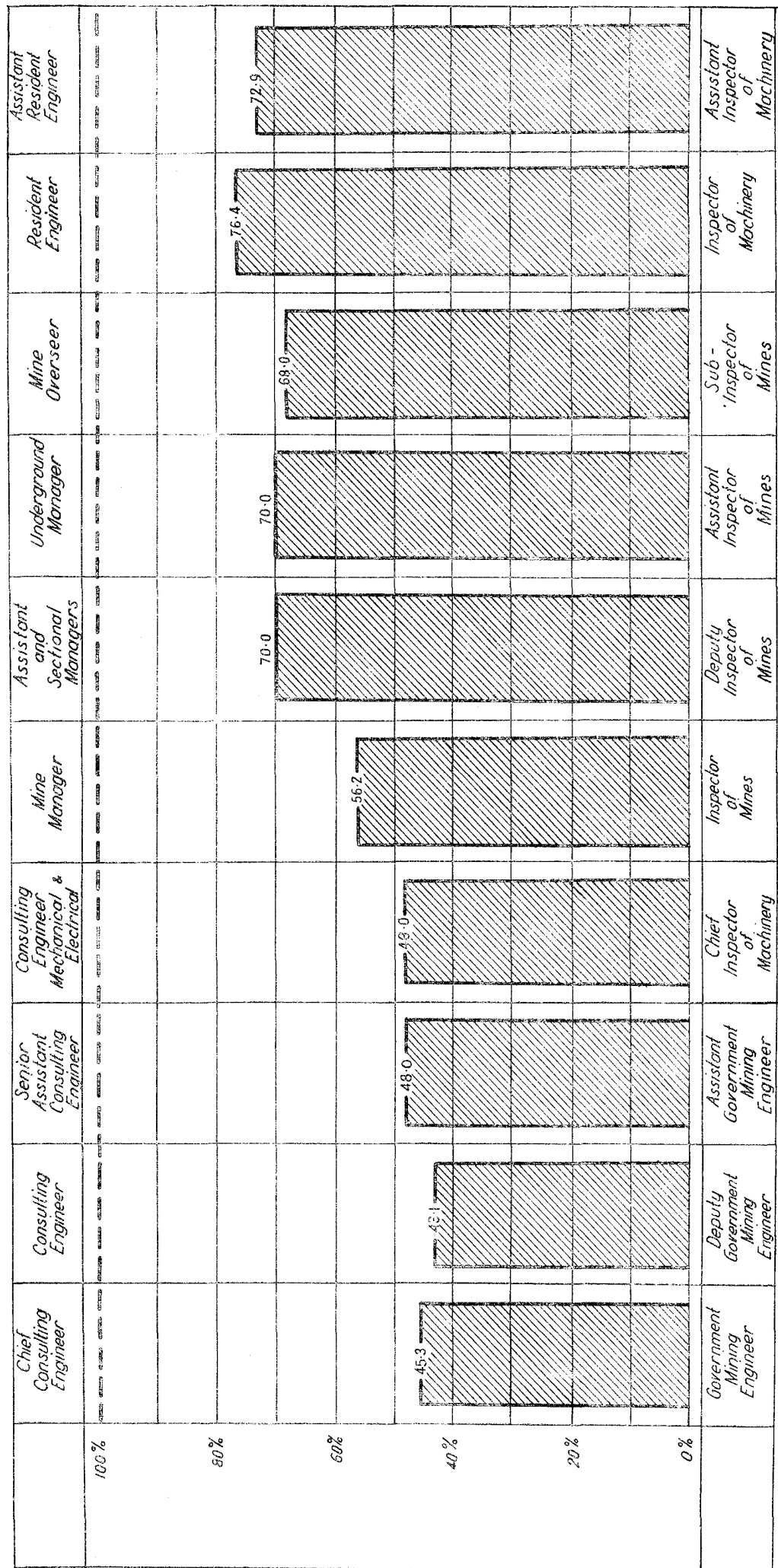
VALUE OF MINERALS PRODUCED BY MINING INDUSTRY
PER DISTRICT TECHNICAL OFFICER
IN THE GOVERNMENT MINING ENGINEER DIVISION





**SALARY SCALES OFFERED IN THE GOVERNMENT MINING ENGINEER'S
DIVISION COMPARED WITH THE EQUIVALENT POSITIONS HELD IN
THE MINING INDUSTRY**

BASIS OF COMPARISON = MINING INDUSTRY = 100%



BASIS OF COMPARISON: DEVELOPMENT GOLD MINER'S WAGE IN 1960 = 100%

POSITION IN MINING INDUSTRY					POSITION IN G.M.E. DIVISION					
	Chief Consulting Engineer	Consulting Engineer	Senior Assistant Consulting Engineer	Consulting Engineer Mechanical & Electrical	Mine Manager	Assistant and Sectional Managers	Underground Manager	Mine Overseer	Resident Engineer	Assistant Resident Engineer
400%										
300%	360 %	312 %								
200%	163 %	135 %	240 %	240 %	192 %	144 %	115 %	72 %	132 %	101 %
100%			115 %	115 %	108 %	101 %	81 %	49 %	88 %	74 %
0%										
	Government Mining Engineer	Deputy Government Mining Engineer	Assistant Government Mining Engineer	Chief Inspector of Machinery	Inspector of Mines	Deputy Inspector of Mines	Assistant Inspector of Mines	Sub - Inspector of Mines	Inspector of Machinery	Assistant Inspector of Machinery

ANNEXURE M.

(Paragraph 208.)

ANNEXURE M.

COMPARISON BETWEEN SALARY SCALES OFFERED IN THE GOVERNMENT MINING ENGINEER'S DIVISION AND THE MINING INDUSTRY FOR EQUIVALENT RESPONSIBILITY.

MINING INDUSTRY.		GOVERNMENT MINING ENGINEER'S DIVISION.		
Designation.	Assessed Average Salaries. (1) £	Designation.	Present Salary. £	Recommended Salary. £
1. Chief Consulting Engineer	7,500	Government Mining Engineer.....	3,400 Fixed.	5,500 Fixed.
2. Consulting Engineer.....	6,500	Deputy Government Mining Engineer.....	2,800 Fixed.	4,500 Fixed.
3. Senior Assistant Consulting Engineer.....	5,000	Assistant Government Mining Engineer.....	2,400 Fixed.(2)	3,500 Fixed.
4. Consulting Engineer (Mechanical and/ or Electrical).....	5,000	Chief Inspector of Machinery.....	2,400 Fixed.	3,500 Fixed.
5. Mine Managers.....	4,000	Inspector of Mines.....	2,250 Fixed.	3,000 Fixed.
6. Assistant and Sectional Managers.....	3,000	Deputy Inspector of Mines.....	1,980 x 60-2,100	2,250 x 250-2,750
7. Underground Managers.....	2,400	Assistant Inspector of Mines.....	1,380 x 60-1,860	1,750 x 125-2,250
8. Senior Mine Overseers	1,800	Senior Sub inspector of Mines.....	-	1,250 x 100-1,750
9. Junior Mine Overseers and Shiftbosses....	1,500	Sub-Inspector of Mines	850-900 x 60-1,200	1,050 x 50-1,250
10. Resident Engineer	2,750	Inspector of Machinery.....	1,980 x 60-1,200	2,250 x 250-2,750
11. Sectional Engineers.....	2,000	} Assistant Inspector of Machinery	1,380 x 60-1,860	1,750 x 125-2,250
12. Assistant Resident Engineers.....	2,100			

(1) Excluding perquisites.

(2) Two incumbents receive £2,600 (personal).