

45/15
C. S.
L.M.T.

INDUSTRIES
(Miscellaneous)
SCIENTIFIC
(Miscellaneous)
STATISTICAL (Reports)

MIN/GEO/1#25

19 45.

No. 45/45.

Secretary of State.

SUBJECT.

~~SECRET~~

19 45.

14th March.

GEOLOGICAL SURVEY.

~~REPORT OF THE COMMITTEE ON COLONIAL~~
~~GEOLOGY.~~

Previous Paper.

See 60/38.

See C/12/44: Geodetic & Topographical Survey in the
MINUTES. *Col. Empire*

Circular despatch from S. of S. of 14. 3. 45.
(2)

0946
"Topographical
& cadastral survey
of the Falkland I."

See
P. attach file on ~~geo~~ topographical survey
of X-refers reference in this despatch.
KB
30/5/45.

(3)
See
M.S. 60/38 attached, p. 1.

4. Confidential Despatch to S. of S. of 2/6/45.
5. - - - - - from - - - 18/5/46

(6)
Reference in § 10 of (46) *see*
see
6.6
(7)
see (31)
M.P. C/12/45.

(8)
see letter like of his M.P. PA
see
S. S. 46

Subsequent Paper.

9. *see* of S. Circ. Despatch of 17. 10. 46

JE's

note on (9). Pl. see D: Baker's Report (1920-22) below.

ABL
3.12.46

(11)

Seen — entirely discouraging; but we cannot rule out possibilities in the Dependencies, wh. have not been surveyed.

2. Many of the considerations expressed in 9 apply with equal force to other forms of economic exploitation eg. kelp?

MC 3/xii

Circ unnum. tel. from S. of S. of 5.12.46 12.

JE's

Algeria Induction
let.

1. respectfully agree that if ... seen in ... with A.L.L. much of (9) will be relevant in principle.

2. As to JE's enquiry as to (9)

(9c) p. 1 pl. see Land Ordinance § 21 (g) p. 355 of 1915 Volume of Laws.

ABL
10.12.46

Action now on para 2 of 12 (? Gazette)

MC 10/xii

Spoke 1/12
12
ABL
5/1/47

Clerk Leg. Co. 15

Re. arrange for (12) - (9)
to be laid on the Table. Speak first
A. B. L.
12/12

16.

Laid on the Table at a meeting of the Legislative Council held on the 23rd of December, 1946.

A. Aldridge
Clerk of the Legislative Council.

M. B. L.

- 17. circ. despatch from Dept. of 10. 1. 47 *la. 105*
- 18. " " " " " " " " 22. " 47 *107*

19

G.N.
 (18) exp. § 6: with all his file.
 In such view as you may wish to
 express, etc.?
A. B. L.
 7.2
 20.

Handwritten notes on left margin:
 0319 2. 12/11/46
 a note *A. B. L.*
 12/11/46

Hon. Col. Sec.,

Since this Colony could not afford work, so far as can be seen, for a geologist sine die any such officer would be appointed from the Pool, as is recommended for the Falklands in Red (16) p. 13 herein.

2. I was in the Colony at the time of Baker's tour and was rather surprised at the comparative shortness of the time spent in the field work (16 months). Whether this speed is inherent in geological work or not I cannot say as geologists belong to a profession other than my own. Perhaps incorrectly, I inclined to the view that he dismissed the "Bitumen" somewhat too hastily.

hear

3. As for oil, what is known is somewhat discouraging, but Baker did suggest bores (his Report p. 36) and one might reasonably expect that there have been great advances in this geological field since 1922. It might well be necessary to have a survey made by an oil geologist.

4. It is quite certain that any geologist working here should be of a particularly hardy and athletic type, since we also need a man of first class scientific ability and knowledge if follows that the greatest care must be taken when one is appointed. We do not want a new graduate who is merely working for a Ph.D. (cf para 17. p. 12 Red (16))

*Agree -
appears also to FIDS
as maps/2*

5. It is a matter for consideration whether a geologist would be satisfied with the charts numbered 1354 A and B which are all we can offer at the moment/and advice should be taken on this point.

The Introduction to Baker's report sets out the difficulties he encountered and in many ways there has been little change in the last 25 years.

6. It may be I am running a serious risk of creating a chimera but I should record that over 20 years ago I examined a very thin black stratum in the Devonian near Chartres. With extremely crude apparatus I distilled from a small sample a minute amount of what appeared to me to be light mineral oil.

It is possible that thin commercially useless strata are well known and that I attached a quite exaggerated interest to an unimportant phenomenon.

7. I would make the suggestion that the first call should be for a oil geologist who could make reasonably conclusive report on the matter of oil in the Falklands.

8. Whether the existing surveys i.e. Baker and Halle, are adequate foundation for work by a specialist a zoologist cannot say, but as they are printed an opinion could readily be formed by the specialist. We would then know if the oil geologist should be preceded by someone who would fill in enough general detail to enable the specialist to proceed without waste of his time.

*I have already
expressed this.*

J. D. Armitton
Government Naturalist.
11.ii.48.

21

A.C.S.

Re. B.U. for 1st. in return.

CS

22

There is only one way of dealing with this problem - to approach Shell D'Arcy Exploration Co which I have asked CO. to do and which in fact they have done. They may demand more data in which case we must employ (COW/Research) a commercial geologist with special experience of oil investigations.

If no reply by end of year approach to CO. B.U. for further info. 14/1x

*BN 2/1/49
10/1/49
2/1*

CIRCULAR

Downing Street,

14th March, 1945.

Sir,

I have the honour to address you on the subject of the future organisation and expansion of Geological survey work in the Colonies. (For the purpose of this despatch, the term "Colony" may be taken as including all territories whose affairs come within the purview of the Colonial Office irrespective of their exact constitutional status. To avoid periphrases the words "Colony" and "Colonial" will be used in that sense throughout this despatch). The Colonial Research Committee have considered this subject as part of their general review of the needs of the Colonies in regard to research and investigation, and some discussion of their general conclusions is contained in their Progress Report for 1942/3 (Cmd. No. 6486 of November, 1943) and their First Annual Report, 1943/4 (Cmd. No. 6535 of May, 1944).

2. In order to prepare the way for a detailed consideration of the needs of Colonial Geology, I appointed in February, 1944, an ad hoc Committee to consider the needs for geological work in the Colonial Empire and the best organisation to carry it out. I now enclose copies of the Report of this Committee, whose argument and recommendations will be found most concisely summarised on pages 4 - 8 of the enclosed print C.M. No. 8. My object in appointing this Committee was to secure the advice and interest of the most eminent geological authorities in this country in problems of Colonial geology and you will, I am sure, agree with me in acknowledging the valuable and painstaking work which they have devoted to them, and that their Report will greatly facilitate further consideration of this most important subject.

3. I have also arranged for the Report to be considered by the Colonial Research Committee, who expressed their appreciation of it and gave its recommendations their cordial support.

4. I propose first to discuss certain general aspects of the Committee's recommendations, and then to deal with one or two points of comparative detail. It will not have escaped you in your perusal of the Reports of the Research Committee, to which I have referred, and the proposals for geodetic and topographical survey with which I have dealt in earlier correspondence, that there are certain generic characteristics common to the proposals for enlarged provision for research and investigation which have been occasioned by the provision of funds on a new and increased scale under the Colonial Development and Welfare Act of 1940. The most important are, I think, an appearance of centralisation and a strong and new emphasis on comprehensiveness. I apprehend the possibility that some Governments and technical Departments may conclude that there is some attempt to derogate from their autonomy and a danger that the direction of scientific and investigational work may be centralised in London to an extent detrimental, whatever its theoretical advantages may be, to the necessary close correlation of much scientific effort with urgent local needs. I wish to make it clear that I have most carefully considered this possibility, as I would be the last to support any schemes of centralisation for its own sake, but that I am satisfied that the dangers indicated above are in fact without substance.

The Officer Administering
the Government of

See 17, 18

15.

5. Comprehensiveness is, on the other hand, a genuine general characteristic of these proposals and represents an important and valuable development which is in complete accord with current scientific trends. It is no disparagement of research and scientific work in the past, in the Colonies or elsewhere, to say that, magnificent as have been its individual achievements in particular fields and in the solution of specific problems, it is only lately that scientific techniques have so far advanced as to render possible a real systematic, comprehensive advance on almost all fronts. As such an advance becomes possible, so it becomes imperative, if we are to avail ourselves of the full resources of modern science in the discharge of our responsibilities to Colonial peoples.

6. The transition from what, for want of a better and less disparaging term, I may call the piecemeal technique to the comprehensive one makes it necessary to reconsider the organisation which was evolved as appropriate for an earlier stage in the application of science to the solution of Colonial problems. Two considerations arise; first, the co-ordination of work in different branches of science, owing to the large and increasing number of points at which they impinge upon one another, and, secondly, the internal problem of insuring the best deployment of the resources of each particular science. As to the first, I am not concerned here to do more than to point out the need for co-ordination of effort, e.g. as between geology and topographical mapping in respect of the preparation of geological maps, between geology and agriculture in regard to soil surveys and the ascertainment and exploitation of underground water resources, between geology and Public Works Departments, etc. in regard to the use of local materials for all forms of construction. The second point is of immediate relevance to our present problem. As the Committee have pointed out, modern geology is becoming increasingly specialised in a large number of directions. We are leaving behind us the time when the non-specialised geologist can have more than a limited usefulness. It follows that the thorough basic survey and geological mapping which the Committee put in the forefront of their recommendations increasingly require the employment of balanced teams, balanced in relation to the particular characteristics of the regions under survey, and specialists working in co-operation with one another. Now, if any individual Colonies could afford to maintain such teams, and even where they could, it is improbable that any but the very largest area could find useful employment at all times for all the specialists who must nevertheless be available as required if the work is to be well done. The Committee have accordingly proposed the creation of a Colonial Geological Service, organised in regional groups, with a central pool to meet the needs of Colonies which do not fall within any of the regions specified.

7. The matter may also, I think, usefully be considered in another way. There is no doubt that the proper investigation and exploitation of the mineral and soil resources of the Colonies require a much greater expenditure of effort and the services of many more geologists than have been available in the past. The output of trained geologists is very small, and it will not be increased unless there are not only more posts for them, but substantially more favourable terms of service. A mere increase in the geological staffs of Colonial administrations would not, in my view, achieve this end, if only for the reason that, as I have explained above this would not render possible the continuous employment of many of the specialists whose services are essential if the full benefit of modern geological science is to be reaped. The proposals of the

/Committee

Committee as regards the organisation of geological surveys that represent an attempt to overcome this difficulty, and to provide a sufficiently attractive career to bring forward the geologists we need, to which I see no clear alternative.

8. The Committee, in concentrating on future needs, have not dwelt at length on the achievements of the past, but they would not wish their Report to be construed as in any way a depreciation of the work of Colonial Geological Survey Departments, or of the achievements of individual geologists. The facts would contradict any such conclusion. Quite apart from the important mining industries which make so large a contribution to the economic life of many Colonies, and which in large measure owe their existence to official geologists, it is precisely the work of those already in the field which has demonstrated the value of geological survey and pointed the way to even better things in the future.

9. For the reasons which I have given, I am very favourably impressed by the general argument of the Committee for a substantial extension of geological work in the Colonies, and for its organisation on the general lines which they propose. I do not, however, propose to take any final decision in the matter until I have had an opportunity of considering your views. I should be grateful to have those views as soon as possible since, if a scheme on these general lines is to be inaugurated, no time should be lost in making known that fact, in order that prospective geologists may be encouraged to equip themselves for entry into the proposed Service. As to finance, I consider that a scheme on the lines proposed, if adopted, would rank high for assistance under the Colonial Development and Welfare Act, though in view of the possible substantial economic benefits which may be expected to accrue to some Colonies, directly or indirectly, some contribution from Colonial funds might not be unreasonable.

10. I do not propose to deal with all the suggestions made by the Committee since they are set out with sufficient clarity in their Report. There are, however, one or two points of comparative detail to which I invite your attention. In the first place there is a slight ambiguity in Appendix A, Sections 1B and 2B. It was not, of course, intended to suggest that the proposed Malayan and Caribbean regions should in any way be associated, but only that the same scale of provision appeared appropriate for each.

11. A point of substance is the question whether, under the scheme proposed, Colonial Governments would continue themselves to employ any geologists or whether all Government geologists would be expected to become members of the proposed regionally organised Service. The Committee do not specifically discuss this point, but it is clear that while in paragraph 9 they expect that a number of geologists would be working on local rather than regional problems, they contemplated the latter alternative. I anticipate that some Colonial Governments may be reluctant to acquiesce in a state of affairs in which no geological staff would be under their direct control, and that a regional survey organisation, or central pool, whatever its advantages in many respects, would not for all purposes be an entirely adequate substitute. I sympathise with this view, and I can see no objection to the retention of some geologists in the direct employment of Colonial Governments, particularly where Departments have a frequent need for geological work to be done as a part of

/their

their normal duties. Where geologists are retained in the direct service of Colonial Governments, I consider, however, that their terms of service should as far as possible be assimilated to those of the proposed Geological Service, in order to facilitate the free interchange of personnel and its employment to the best general advantage.

12. A final point of importance is the relation between the proposed Directors of regional survey organisations and the Governments of the territories constituting those regions. The Committee recommend that the Directors should consult the various interested Governments in framing their survey plans, and this is certainly most desirable. I feel, however, that this arrangement would leave the initiative and responsibility for consultation to the Directors to a degree which they themselves might find embarrassing. I should therefore, welcome your observations on the suggestion that in such cases there might usefully be established Regional Consultative Committees, representative of the various Governments concerned, whom the Directors would be expected to consult in regard to their plans, without, however, any impairment of their responsibility for the plans actually adopted.

I have the honour to be,
Sir,
Your most obedient, humble servant,

OLIVER STANLEY.

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GOVERNMENT HOUSE,
STANLEY,
2nd June, 1945.

FALKLAND ISLANDS.
CONFIDENTIAL.

See 1 in
e/12/44.

Sir,

I have the honour to refer to your Confidential despatch, No. 35 of the 19th September, 1944, and to submit my comments on the scheme for the geodetic and topographical survey of the Colonial Empire.

2. On the scheme as a whole I have no comments or criticisms to make. It is in accord with my own suggestions in paragraph 17 of the memo attached to my letter to Sir George Gater of 20th October, 1943, and I particularly welcome the suggestion in paragraph 4 of your despatch regarding studentships.

3. The Falkland Islands are one of those Colonies where there has been practically no survey at all. It is, moreover, unique in several respects :-

- (1) All the land except for relatively small Government Reserves has been alienated in large freehold blocks.
- (2) There is only one Town, Port Stanley, which is in reality a village. Outside there are no settlements whatever other than clusters of farm-houses and buildings on private land.
- (3) There are no roads.

RIGHT HONOURABLE
D. P. G. STANLEY, P.C., M.P.,
SECRETARY OF STATE FOR THE COLONIES.

4.

4^a

17. No
50/43

4. The extent of existing surveys is as follows. The coasts have been charted at various times (not always accurately) by the Royal Navy and certain prominent features have been "fixed" in the process. Recently a unit of the Royal Engineers has carried out an excellent topographical survey of the neighbourhood of Stanley and a cadastral survey of the Township itself (your despatch, No. 33 of the 30th September, 1944, refers). Otherwise the Colony is unsurveyed.

5. Proposed aerial development by private enterprise may provide some of the ground facilities for aerial surveys which would otherwise have to be specially provided.

6. The geology of the Colony has been investigated (vide "Final Report on Geological Investigations in the Falkland Islands" by H. A. Baker, B.Sc., Government Geologist 1920-1922) with negative results, though the possibilities of oil cannot be disregarded.

7. In these circumstances the benefits of the proposed survey to the Colony would be

- (a) the facilitation of all land conveyancing and similar business
- (b) the provision of accurate information likely to be of the greatest value in the not improbable event of the government wishing to buy back large areas of freehold land in the future for public development.

8. Charts exist of some of the Dependencies but there has been little or no terrestrial surveying. Limited surveys are now being carried out in the Graham Land area. An aeroplane was suggested for survey purposes in the Dependencies and, though this cannot be provided at present, aircraft will perhaps form part of the equipment of the Antarctic bases after the war.

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9. Surveying in the Dependencies will be partly for political, navigational and exploratory purposes but the principal value will doubtless be geological as there are indications of the presence of minerals in certain areas.

10. There is at present no qualified surveyor here for carrying out any cadastral surveys which might be required, but the suggestion in paragraph four of your despatch will provide a valuable opening for some of the local students now receiving secondary education in Montevideo under the Government Scholarship Scheme described in my telegram, No. 170 of the 22nd August, 1942.

1.P. n.º.
73/41.

I have the honour to be,
Sir,
Your most obedient,
humble servant,

(Sgd) J. W. CARDINALL

45/45.

Saving.

From Secretary of State for the Colonies.

To the Officer Administering the Government of ~~THE FALKLAND ISLANDS.~~

1 APR 1946

Date

No. 9 Saving.

CONFIDENTIAL.



Recd #

With reference to your confidential despatch of 2nd June, 1945, I appreciate that much of the contents of my circular despatch of the 29th of March regarding the establishment of a Colonial Survey Organisation are inapplicable to the special circumstances of the Falkland Islands. I hope, however, that if in future you should require any special surveys to be carried out by the Colonial Survey Organisation, you will not hesitate to inform me of such requirements so that the Director may be consulted with a view to giving you every assistance possible.

SECEP.

Handwritten initials and date

CIRCULAR



Downing Street,
17th October, 1946.

Sir,

In view of the importance of mining in the economic development of the Colonial territories and the impact of mining operations on the social structure of the communities concerned, my predecessor felt that it was desirable that Colonial Governments should be furnished with guidance on the general principles which should be followed in framing mining policy. The Colonial Economic Advisory Committee was therefore asked to study the questions involved, and, the Committee have now submitted valuable recommendations which, together with others derived from the experience available to the Colonial Office in connection with mining legislation and problems, are embodied in the enclosed memorandum.

Red 9a.

2. I do not pretend that the memorandum is exhaustive, but it does indicate the major points which should be taken into consideration in framing a policy. No other industrial development has such potentialities for good or ill as mining and it is, therefore, of the utmost importance that the Government should retain adequate control at all stages in order to ensure that mining enterprises are carried on in the interests of the territory and for the general benefit of the community at large.

3. The local application of the principles suggested in the enclosed memorandum will necessarily vary in view of the widely differing conditions in the various Colonial territories and I should welcome your comments on the memorandum in the light of conditions in the territory with which you are concerned. In any event I trust you will not hesitate to consult me further. I shall always be happy to furnish you with advice derived from the many sources at my service.

I have the honour to be,
Sir,
Your most obedient, humble servant,

A. CREECH JONES

See 12.

JCF

THE OFFICER ADMINISTERING
THE GOVERNMENT OF

FALKLAND ISLANDS

Have we had a comprehensive
Geological Survey of the Falklands?
I believe there is a report by (?) Baker
but am not certain how far this
went.

Mr. WBC
27-4

MC 27/xi

(9a)

MEMORANDUM ON COLONIAL MINING POLICY

The purposes of this memorandum is to put together in a convenient form the principles which should, and broadly speaking do, govern the policy of Colonial Governments in mining matters. It is not intended to be read as a detailed statement of policy applicable equally and in all particulars in every territory in the Colonial Empire. There are in certain territories special considerations, derived from their past history or social structure, which may militate against the full adoption there of the principles set out below, but at a time when all Colonial Governments are framing their post-war policy it would seem to be of service to them to have before them such a broad general statement of policy.

2. There is a fundamental difference between mining and other forms of productive activity such as agriculture, animal husbandry and forestry. Whereas policy in the latter cases should aim at the preservation and improvement of the productive powers of the basic natural resources of a territory, mining essentially consists of the removal of valuable natural resources which once removed, cannot in the nature of things be replaced. The process is therefore in the nature of the realisation of a capital asset and the general aim of mining policy must therefore be to make the best possible arrangements for realising such an asset.

3. The logical first step in the mining policy of any territory must be the determination of the extent of its mineral resources. It is recognised that in the past many mineral deposits, some of them among the most important in the world, have been brought to light by the prospecting work of individuals, but past experience has also proved the value of the work of government geological surveys. It is to the latter for instance that was due the discovery of the diamonds, bauxite and manganese of the Gold Coast, the iron ore and diamonds of Sierra Leone, the coal and gold of Nigeria. It may well be that the exploration of mineral resources has not exhausted its possibilities and that further riches may be revealed. In these circumstances the maintenance and extension of geological surveys should be a primary object of policy, and accordingly provision has been made under the Colonial Development and Welfare Act for funds to be allocated for Colonial geological surveys. Replies from Colonial Governments to Colonel Stanley's circular despatch of the 14th of March, 1945 indicated a general acceptance of the proposals made in the Report of the Committee on Geology and arrangements have now been made for the appointment of Dr. F. Dixey, O.B.E., at present Director of Geological Surveys, Nigeria, to be the Director of Colonial Geological Surveys. As such, Dr. Dixey will be the Secretary of State's advisor on all geological matters. One of his first tasks will be to prepare a scheme for a Colonial Geological Survey Service on the lines laid down in the Report of the Committee and he will take into consideration the views expressed by various Colonial Governments on these matters.

4. The discovery of minerals raises at once the question of mineral rights. The position in regard to the ownership of such rights varies between the different territories in the Colonial Empire. In some, the Crown owns all rights; in others it retains rights in all lands alienated after a certain date, the rights in lands alienated before that date having passed to surface owners; in one or two territories such rights have been conceded to corporations by charter or by agreement; in still others all mineral rights, except on Crown Land, belong to surface owners, in some cases individual owners, in others native communities.

What is position here?



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5. There are powerful arguments to be adduced for the vesting of all mineral rights in the Crown. In the first place, the development of minerals in colonial conditions frequently requires considerable government expenditure, e.g. on survey, on transport or other facilities and it is undesirable that the results of such expenditure should accrue to private mineral owners. Secondly, a multiplicity of owners is frequently an obstacle to the organisation of economic units of operation. Thirdly, the payments made under contracts between owners and mining companies do not necessarily accrue to the benefit of the members of the community which have the most substantial interest in the lands affected. Fourthly, minerals are important economic assets to a territory and being the gift of nature, their benefits should be shared by the community generally, to which they belong, and not to be enjoyed merely by limited groups of private individuals who are often not members of the community concerned. Finally, Government by possession of the rights is in a position to control the size of concessions and the rate and terms of exploitation. In pursuit of these conceptions most Colonial legislation already provides for the reservation of mineral rights in any future sale or alienation of Crown or public lands; where such provision is not yet made the Governments of the territories concerned might well consider its adoption.

6. If mineral rights have already passed into private hands, the arguments stated in the preceding paragraph for the Government's retaining such rights are equally valid for recovering them, but each case will require a careful assessment of the balance of advantage. They could be recovered either by agreement or by legislation, but in either event some payment must be regarded as inevitable. Where the existence of minerals is already proved the payment demanded is hardly likely to be less than the estimated present net value of the minerals in the ground, and Government will have to consider whether the advantages of the transfer are sufficient to justify locking up part of their funds in a long-term investment of this kind. Where the minerals are not proved, an immediate cash payment may prove to be a purchase of something that does not exist. In such cases the most suitable form of compensation would seem to be the payment to the owner of the minerals for a limited period, say not more than 25 years, of a proportion of the royalties or other revenue received by the Government in respect of the exploitation of the mineral rights resumed. The proportion payable would necessarily depend on the circumstances, but ideally it should be quite small, say not more than 5%.

7. The exploitation of mineral wealth opens out many problems of economic and social consequence to the territory concerned, and it is therefore of the utmost importance that it should be studied in relation to the economy of the territory as a whole and that as an industry, mining should be properly regulated, and its development in regard to other minerals, transport, labour supply, other industries and agricultural and subsistence production kept amenable to public control. Mining should be carried on according to a deliberately planned programme and its social consequences carefully foreseen and directed so that the evils of unregulated development and consequent social distress and effects on agricultural village life and diversion of manhood do not arise. It would seem therefore that in shaping mining policy the following features should be kept well in mind:-

- (a) Mines should be run efficiently.
- (b) The unit of operation should be of economic size.

/(c)

- 98
- (c) Other natural resources should be protected.
 - (d) The rate of development and exploitation should have regard to social as well as economic considerations.
 - (e) Labour conditions should be of good standard and welfare and social arrangements properly provided for.
 - (f) Provision should be made for the indigenous populations to fit themselves for the highest technical and administrative posts.
 - (g) An adequate share of the proceeds of mining should be retained in the Colony.

Colonial Governments should, where necessary, be prepared to undertake mining operations on their own behalf. In some cases it may not be possible to achieve the objectives mentioned above except by public operation, but whether operation is private or public these objectives should be aimed at. It should not be impossible for Governments either through an existing Department or by engaging experienced technical management, or sometimes by the creation of public utility corporations, to exploit new mineral resources for the public benefit in harmony with these objectives. They might even consider the operation of mines already developed where suitable conditions exist and the necessary arrangements can be made. Indeed, there may be circumstances in which Government mining would be particularly desirable, e.g. where private concerns are unwilling to take the risk of investment, where the minerals are consumed in whole or in great part within the Colony and Government operation is thought necessary to protect the consumer against exploitation or where the mineral is of special strategic importance, but even where these circumstances do not apply the fact that private interests are ready to take the risk of investment should not be taken as ruling out of consideration public operation of mining.

So far as private working is concerned, the responsibility of the local Government for the maintenance of minimum standards in the variety of conditions of mining, is very real.

Minimum standards whether in the case of publicly or privately owned mines can be considered *seriatim* in relation to the objectives I have already mentioned.

(a) Efficient operation.

In the case of private exploitation, applicants for mining leases should be required to show that they or their agents have suitable technical qualifications or (in exceptional cases of small scale mining) at any rate an adequate knowledge of the mining regulations. Holders of prospecting licences and mining leases should be required to furnish the Government with full particulars of all information of geological interest obtained in the course of their prospecting or mining operations and accredited Government officials should have full access to all mineral workings. Local Governments must insist that the grant of a mining lease involves the mechanisation of the mine, where possible, proper safety measures, fair conditions of employment, and adequate safeguards to prevent the destruction of amenities.

/(b)

(b) The size of mining units should be such as to ensure the most economic conditions of working, that is, they must neither be so small that the burden of overheads is greater than it would be if the size of the unit was increased, nor so large that the operators lack sufficient inducement to operate them to their full economic capacity. Between these two extremes physical circumstances will usually indicate the most economic size of unit in any particular case, but mineral occurrences vary so much in character, that it is impossible to give any precise guidance on this question. There are, however, certain devices by which the Government can provide the necessary inducement to mining undertakings to operate their properties to the full economic capacity. For example:-

- (i) The period of mining leases should not be too long. I consider that a reasonable arrangement is an initial term of 21 to 25 years with provision for renewal at the option of the lessee for a similar period on the conditions available for the grant of new leases at the date of renewal.
- (ii) All leases should provide for a minimum "dead rent" to be paid whatever the output, subject to waiving only where it can be shown that it creates a drain on a company's resources in the development stage or in the course of a depression.
- (iii) Mining leases should not include land definitely proved to be non-mineral bearing and not needed for actual mining operations and if part of the land covered by a lease proves to be of this character, it should be surrendered. Land for houses or other ancillary purposes should be obtained under ordinary land leases.
- (iv) An exclusive licence to work all the minerals in a Colony should never be granted. A mining lease should generally cover one mineral only or minerals found in association, such as a lead or copper group.
- (v) Rights should not normally be granted over all deposits of a particular mineral. There may, however, be exceptional cases in which the economic interests of the Colony justify the grant of such comprehensive rights, e.g. to secure unified selling of the mineral.

Even when mining is initially started in an area with units of economic size, changes in mining technique may make these units uneconomically small. In most cases of this kind the industry will probably re-organise itself but when re-organisation is palpably in the public interest and is held up unreasonably by a minority interest Government should be ready to effect it by legislation.

(c) By the protection of other natural resources is envisaged particularly the protection of agricultural land, forests and rivers. These ends should be secured by legislation reinforced by inspection and Government should have the right, in particular, to include in leases clauses requiring the restoration of land to a state suitable for agricultural operations after mining has ceased, where such land was previously of agricultural or pastoral value. There should be protection against subsidence and deposits and debris should be disposed of so as not to create unsightly dumps which destroy the local amenities.

(d) Social factors require consideration in connection with both the initial and the later stages of exploitation. The introduction of new mining industries into a community where they have not existed before and where perhaps they can only be developed by immigrant labour, is bound to disrupt to some degree the existing structure of society. Before mining operations are allowed, their effect on the existing and future pressure on the land for the supply of the food requirements of the community, should be seriously considered. Mining inevitably results in the disturbance of the normal life of the district and it is, therefore, essential that the understanding and goodwill of the local inhabitants should be enlisted. It is, of course, in the Government's power, if it owns the mineral rights so to regulate development by the judicious grant of concessions as to reduce or remove the danger of social upheaval.

Once the industry is established, special disadvantages are most likely to arise from the fluctuations in demand, to which mining industries are particularly susceptible. If purely economic considerations were allowed to determine policy, such disequilibrium of demand and supply would be met by reductions in labour forces. A temporary recession may well not require Government intervention since companies may be ready to bear losses for a while, but Governments should be ready to take action themselves to mitigate the longer depressions. There are a variety of means at their disposal for this purpose and the following suggestions are only examples of what they might do: alternative employment for labour could be found in public works or other schemes; the mines could be helped by reductions in taxation (per contra, too sharp increases in employment in beams could be checked by increased taxation); or the labour force could be assisted by the establishment of compulsory unemployment insurance (even if such insurance is not universal, the peculiar liability of mining to recessions in demand may justify its introduction for that industry alone).

(e) Labour conditions in mining communities require particular care, quite apart from the liability of industry to fluctuations in demand to which reference has just been made. No other industry is so likely to bring together large numbers of men living in close proximity and unnatural surroundings. The psychological stresses to which the labour force is exposed are thus peculiar. Many mining companies have recognised in these circumstances the necessity for high standards on the employer's part, but Government also has its part to play. In the first place labour legislation should be directed towards the establishment of standards covering conditions of recruitment, safety, hours of labour, work etc; there must be proper inspection of working conditions and provision for accidents and for medical care and treatment; mining regulations can also in appropriate cases set the standard for the provision of food, housing and clothes by the management. Education services while primarily the concern of the Government, should also be a matter of concern to the employer who should where possible assist with the provision of facilities particularly for technical education to fit the workers for more responsible positions in the undertaking (see (f). below). Police services on the other hand are perhaps more appropriately borne, even in isolated mining communities, by Government. The problem of family settlement for miners and provision for women and children should be kept prominently in mind and the proper housing of families is a necessary provision, for men should be encouraged to settle in with their wives. Fully organised machinery should be established to allow workers to express their grievances

through their own chosen representatives. The closer the association that can be established between the workers' representatives and the management in the solution of the industry's common problems, the more speedy will be the development of a sense of partnership in the industry and of a pride in its achievement.

(f) Participation by indigenous peoples. In Colonial conditions mining industries offer a particularly good opportunity for the development of technical and managerial skill among indigenous peoples and all Colonial Governments should consider how they can best implement the recommendations of the 1944 International Labour Conference at Philadelphia on the Prohibition of Colour and Religious Bars and other Discriminatory Practices. In some Colonies the problem can be eased by some regulation of recruitment for the industry and the provision of technical instruction.

(g) The financial proceeds of mining. Broadly speaking, a Colony's share of the proceeds of mining is comprised in the proportion of the working costs expended within its boundaries, in taxation and in royalties.

Of these three sources the first is, from the narrow point of view of Government finance, an indirect and the other two direct sources of revenue. From the point of view of the Colony as a whole, however, all three are sources of profit, and as the first is usually much the largest it should be a matter of particular care to the Government. In other words it is in the interests of the community to ensure that the total proceeds are as large as possible, even if, on occasion, it is necessary to sacrifice part of the proceeds of direct taxation to achieve this end. So far as working costs are concerned, they will be importantly influenced by the extent of the Government's intervention in regard to such matters as rates of wages and the provision of medical services and other amenities by the employers. The object of the Government in intervening in such matters is, however, to secure proper conditions for the labour force, not to inflate working costs; the latter is incidental to, not the purpose of their intervention. Obviously, an undue inflation of working costs either by unreasonable demands by a Government or by extravagant expenditure by the management, may have such an unfavourable effect on the industry as to reduce the net benefit to the community instead of increasing it. As regards taxation, this usually takes the form of export duties and income tax or other taxes on profits. The general aim here should be to establish a system of taxation of sufficient flexibility to meet the changing fortunes of mining. Freedom of action in this respect is particularly desirable in cases where mines operate under leases for long periods (some at present run for 99 years). In such cases the Government should, where the rate of royalty in the lease is unreasonably low, secure an adequate return by the levying of an export duty in addition to the royalty. In new leases, however, the situation would be met by including provision for a review of the rate of royalty at comparatively short intervals, say every five years. In that case it would be unnecessary, and indeed it would almost certainly be unacceptable to mining companies, that the Government should reserve the right to impose an export duty in addition to royalty. An export duty should, however, be levied where the minerals under exploitation are vested in private owners, in order to secure a share of the proceeds for the community. It is even more undesirable to include in concessions any exemption from income tax or other taxes applicable to industry generally.

The assessment of royalties represents the most difficult problem and one to which more attention might well be directed by Colonial Governments. The economic value of a royalty is the value of the mineral as it lies under ground, i.e. it is equivalent to the market value of the mineral less the cost of extraction and marketing (the last term including a reasonable return on capital). It therefore follows that the quantity in which a mineral is found and the conditions under which it is extracted are reflected in the rate of royalty it can pay. In most Colonies however each mineral pays a standard rate of royalty and there is no variation from lease to lease. As a result, lessees on the one hand will be unwilling to extract low-grade ores, so that the Colony thereby fails to realise part of its assets, and on the other will pay less on rich ores than such deposits could bear. Both these evils are avoided by the levying of royalty on the profits earned on the capital employed in mining operations after making allowance for amortization. The question of adopting such a system in connection with gold mining in Tanganyika and Fiji is at present under consideration and if it is found practicable in these cases the possibility of its extension to other forms of mining will be considered in due course.

The capacity of a Colony to retain an adequate share of the profits of mining in its territory also turns to some extent on the length of the leases which it grants for mining operations. Clearly the longer the duration of a lease the greater the likelihood of changes in the conditions under which mining is being carried out. In view of this it is in the interests of Colonies to keep the terms of their leases as short as possible, and I have made suggestions in this connection in paragraph (b) (i) above. Moreover, in conditions in which a concession would tend to give a mining company a dominant place in a Colony's economy, the Government of the Colony may think it proper to stipulate as a condition of the concession that it should have the right to nominate one or more directors and that such nominees should have full access to all the Company's documents and accounts.

The principles set out in the preceding paragraphs will serve Colonial Governments for the determination of the terms on which they can agree to admit companies to the exploitation of their mineral resources, although I desire to repeat that Governments should seriously consider public exploitation wherever practicable. The rate of exploitation once a particular concession has been granted (and subject of course to the terms on which it is granted), depends primarily on the operating company, although it remains a matter of concern to the Government. Governments are, however, able to influence the rate of exploitation in other ways than by restrictions imposed on any particular lease. They must have regard to the degree of disturbance mining operations will have on the social life, on the maintenance of a right balance between agriculture and mining and to the danger of the creation of a lop-sided economy. In fact it is essential to any co-ordinated mining policy that the Government should have a clear conception of the policy by which the exploitation of minerals should be governed. As far as economic considerations are concerned, this poses the question whether in view of the fact that minerals are a wasting asset a policy of conservation should be followed rather than expansion encouraged. A policy of "go slow" will not however in itself alter the fundamental fact that minerals are a wasting asset. It

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should be Government's policy to secure that such a wasting asset should be converted into a permanent asset and that can be done by securing that the money accruing to Governments from royalties etc., are employed to build up such assets e.g. by training the local population as rapidly as possible to acquire the knowledge and the aptitude to support a higher standard of living. Many Colonial Governments feel that they are faced with the necessity of achieving these and kindred objects as quickly as possible, and for that reason favour an expansive rather than a restrictive policy as regards exploitation of their mineral resources. It should, however, be added that there may be in some areas valid reasons for some degree of restriction, e.g. land may be reserved for native occupation, forest reserves or other valid purposes and reference has been made above to the special need that may arise to curb mining activities in order to prevent excessive dislocation of the existing structure of society or to guard against sharp contractions in employment.

It is important, however, that Governments should consider how far they can by direct action help in the exploitation of mineral resources. There are many opportunities that present themselves to this end. The need for systematic geological surveys has already been mentioned. These should be as wide as possible and it is desirable that Government geologists should have reasonable access for the purpose and that all prospecting should be properly licensed and regulated. Secondly, within the frame work of their general development plans, Government can assist the opening up of areas for mineral development by providing for the necessary transport, power and water facilities. Thirdly, Governments, particularly in territories where mineral deposits are few and scattered, may be of special assistance to the small prospector and miner on whose efforts the working of such deposits is likely to depend. Directions in which such assistance might be of value, are the provision of loans, the encouragement or participation in organised marketing and the provision of adequate technical advice, e.g. in assaying laboratories. Finally, it is suggested that as part of a policy of encouraging the development of secondary industries, special attention might be devoted to the establishment in mining areas of industries to supply some at least of the many manufactured articles for which a mining industry provides a market. This indeed forms a counterpart to the assistance which a mining industry can give to the development of secondary industries by providing the raw material for local manufacturing or processing industries. In the latter instance, local processing and refining may lower costs, particularly where ore contains a large proportion of waste material, by lowering transport charges even to the extent of making it profitable to exploit ores which it would not otherwise be economic to work.

DECODE.

No. 39 DC 139.

TELEGRAM.

(12)

From The Secretary of State for the Colonies.

To His Excellency the Governor.

Despatched: December 5th 19 46 *Time*: 15.30.

Received: December 6th 19 46 *Time*: 09.30.

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Circular Unnumbered December 5th. My Circular despatch October

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17th. Memorandum on Mining Policy enclosed in despatch under reference is being published as a Colonial Office Paper at 0900 hours G.M.T. on December 10th with the following preface substituted for my covering despatch, begins. In view of the importance of mining in the economic development of Colonial Territories and impact of mining operations on social structure of the community concerned, the Secretary of State considers it desirable that Colonial Governments should be furnished with guidance on the general principles which should be followed in the framing of mining policy. The questions involved were also studied by the Colonial Economic Advisory Committee and their recommendations, together with others derived from experience available in the Colonial Office in connection with Mining Legislation and the problems have been used in preparation of the following statement. This statement has been forwarded by the Secretary of State to Colonial Governments. In so doing the Secretary of State made it clear that it was not claimed that the statement was exhaustive but that it did indicate the major points to be taken into consideration in framing policy. He pointed out that no other industrial development has such potentialities for the good or as mining and that it was therefore of the utmost importance that the Government should retain adequate control at all stages in order to ensure mining enterprises were carried in the interests of the territory and for the general benefit of the community at large. **Ehds.**

2. You may wish to arrange for simultaneous publication locally.

G.T.C.

SECRETARY OF STATE.

DRM.

(Intld.) A.B.M.

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CIRCULAR

Colonial Office,
The Church House,
Great Smith Street,
22nd November, 1947.

45/45
[Handwritten signature]

Sir,

Geological Surveys.

I have the honour to refer to Mr. Oliver Stanley's circular despatch of the 14th March, 1945, on the subject of geological surveys in which the importance of carrying out a much more extensive investigation and exploitation of the mineral resources of the Colonial territories was emphasised.

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2. In my circular despatch of the 10th January, 1947, I informed Colonial Governments that I had appointed Dr. F. Dixey, O.B.E., as my Geological Adviser and Director of Colonial Geological Surveys. During the past nine months Dr. Dixey has made a comprehensive survey of the staff required to enable the existing Colonial Geological Survey Departments to be expanded and geological surveys to be instituted in territories where no such organisations exist, in order to cope with the essential and fundamental task of completing basic geological maps on a suitable scale throughout the Colonial Empire.

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3. In the circular despatch of the 14th March, 1945, it was suggested that a regionally organised Service should be instituted wherever this was practicable. It now seems that it will not be possible to pursue this suggestion immediately in at least the African territories, since a more economical use of staff can for the present be made

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The Officer Administering
the Government of
FALKLAND ISLANDS

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by continuing the existing organisation Colony by Colony and supplementing it by regular regional conferences and by the occasional secondment from one Colony to another of individuals who specialise in particular branches of geology. Whether as in the African dependencies this approach is adopted or whether elsewhere a greater degree of "regionalisation" may be possible, it is essential to proceed immediately with the expansion of the Colonial Geological Service.

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"C.D.W."

4. In my predecessor's circular despatch of the 12th November, 1945, concerning the Colonial Development and Welfare Act of that year, it was indicated that assistance for geological surveys would be made available from the Research allocation provided under the Act. The amount earmarked for this specific purpose was £1,000,000. It has since been decided that such schemes should be classified as "Development" and not as "Research" schemes. I am not proposing, however, that the assistance should be provided from the Colonial Governments' development allocations but from the allocation for Central schemes.

5. I entirely share the views of Mr. Stanley that the development of Colonial Geological Surveys is a matter of the first importance and should rank high for assistance under the Acts, even if this should entail provision in excess of the £1,000,000 mentioned above. Accordingly, I am prepared to view favourably any schemes, within reasonable limits, for 100% assistance under the Acts during the next five years and for assistance on a progressively reduced scale for three years thereafter which may be put forward by Colonial Governments, with the object of expanding their existing survey organisations, or for creating new organisations where these do not already exist. Any schemes submitted must be formulated on the basis that, unless the Colonial Development and Welfare Acts are amended, assistance under them must

necessarily

necessarily terminate at the end of the financial year 1955-56, and that Colonial Governments will have thereafter to find from their own resources the whole of the funds necessary to continue any services provided by them.

6. I would accordingly request that all Colonial Governments which have not already done so should prepare as soon as possible schemes on the above basis covering the next eight years. I would propose that if the schemes are approved and assistance given under the Acts, they should be reviewed at the end of, say, the fourth year in order to determine the measure of assistance which will be required from Colonial Development and Welfare funds in respect of the remaining years.

7. It is very important that these schemes should reach me as soon as possible because of the present shortage of geologists, which can only be remedied slowly during the next year or two. Because of this shortage, it is almost certain that it will be impossible at first to meet the full requirements of all Colonial Governments and I am naturally anxious to ensure that the geologists who become available are distributed as equitably as possible. Every effort is being made to interest the Universities in the vacancies anticipated during the next eight years, and it is hoped that an adequate number of recruits will be forthcoming in the near future. In order to secure suitable candidates for Colonial Geological Surveys it will be essential to offer them employment on a permanent and pensionable basis, and this will no doubt be borne in mind when schemes are framed. This should, I suggest, offer no difficulty, since,

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while the essential basic mapping should be completed within the remaining eight years of the currency of the Acts, it will no doubt be possible to absorb many of the officers recruited for this work in the establishments of Colonial Geological Survey Departments as vacancies occur. Moreover, I have little doubt that the expansion of the mining industries in the Colonial Empire which may reasonably be anticipated will lead to a demand for geologists in excess of the present strength of the Geological Surveys.

I have the honour to be,

Sir,

Your most obedient, humble servant,

A. CRENCH JONES.

45/45

23.

EXTRACT FROM "DISCUSSIONS AT THE COLONIAL OFFICE".

Original filed in 0762.

24.

IV. Geological Survey, S. Is.

✓ 18/45
✓ 172/46

Circ. Dispatch 22.11.57

25.

Cost of investigations should be met from
General Allocation - ref. to S. of S. sec.

I am pursuing this with ^{18/45}
Adviser (Dr. Dixie, *Geological*)

40 K.L.
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~~26. Circ Des. No 552/57 of 13.5.57 from S. of S.~~