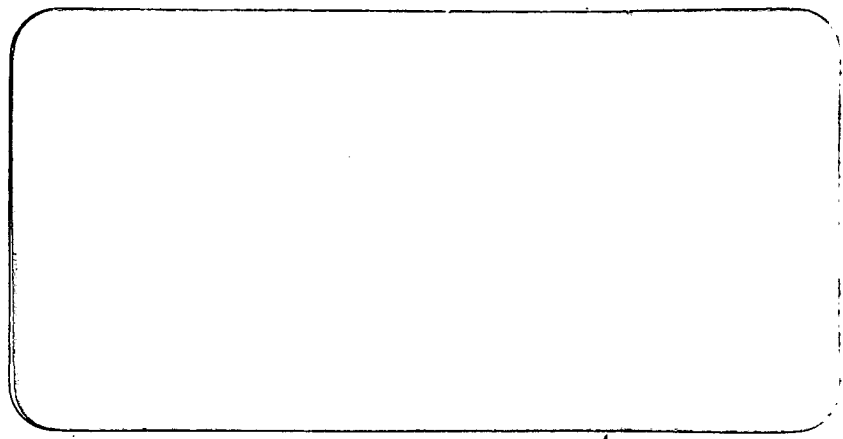


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Institute of Geological Sciences

OVERSEAS DIVISION



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REPORT ON A VISIT TO

SWAZILAND

11 - 15 MARCH 1979

MR I G HUGHES

Report No : 1979/6

25 APR 1979

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HEAD, AFRICA UNIT

OVERSEAS DIVISION

I arrived in Mbabane on 11 March having travelled by road from Johannesburg in company with Mr M Todd, Engineering Adviser, BDDSA. Monday, 12 March, Commonwealth Day, was celebrated as a public holiday in Swaziland and I therefore accompanied Mr Todd on a roads inspection in the Low Veldt.

1 Summary and Recommendations

- 1.1 The Swaziland Government request for the provision of a "Coal Geologist" need not be pursued. (Paragraph 2.13.)
- 1.2 No recruitment action with regard to the Swaziland Government's request for the appointment of a "Coal Engineer" need be taken for the time being. (Paragraph 2.1.5.)
- 1.3 The appointment of Mr L Bills, who recently left Swaziland at the end of his contract, to the vacant post of Inspector of Mines is strongly recommended. (Paragraph 2.1.6.)
- 1.4 Attention is drawn in paragraph 2.1.8 to the inexplicable delay in offering an appointment to the candidate selected for the Drilling Superintendent post.
- 1.5 There is a possibility that the need for supplementing Geologist posts in the Geological Survey and Mines Department will cease after 1982. Supplementation of Mining Engineer posts will probably need to continue beyond 1982. (Paragraphs 2.2.5 and 2.2.6.)
- 1.6 It is recommended, with regard to the Swaziland Government's request for assistance in evaluating its radioactive mineral resources, that an expert from IGS should pay a short visit to the country to evaluate data, make brief field inspections and make recommendations for further investigations if such be considered worthwhile. The cost of such a visit would be debited to the ODM Subvention to IGS. (Paragraph 2.3.3.)

- 1.7 No action is necessary regarding requests for assistance in evaluating industrial mineral and gold resources. (Paragraphs 2.3.2 and 2.3.4.)
- 1.8 A recommendation is made (paragraph 2.3.5) that the IGS Isotope Geology Unit carries out a modest programme of stable isotope studies as an aid in the Geological Survey and Mines Department's gold resource study. The cost of such a study would be borne by the ODM Subvention to IGS.
- 1.9 The proposal for a EEC funded feasibility study of the area scheduled for development as a Swazi Nation coal mine has been abandoned. (Paragraph 3.1.1.)
- 1.10 Agreement has not yet been arrived at with the Japanese regarding funding for a deep drilling programme in the northern sector of the coalfield. (Paragraph 3.1.2.)
- 1.11 The Shell Co proposals for establishing a coal mine in the Mhlume area are expected to be submitted to the Swaziland Government shortly. A new rail link through Mhlume and thence northwards to Komatipoort in South Africa is expected to be one of Shell's conditions for developing the coalfield.
- 1.12 The proposal for a joint Swaziland/Kenya iron and steel venture financed by the EEC has encountered problems but Kobe Iron and Steel Corporation has indicated its interest in such a venture. (Paragraphs 3.3.1 and 3.3.2.)

2 Geological Survey and Mines Department

2.1 Staffing

- 2.1.1 I met Mr A S Dlamini, Director of the Geological Survey and Mines Department, and Prince Khuzulwandle Dlamini, his deputy, on the morning of 13 March. The Director immediately expressed his concern over a rumour he had heard that the Overseas Services Aid Scheme was to be terminated and replaced by a scheme with UK staff serving under TC arrangements. His experience of TCOs had not been entirely satisfactory as he felt that their allegiance had not been to his department whereas the OSAS officers had always been loyal; he remarked that TC officers spent more time at the BHC than in the department!
- 2.1.2 I told the Director that as far as I was aware there was no question of ending the OSAS and I explained that the rumour he mentioned might have stemmed from the current exercise being carried out by ODM in an attempt to rationalise the various terms of service under which UK personnel serve overseas. I went on to say that it was in any case unlikely that there would be changes within 18 months to 2 years.
- 2.1.3 Moving on to the question of UK support to the Geological Survey and Mines Department, I said that this would be continued at its present level of 6 posts for the next 2 to 3 years. A replacement for Dr A C Wilson, Mapping Geologist, who had completed his tour, was being arranged and I suggested that this officer should perform the duties of "Coal Geologist" in addition to any geological mapping required (a

request for an additional post for a coal geologist had been received in ODM) as the latter work was to be connected with the coal-bearing rocks anyway. Mr Dlamini agreed with this suggestion and the request for a Coal Geologist need not therefore be pursued.

- 2.1.4 Mr M C McKeown, who is on secondment from IGS and is in charge of the Department's Coal Unit, will complete his present tour in July this year. The Director requested that Mr McKeown be allowed to return for a further tour if this could be arranged but on this occasion he did not seem to be as insistent on this question as in the past. I told him that as Mr McKeown had now worked in Swaziland for 9 years it was desirable from the career point of view for him to be moved either back to a home unit or to another territory. The opportunities for a change were not, however, fully resolved and I said I would consult with Mr Dlamini after further discussions in London.
- 2.1.5 A request for a Mining Engineer (Coal) had also been received in London and I told the Director that ODM were agreeable to supplementing such a post under OSAS arrangements provided there was a vacant post on the Department's establishment. Mr Dlamini said that there was no such vacancy at that juncture but he hoped to obtain an additional post following a manpower review of his department due to take place shortly. Recruitment action in respect of this request should therefore be suspended.
- 2.1.6 The Director expressed some concern over the situation brought about by the Government Mining Engineer's serious illness and by the circumstances surrounding the departure of the Inspector of Mines. Mr T H Winsor is, however, now able to work in the office up to lunchtime each day and as he appears to be making a reasonable recovery there are grounds for not insisting on his repatriation for the time being, particularly as this would totally deprive the department of any mining engineering expertise. Mr L Bills did not renew his contract before proceeding on leave as this would, apparently, have deprived him of a sea passage back to the UK. Fresh recruitment action will therefore be required to fill the resultant vacancy though it is understood that Mr Bills is prepared to be re-appointed: in view of his experience and of the uncertainty that still remains over Mr Winsor's health, it is strongly recommended that the post be offered to him.
- 2.1.7 Mr D H R Sims, Chemist (OSAS contract), completes his tour of duty in March 1981 and the Director said that a suitable candidate had now been identified for training to replace Mr Sims. The Director hoped that the training could commence under British Council auspices in September this year and I promised to help obtain a place for the candidate, Mr Reuben Hlophe, on one of the MSc Analytical Chemistry courses offered by UK universities. This training will take 2 years to complete so that there will be an interregnum of 6 months or so after Mr Sims' departure in 1981. I emphasised the need to submit an application for a training award without delay and I obtained a supply of forms A2 for Mr Hlophe before I left Mbabane.
- 2.1.8 Mr Dlamini asked why the appointment of Mr Stocks to the post of Drilling Superintendent had not been completed; Mr Stocks had still not received an offer of appointment from the Crown Agents and Mr Dlamini was concerned in case he decided against coming to Swaziland. I informed the Director that ODM had cleared up the problem regarding Mr Stocks' eligibility for

supplementation way back in January or possibly earlier, and that I was under the impression that the appointment had been completed some time ago. This delay has created a poor impression especially following on the Crown Agents' earlier faux pas in submitting to Swaziland the name of a driller who not so long before had vacated the same post owing to personal and other problems.

2.2 Training

- 2.2.1 I reviewed with the Director the Department's training programme in an attempt to form some idea of the localisation timetable and I later obtained further information on this topic from Mr Morris at the BHC.
- 2.2.2 The position, as far as I could gather, with regard to Geology is as follows:
- Maphenga, S N, University of Manitoba, graduates 1980 (CIDA)
 - Mokogong, S P, Cardiff University, graduates 1980 (BTA)
 - Strachan, L, Reading University, graduates 1982 (BTA)
 - Nkambule, V, Portsmouth Polytechnic, graduates 1984 (BTA)
- 2.2.3 Those studying Mining Engineering are as follows:
- Hlatshwayo, Cardiff University, graduates 1980 (BTA)
 - Dlamini, R, Cardiff University (external), graduation date unknown.
- 2.2.4 Mention of the plan for training a Chemist has been made at paragraph 2.1.7 above.
- 2.2.5 If the above-noted graduation dates are maintained it appears that there will be no need for supplementing Geologist posts beyond 1982. The possibility must, however, be borne in mind that some of the returning geologists may be attracted to posts with mining companies, eg Havelock Asbestos and Swaziland Collieries, etc, where more attractive salaries are likely to be offered.
- 2.2.6 The position with regard to mining engineers is not so promising as only one (Hlatshwayo) can be expected to return to Swaziland in the next two years or so. Mr Robert Dlamini may well not graduate at all as he has consistently failed his examinations and is now attempting the second year course for the third time as an external student.
- 2.2.7 I believe that the Swaziland authorities are making some effort towards ameliorating the deficiency of trained personnel at both the professional and technical levels in the official and private sectors. The Director informed me that in an attempt to introduce a training scheme for sub-professional grades in the mining sector, Professor G R Davis of the Royal School of Mines, Imperial College is to visit Swaziland this summer. His visit will be paid for by Havelock Asbestos.
- 2.2.8 Mr Dlamini asked me to take up with the British Council and with Cardiff University the possibility of Mr Mokogong returning to Swaziland during the summer vacation to carry out his independent fieldwork in the Mpaka coalfield.

2.3 Technical Cooperation Requests

- 2.3.1 Tentative approaches for ODM help in carrying out three investigations in the minerals field had been made in December 1978 and these were discussed with the Director during our meeting on 13 March.
- 2.3.2 Industrial Minerals Investigation. I informed Mr Dlamini that ODM would be prepared to consider this proposal provided that it could be shown that there would be demand for the products, preferably in a manufactured form, and that there would as a consequence be increased employment opportunities. The Director said that at the present time he would not wish to press ahead with this request as the West German Government had agreed to fund a feasibility study of the country's ceramic resources, and possibly they would extend their funding to cover other aspects of the industrial minerals field. (Ceramics Consultants International Ltd, of Shelton, Stoke-on-Trent have been selected as consultants for the ceramics study by the West German authorities.) We therefore agreed that this request should be deferred for the time being and that we should discuss the position again in 1980.
- 2.3.3 Radioactive Minerals Investigation. Evidence of radioactivity in pegmatite dykes has been adduced by the geochemical prospecting programme carried out by the CIDA Geochemist, and the Director was most anxious that this should be followed up and that the country's overall radioactive mineral potential should be assessed. Such a study would be beyond the Department's capabilities as it requires a specialisation not possessed by any of his staff plus instrumentation not available in Swaziland. I consider that some measure of assistance is therefore warranted particularly if this might lead to the identification of anomalies which could be of interest to British Nuclear Fuels Ltd. Initially this would involve a short visit by an expert from the Metalliferous Minerals and Applied Geochemistry Unit of IGS to evaluate the available data, make brief field inspections and then report on his findings, the report to include recommendations for further investigations if such were considered worthwhile.
- 2.3.4 Gold Deposits Investigation. The current high price of gold had drawn attention to Swaziland's potential in this field. Gold was first discovered in the country in 1879 and there was appreciable production up to about 1914 since which time there has been sporadic activity. The Geological Survey and Mines Department has over the last 5 years spent considerable effort and expense in re-investigating the old Pigg's Peak Mine with results that have attracted mining companies into taking up concessions. The Department feels that this commercial activity can be considerably extended if additional basic data can be gathered and publicised, and attention is drawn to the fact that several gold mines in a similar geological setting are currently in operation across the frontier in South Africa. Dr C M Barton has already started on the preliminary study of the most promising area which is a narrow zone almost 80 kilometres in length from north-east to south-west in the north-west highlands, and I suggested to the Director that Dr Barton should receive all possible support from the Department in his project rather than introduce a technical aid factor at this stage. Mr Dlamini concurred but we agreed to review the situation in a year's time: if at that juncture Dr Barton's work has revealed promising features and that the work is such that it is assuming proportions beyond the Department's capabilities, then the question of UK aid can be reconsidered.

2.3.5 Stable Isotope Study. A proposal not hitherto included with the Gold Deposits Investigation but directly linked to it is an isotopic and thermometry study of the gold belt mineralisation. Such a study would throw valuable light on the mechanism of gold emplacement and would therefore aid in identifying structures favourable as hosts for the metal. Stable isotope studies are carried out in the Isotope Geology Unit of IGS and I promised that I would investigate the possibility of a modest investigation on behalf of the Geological Survey and Mines Department.

3 Commercial Mining and Prospecting Activities

3.1 Coal. Considerable manoeuvring appeared to be taking place on the Swaziland coal scene at the time of my visit and there were one or two surprising turn of events.

3.1.1 A decision on the award of the contract for the feasibility study to be financed by the EEC of the proposed large mine in Area 3, ie immediately to the south of the existing Mpaka property, was reached on 14 March when it was decided to withdraw the request for EEC support. This will be a disappointment to the two British tenderers one of whom was in a most favourable position for the award of the contract. I was given to understand that a Mr de Vega, a local entrepreneur, had recently been granted a prospecting right over part of Area 3 and that it was now decided that he should be allowed to proceed with his own study of the possibilities rather than have an EEC involvement. I was unable to find out what plans Mr de Vega has for the coalfield study.

3.1.2 The proposal for a deep drilling programme to assess the coal resources of northern Swaziland also appeared to have run into trouble. The Japanese had apparently intimated their willingness to finance this proposed investigation, there being a link between this and the secondment of two Japanese coal-mining engineers to the Geological Survey and Mines Department. Discussions relating to the proposal had recently been held with Japanese officials in Nairobi, and Lusaka and the Director, accompanied by Mr McKeown and the two Japanese engineers, were due to leave for Tokyo on 15 March for further talks. At the last moment, however, the visit was put off by the Japanese authorities on the grounds that the secondment of the two engineers was about to end and no request for an extension had been made by the Swaziland Government. A certain degree of unwillingness on the part of the Japanese to finance this investigation may be surmised.

3.1.3 The Shell Company investigation in the Mhlume area seemed to be proceeding more favourably and I was given to understand that the company's proposals for mining are to be submitted in April or May this year. It is rumoured that one of Shell's conditions for going ahead with development will be the construction of a rail link from the existing network northwards to Komatipoort in South Africa. A feasibility study of such a link is already underway but a source of funding for the construction work has not yet been identified. More than half of such a link would lie outside Swaziland; its construction would be advantageous to the Republic and it seems that its operation would be profitable so that the cost of transporting Mhlume coal would be correspondingly cheaper.

- 3.1.4 In the report on my 1978 visit to Swaziland I mentioned in paragraph 4.1.4 that Natal Ammonium had obtained exclusive prospecting rights for the Maloma anthracite deposit. That company has since relinquished the right and an organisation called Inter-Coal Trading, whose moving light is a Mr Magnus Minnaar, has recently taken it over. Inter-Coal Trading, which is based in Johannesburg, claims to have links with a large West German/Swiss enterprise but these claims had not been substantiated at the time of my visit.
- 3.1.5 The Anglo-American property, Mpaka Mine, continues to produce as much as it can sell. A trial shipment of 75,000 tons of low volatile coal was recently made to South Korea but there had been no follow-up on the part of the Koreans.
- 3.2 Diamonds. The De Beers organisation is still deadlocked with the Swazi Nation over the terms and conditions for mining the Kimberlite pipe at Ehlane. The position at the time of my visit was that the Swazi Nation had told De Beers that agreement had to be reached by the end of March otherwise their exclusive prospecting licence would be cancelled. I gathered that similar threats had been made on previous occasions without being actually put into effect.
- 3.3 Iron Ore
- 3.3.1 The proposal for a joint Swazi/Kenya project, with EEC financial support, for steel production using Swazi coal and iron ore appears to be on the point of abandonment. Mr Dlamini commented that the proposal was altogether too complicated and that it was proving difficult to obtain agreement with the Kenyans on several important aspects.
- 3.3.2 Another reason for a possible abandonment of the Swazi/Kenya iron and steel project is the interest shown by the Kobe (Japan) Iron and Steel Corporation in up-grading and pelletising Swaziland's large low-grade iron-ore deposits. Discussions relating to this possibility were to be included in the programme of the Swazi delegation during their proposed visit to Japan in March (paragraph 3.1.2 above).
- 3.4 Gold. Drilling by the Eland Exploration Company is continuing in the surrounds of the Pigg's Peak gold mine. Results so far have been disappointing though they have helped towards a better understanding of the factors which controlled the mineralisation.
- 3.5 Asbestos. Negotiations apparently designed to bring about an increased participation by the Swazi Nation in the operation, are continuing with Havelock Mines owned by Turner and Newall. The quid pro quo appears to be that part of the ore body lying in the area formerly held by the Lonrho organisation, ie not within the Havelock Mine concession. A more aggressive attitude on the question of Swazi Nation participation in mineral exploitation is generally discernible.

4 Ministry of Commerce, Industry, Mines and Tourism

- 4.1 I had a meeting lasting 30 minutes on the morning of 14 March with Mr Douglas Mtwane, Permanent Secretary of the Ministry of Commerce, Industry, Mines and Tourism; I was accompanied by the Director of Geological Survey and Mines. Mr Mtwane expressed his Government's thanks for the continued support being accorded by the UK to the Geological Survey and Mines Department, and he thanked me personally for the help I have given with the training of Swazi nationals in Britain. In the short time available we reviewed the TC proposals mentioned in section 2.3 above and I took the opportunity of asking the Permanent Secretary to allow all possible support for Dr Barton's gold investigation programme.

5 British High Commission

- 5.1 I was received by HE Mr John Miles on the morning of 15 March. Mr Gerald Rance was also present at our meeting during which I gave HE a brief account of the position in the Geological Survey and Mines Department as I had found it. We discussed developments in the minerals field in Swaziland and I mentioned the conclusions I had arrived at as described in section 2.3 above.
- 5.2 I had a subsequent short discussion with Mr Peter Morris regarding the delay in the appointment of the new Drilling Superintendent. We also spoke briefly about the UK training programme for aspiring Swazi geologists and mining engineers.

6 Acknowledgements

- 6.1 The Director of the Geological Survey and Mines Department and his staff received me with their unfailing kindness and I am most grateful to Mr Dlamini for the warm welcome and hospitality once again accorded to me.