

THE RHODESIAN JOURNAL OF ECONOMICS

The Quarterly Journal of the Rhodesian Economic Society

Editorial Board:

A. M. Hawkins (Editor), J. A. C. Girdlestone, A. F. Hunt,

D. I. Ramsay and M. L. Rule.

ARTICLES		Page
Accounting for Changes in the Purchasing Power of Money	Douglas Brooking	57
The Structure and Development of the Southern Rhodesian Base Mineral Industry — From 1907 to the Great Depression	Ian Phimister	79
The Nature and Measurement of Poverty and the role of Minimum Budgets in Southern Africa	Michael Hubbard	89
<i>(A Review of the Urban Poverty Datum Line in Rhodesia report)</i>		
REVIEW		
Rhodesia — The Zimbabwe of Southern Africa, by R. S. Walker, Reviewed by	Ann Ramsay	97

THE STRUCTURE AND DEVELOPMENT OF THE SOUTHERN RHODESIAN BASE MINERAL INDUSTRY, 1907 — GREAT DEPRESSION

By I. R. PHIMISTER*

The British South Africa Company was originally lured in 1890 to what became Southern Rhodesia in anticipation of discovering extensive gold deposits, but over the next two decades evidence of the region's diverse mineralisation accumulated. Prospectors soon found deposits of asbestos, chrome, mica, copper, sheelite, wolframite, tin and antimony, to list but a few. Of the many minerals discovered, only the first two named achieved significant and relatively consistent importance between 1907 and the Great Depression and consequently discussion will centre almost exclusively on them.¹ Mica is examined briefly as an example of the lesser minerals and the general problems of profitability and marketability which their extraction entailed.

Geology naturally imposed its own basic constraints on base mineral mining. Unlike the characteristic occurrence of gold in small, scattered deposits, chrome and asbestos deposits were often extensive but this was somewhat offset by the fact that 'their grade is also frequently low and poses difficult problems in mining.'² Overall, base minerals shared with gold the unhappy distinction that compared

'with similar deposits either in South Africa or other highly mineralized areas in the rest of the world, [their] mining in Southern Rhodesia is frequently associated with greater technical uncertainty, while the margin of profit is often small in relation to the risks involved.'³

But geological and kindred mining problems were never as pronounced for chrome and asbestos as they were for gold, especially as some of the major deposits lent themselves to open-cast working and the quality of certain asbestos grades was amongst the best in the world.⁴

Much more serious were problems arising from Southern Rhodesia's situation as a remote, land-locked country. The poor location of base mineral

* Assist. Lecturer in History, University of Rhodesia.

All archival references apply to the National Archives of Rhodesia.

¹For the value of coal production, see Phimister, 'History of Mining in Southern Rhodesia to 1953', University of Rhodesia, unpub. Ph.D. thesis, 1975.

²*Development of the Economic Resources of Southern Rhodesia, Report of Advisory Committee*, 1962, 354.

³*Ibid*

⁴N. H. Wilson, *The Mining Industry of Southern Rhodesia* (Salisbury, [1933?]) 41.

producers as regards world markets⁵ made it difficult to sell competitively in such arenas and aggravated the burden of freight charges which were often heavy in relation to the value of the bulkier minerals exported.⁶ The severe competition which the territory consequently encountered both in originally breaking into world markets and thereafter in consolidating and expanding its share, thus demanded powerful marketing organisation and a very low level of mining costs. A still more fundamental problem was the extreme vulnerability of chrome and asbestos to overproduction and sharp price fluctuations contingent on changing world supplies and demand. This feature was further complicated by the system, at least in the chrome industry, of forward contracts whereby it was necessary 'for anyone catering for this market to be in a position to guarantee deliveries of specific tonnages. It follows that it is necessary to secure reserves of ore largely ahead of immediate requirements.'⁷ Moreover, unlike gold which was normally sold direct to banks for immediate payment, base minerals were sold overseas and the money received was often not available for up to six months.⁸

Taken together, these profitability and market constraints resulted in a structure for chrome and asbestos mining that was very different from that of the gold mining industry. Contemporary observers themselves pointed out that because of such constraints 'it follows that only [large] capitalists can work base metals in this Colony.'⁹ With the exception of mica mining where profits were too low to attract the attention of large companies, small workers suffered not only from the immediate constraints contingent on asbestos and chrome production but also were squeezed and bought out by the predominant producers. Because of the tendency towards overproduction and resultant price fluctuations in the base mineral market, profit maximisation and relative price stability were best achieved, as in the diamond industry, through monopolistic¹⁰ (or near-monopolistic) control of both production and marketing. This imperative applied both within Southern Rhodesia and on a world scale. A Government report later blandly noted that it was

'fortunate that the principal asbestos and chrome producers are closely associated with overseas interests, which give them access to powerful financial backing, the requisite technical knowledge and

⁵Southern Rhodesian chrome faced severe competition from New Caledonia, Turkey and Russia; asbestos equally from Canada and Russia; most of these producers were more competitively placed in relation to world markets than Southern Rhodesia.

⁶*Economic Resources of Southern Rhodesia*, 352, 354.

⁷A8/1/10, Extract from letter [1920] received from the consulting engineer, Rhodesian Chrome Mines, Ltd. and Rhodesia Metals Syndicate, Ltd.

⁸B. Lightfoot, 'Base Metals of Southern Rhodesia', *Proceedings of the Rhodesia Scientific Association*, 1938, 35, 76.

⁹*Ibid.*

¹⁰'Monopolistic' is used here to cover both 'monopoly' and the more frequent case of 'oligopoly'; for elaboration, see P.A. Baran and P.M. Sweezy, *Monopoly Capital* (Harmondsworth, 1968).

experience, and some assurance in regard to outlets for their products. The steady growth in production of the asbestos and chrome mines since their development . . . must be largely attributed to the close financial ties with the leading producers and traders of these minerals in world markets.¹¹

Initially, the discovery and development of the various chrome deposits was in the hands of a number of prospectors, small workers and companies, but the disadvantages of a plethora of local interests when faced with the difficulty of breaking into the world market were soon apparent. When, for example, the Bechuanaland Exploration Company first made enquiries about marketing its chrome production, it was advised by 'a firm who apparently control about two-thirds of the trade . . . that for the next two or probably three years the Companies interested in Rhodesia will not be able to dispose of any large quantity of Chrome Ore owing to contracts having been made from New Caledonia, Turkey and other countries for forward delivery.¹² In order to solve this marketing problem and also to 'do away with possible ruinous competition' the majority of important chrome producers and claim-holders in Southern Rhodesia were amalgamated in June 1908 to form the Rhodesia Chrome Mines Limited.¹³

The much greater capital resources and control over production which the new group enjoyed, enabled it to fight its way into the world market. The manner in which this was done is best expressed in the words of one of the participants:

'In the Chrome proposition, we fought the price steadily down from 67s.6d. to 40s., and then, luckily, the French owners of the New Caledonian proposition were satisfied that we should fight them to a standstill and offered to sell out. We formed a Company to acquire their property with a capital of £190,000 . . . Those interested in the Rhodesian chrome proposition found this large amount of capital, most loyal assistance being given by the British South Africa Company, which recognised the absolute necessity of acquiring the Caledonian proposition to safeguard the position of the Rhodesian. Had it not been for their foresight and strong financial support, the transaction might possibly not have been completed and the Rhodesian

¹¹*Economic Resources of Southern Rhodesia*, 352.

¹²M3/3/9/1, Secretary, Bechuanaland Exploration Company, to Secretary BSAC, 1.vi.1906.

¹³A3/17/10, Edmund Davis, to Secretary, BSAC, 11.ii.1915. Company interests which were amalgamated included Bechuanaland Exploration Co. Ltd., Willoughbys Consolidated, Matabele Proprietary Mines, Selukwe Gold Mining Company and Mashonaland Agency Ltd. The B.S.A.C. also had substantial holdings, as did Edmund Davis.

chrome venture would have been strangled in the early days of its existence.¹⁴

Under the direction and control of Rhodesia Chrome Mines, chrome production thereafter expanded steadily, particularly during World War One, until by 1919 over thirty five thousand tons valued at £142,541 were exported.¹⁵ Production was almost doubled in the following year and, as before, the bulk of the output came from producers controlled by Rhodesia Chrome Mines.¹⁶ The onset of the post-war depression in 1921 seemingly caught the major chrome producers unprepared and prices slumped because of over-production. In Southern Rhodesia the largest chrome mine temporarily closed down.¹⁷

With the recovery of world demand, Southern Rhodesian chrome output once again increased, this time to the point where it accounted for over half the total world production in 1929. Exports that year reached 293,000 tons valued at £675,000. Two years later, however, output had fallen to ninety thousand tons worth £224,000 and slumped again in 1932 to 17,298 tons.¹⁸ This collapse, explained a report, was 'due mainly to the world-wide depression', but it also noted that the 'greater part of the world's production of chrome is in the hands of one control, which under present conditions may find it more profitable to handle other chrome rather than Rhodesian.' The report rather lamely concluded that it had 'no means of confirming or dissipating this impression.'¹⁹

Confirmation for and explanation of 'this impression' lay in events which had come to a head some years earlier in 1928. Before that date chrome mining in Southern Rhodesia had been largely confined to the Selukwe area where the bulk of the mines were owned by Rhodesia Chrome Mines. A few smaller concerns also mined chrome, especially along the Great Dyke in the Umvukwes area, where production had commenced in 1918 in response to increased world demand occasioned by World War One. Although there were large deposits, chrome mining in the Umvukwes region prior to 1928 was characterized by its small-scale and limited profitability owing to the lack

¹⁴A3/17/8, Chairman, Charterland and General Exploration and Finance Company Ltd, to H.U. Moffate, 27.iii.1917.

¹⁵*Report of the Secretary for Mines for the year 1919*, 5.

¹⁶*Report of the Secretary for Mines for the year 1920*, 5.

¹⁷A8/1/10, Mining Commissioner, Bulawayo, report for year ended 31.xii.1921; *Report of the Secretary for Mines for the year 1921*, 1, 5.

¹⁸Lightfoot, 'Base Metals', 77; *Ottawa Conference, Report of the Committee appointed to investigate and report to the Government on certain matters relating to the natural resources and industries of Southern Rhodesia, their present position and future prospects, and their relation to Empire and world trade*, 1933, 5.

¹⁹*Ottawa Conference*, 5.

of railway transport.²⁰ It did not therefore pose any serious threat to the monopolistic control exercised by Rhodesia Chrome Mines.

But this position changed rapidly once construction began on a branch railway line to the Umvukwes area in early 1929. The railway meant that chrome in this region could be mined both extensively and profitably, a fact which had not been lost on Rhodesia Chrome Mines, then under the astute chairmanship of Sir Edmund Davis.²¹ In 1928, the African Chrome Mines Ltd., again controlled by Davis, was set up to purchase chrome properties and claims along the Great Dyke²² and so maintain overall control of chrome production within the Davis group. The Chrome Trust, as the two Davis companies were known, was not, however, able to block the purchase of a large number of chrome holdings by the powerful Chrome Corporation (South Africa) Ltd. This company had been formed under the auspices of Becker's Trust and, with a capital of three hundred thousand pounds, was purchasing large chrome interests in the Lydenburg district of the Transvaal, as well as in Southern Rhodesia.²³ So considerable were the Umvukwes purchases of the Chrome Corporation that Rhodesia Chrome Mines itself had to step in and supplement the buying undertaken by African Chrome Mines, by purchasing the whole of the holdings of the Great Dyke Syndicate. The *Rhodesian Mining Journal*, aware that the 'world's output of chrome was controlled by the Chrome Trust, in which the Sir Edmund Davis group is largely interested,' observed that 'evidently the signs of coming competition from the large holders in the Umvukwe areas have to some extent forced its hand, and led to the acquisition of the Great Dyke Syndicate's and other property.'²⁴

Competition, of course, was not a prospect which those controlling the production and trade of chrome welcomed. The whole structure of the industry had been designed to eliminate, as far as possible, the consequences of vulgar 'market forces'. Given these factors, it is thus highly likely that the Chrome Trust utilized the contraction in the world chrome market caused by the Great Depression to 'shut out' chrome produced in Southern Rhodesia and South Africa in order to throttle the Chrome Corporation. Declining world demand was in itself a compelling incentive to eliminate competition and this was achieved through the Chrome Trust's access to chrome supplies outside of Africa. By early 1932, sufficient pressure had been exerted, and African Chrome Mines Limited were able to purchase the bulk of the shares

²⁰See, for example, *Report of the Secretary, Department of Mines and Public Works, on Mines, for the year 1928*, 5-6; F. E. Keep, 'The Geology of the Chromite and Asbestos Deposits of the Umvukwes Range, Lomagundi and Mazoe Districts' *Southern Rhodesia Geological Survey Bulletin* No. 16 (Salisbury, [1930?]), 73-4.

²¹Events leading up to this railway construction and the clash between Government and the railway/chrome owners are discussed in Phimister, 'History of Mining'.

²²*The Rhodesian Mining Journal*, March 1932, 123.

²³*Ibid.*, August 1929, 317.

²⁴*Ibid.*, November 1929, 453.

Like chrome, asbestos production in Southern Rhodesia ultimately came under the control of one powerful group. Asbestos was first worked in the Mashaba district from 1908 onwards but production only assumed significant proportions when world demand expanded during the war. This expanding in the Chrome Corporation.²⁵ Monopolistic control of the world chrome trade was once again assured and this, together with a gradual easing of the depression, allowed the recovery of chrome production in Southern Rhodesia. demand also provided the necessary stimulus for the development of asbestos deposits in the second major area, Shabani, and production commenced in 1917.²⁶ Claims and mines in both districts were originally owned by a variety of individuals and companies, some of whom also held important chrome interests. In the Shabani area the most important producers and claim-holders included Willoughby's, the Bechuanaland Exploration Company and the African Asbestos Company, a subsidiary of the powerful Turner and Newall group. The latter company also operated in the Mashaba district, as did Victoria (Rhodesia) Asbestos Ltd., the Charterland and General Exploration and Finance Company and a number of small producers.²⁷

The first movement towards amalgamation occurred in 1917 when the Rhodesian and General Asbestos Corporation Ltd. was registered 'to acquire from the Charterland and General Exploration Co., Ltd., the whole of its interest and asbestos mining claims in Rhodesia, in addition to the properties and business of the Victoria (Rhodesia) Asbestos, Ltd.'²⁸ Bechuanaland Exploration interests were apparently also included in the scheme. Combination was seen as one of the precautions necessary 'to prevent a slump' and those interested were acutely aware of 'the benefit which has accrued to the country and those owning the chrome properties through similar steps taken in connection with the creation and safeguarding of a market for Rhodesian chrome ore.'²⁹ Not only would amalgamation go a considerable way towards establishing

'control of the Rhodesia asbestos trade . . . and, in the course of time, . . . build up a large industry but [it would also] create a name for Rhodesian asbestos in markets all over the world, as it is the only way to make a success of the venture and obtain a satisfactory return on the very large amount of capital which will have to be invested in the concern.'³⁰

The London Board of the B.S.A. Company, which was itself financially

²⁵*Ibid*, March 1932, 123.

²⁶Lightfoot, 'Base Metals', 76; *The Shabanie Asbestos Mines*, by the Staff of the African Associated Mines, Limited (Shabani, 1936), 1.

²⁷*Shabanie Asbestos Mines*, 1; *Rhodesian Mining Journal*, December 1931, 708

²⁸*Rhodesian Mining Journal*, December 1931, 708.

²⁹A3/17/8.

³⁰*Ibid*.

interested in the Rhodesian and General Asbestos Corporation, agreed to a proposal by that company's backers to prohibit the pegging of further asbestos claims by outsiders in the Mashaba and Shabani districts, in order to strengthen monopolistic control. As the Board explained to their Southern Rhodesian Administrator, Chaplin, 'this course will be both advantageous to the country and highly profitable to the Company but realise that it will meet with much local opposition which it is prepared to ignore unless you strongly advise it to refrain from this action.'³¹ Chaplin successfully objected to the proposed action on a number of grounds, chief of which was that reservation would be ineffective in view of the five thousand asbestos claims already in existence, and the Asbestos Corporation was advised to use the more conventional method of buying out smaller producers.³²

By the end of the Great War, asbestos production in Southern Rhodesia was dominated by the Asbestos Corporation, the Turner and Newall subsidiary and Willoughby's Consolidated. At this stage, there was room for all as world demand continued to increase and the years 1919-20 were prosperous. In the latter year, asbestos production reached 18,823 tons valued at £459,572.³³ Asbestos, however, shared the general fate of base minerals during the 1921 slump and all mines 'practically ceased production and restricted their development work.'³⁴ Of the three major asbestos companies, Willoughby's was the weakest and least able to face the prospect of over-production and declining prices and it subsequently sold its asbestos interests to the Asbestos Corporation in 1924.³⁵

The disappearance of Willoughby's left the field in the grip of the Asbestos Corporation and Turner and Newall. While the former dominated production within Southern Rhodesia,³⁶ Turner and Newall controlled the marketing of asbestos in Britain, where it manufactured crude asbestos into various industrial products, and also had asbestos interests in South Africa.³⁷ Conflict between two such powerful groups obviously would have been mutually damaging and in any case it seems that competition was more apparent than real. Before the Great Depression, both companies consistently paid high dividends³⁸ and in particular had a common interest in securing a

³¹Ibid, Cablegram from London, 2.iii.1917.

³²Ibid cablegram to London, 4.iv.1917.

³³*Report of the Secretary for Mines for the year 1920*, 6.

³⁴*Report of the Secretary for Mines for the year 1921*, 1.

³⁵A. E. Hadley, *Willoughby's Consolidated Co. Ltd: 1894-1944* (London, [1944?]), 17.

³⁶In 1926, for example, out of a total asbestos production of 33,344 tons valued at £726,835, the Rhodesian and General Asbestos Corporation accounted for 26,032 tons valued at £604,422; see *Report of the Secretary, Department of Mines and Public Works, on Mines, for the year 1926*, 3.

³⁷Keep, 'Review of the Mining Industry of Southern Rhodesia', *Proceedings of the Geographical Society of South Africa*, 1934 37, 29.

³⁸*Southern Rhodesia Legislative Assembly Debates*, 9, Second Session, Second Parliament, 24.iv.1930, col. 1281.

place for Southern African asbestos in the world market.

Sir Edmund Davis, who occupied a commanding position in the base mineral world,³⁹ employed his customary blend of ruthless coercion to carve out a market for Southern Rhodesian asbestos exports. Davis described his method of operation in a letter to Moffat, the colony's Minister of Mines, in 1925:

'As far as the asbestos position is concerned, you have no doubt heard that most of the Canadian Companies have suffered severely from the cutting of prices I have indulged in to obtain a preponderating position for Rhodesian asbestos in the World trade market . . . When I went to America they welcomed me with the statement that they had £600,000 to spend to knock Rhodesian asbestos out of the market. I d'd not then seen any of the people who were so anxious to spend this large amount but I sent back word to them that they could spend their £600,000 and they would find me in the market when they had finished doing so. To cheer them up I immediately cut the prices by 25% and have since cut them by an additional 50%, with the result that they are now passing their dividends and that at Meetings of Shareholders they are referring to the insane competition amongst producers in cutting prices to obtain trade. There is no question of price cutting to obtain trade, but of price cutting to secure the only trade there is, as whatever the price is the trade will practically remain the same, and I have managed to secure for Rhodesia the bulk of the best class trade, which is the one on which a profit can be made.'⁴⁰

But Southern Rhodesia faced competition not only from Canada but also from the Soviet Union, where asbestos production increased significantly in the late 1920s. Expanded Russian production apparently was in part a consequence of Davis' price-cutting operations. In order to stay in production, Canadian producers had begun selling their short grades of asbestos below cost, while depending on sales of long fibres and crudes at higher prices for overall profits. Demand for crudes and spinning fibres, however, was lessened with the introduction of moulded brake lining and prices began to fall. As a result, there was fierce competition, especially by the Soviet Union, for the more lucrative long fibre market. To meet this fresh challenge, the Rhodesian and General Asbestos Corporation and Turner and Newall amalgamated their interests at the end of 1929, even as the Great Depression began to constrict the world asbestos market further.⁴¹

³⁹For the extensive and inter-locking company interests held by Davis in the 1930s, see D. J. Murray, *The Governmental System in Southern Rhodesia* (Oxford, 1970), 138.

⁴⁰H.Mss. LE3/1/1, Sir Edmund Davis, to H.U. Moffat, 21.i.1925.

⁴¹*Rhodesian Mining Journal*, December 1931, 708-9.

At the height of the depression, Davis claimed that without the amalgamation 'Southern Rhodesian asbestos production would have by now come to a complete standstill . . . and all Rhodesian asbestos mines would have shared the fate of practically every asbestos mine in the world which is not allied to manufacturing interests.'⁴² Turner and Newall's manufacturing interests, combined with its monopoly of asbestos production in southern Africa and its marketing organisation in Britain, enabled it to reach agreement with the Soviet Union 'in collaboration with the principal consumers in Europe, with a view to the stabilisation of the market on a basis satisfactory to all concerned. The upshot will eventually be that supplies of both the Russian and the Rhodesian commodity will be available for all buyers at favourable prices.'⁴³ Monopolistic bargaining-power was thus able to secure exports worth over half a million pounds sterling for the Southern Rhodesian asbestos industry in 1933.⁴⁴

Unlike chrome and asbestos production, mica mining was not sufficiently profitable to attract the attention of large companies and consequently remained the preserve of individual smallworkers and small syndicates. Production was largely confined to the Miami area of the Lomagundi district and first began shortly after World War One.⁴⁵ Total output between 1919 and 1932 rarely averaged more than £22,000 per annum and was considered to suffer 'from ups and downs even beyond the hazards [to] which other base minerals' were prone.⁴⁶

Smallworkers were attracted to mica mining because of the very small capital expenditure that was entailed; 'little explosives are used, the mica being obtained chiefly by pick and shovel work.'⁴⁷ Such a consideration was particularly enticing at a time when the price of explosives was rising rapidly,⁴⁸ Minimal capitalisation, however, together with product's limited profitability and marketing difficulties,⁴⁹ required cheap labour. Many of these problems were shared by smallworkers mining chrome in the nearby Umvukwes area and both types of producer resorted to the customary procedure of cutting labour costs. In some respects, though, the lengths to which they went were extraordinary even by the standards of Southern Rhodesian mining.

'The Miners who first opened up the [Mica] Fields', observed a Government official, 'were men of little or no capital, and consequently could not

⁴²S254, Edmund Davis, to J. W. Downie, 8.vi.1931.

⁴³*Rhodesian Mining Journal*, December 1931, 709.

⁴⁴Keep, 'Review of the Mining Industry', 29.

⁴⁵Wilson, 62-3.

⁴⁶*Ibid.*, 63.

⁴⁷M3/7/10/4, Inspector of Mines, to Secretary for Mines, 5.viii.1920.

⁴⁸See Phimister, 'History of Mining'.

⁴⁹For this aspect and Government assistance to the mica miners, see, for example, *Report of the Secretary for Mines for the year 1920*, 2.

afford to pay more than the minimum wage that a native would accept . . . [and further] large numbers of natives never received wages due to them.'⁵⁰ Mica producers also reduced expenditure on wages by 'paying labourers in kind rather than cash.'⁵¹ But the most widespread method of cost minimisation was to employ children to grade and cut mica. On some mines, over twenty per cent of the workforce consisted of children who were paid between 2s.6d. and 10s. per month.⁵² As far as the neighbouring chrome mines were concerned it was thought that the

'Chrome Miners have laid themselves out to kill their labour supply, and have nearly succeeded in doing so. Non-payment of wages, piecework, Mine accidents⁵³ are all factors which adversely affect their supply. Chrome Mining is an industry which is cut to the last penny and if by mis-management or mis-calculation a miner finds he cannot balance his expenditure, the native labourer suffers.'⁵⁴

Low African wages were not restricted to the margins of base mineral mining, however, and were also central to the profitability of the monopolistic producers. The low level of mining costs made possible by low black wages enabled chrome and asbestos to be competitive in world markets despite Southern Rhodesia's disadvantageous geographical position. When demand slackened and prices fell during the Great Depression, chrome and asbestos were able to retain their competitiveness not only through monopolistic control and marketing, but also through further reductions in African wages. In 1931 for example, wages were cut on the large asbestos mines and by 1933 further reductions, combined with the piecework system, obliged Africans to work seven weeks for 30s.⁵⁵

The Great Depression had seen Southern Rhodesia's chrome and asbestos industries achieve and consolidate a structure which was to persist virtually unchanged beyond the 1950s.⁵⁶ This structure and sophisticated marketing organisation afforded both a valuable degree of protection from the vagaries of world demand and equally enabled the predominant producers to fight off renewed competition both within and without Southern Rhodesia.

⁵⁰S138/40, Assistant NC, Urungwe, to NC, Sinoia, 30.iii.1927.

⁵¹N9/4/42, NC, Lomagundi, report for March 1922.

⁵²S235/503, NC, Lomagundi, report for year 1925; S235/505, Assistant NC, Urungwe, report for year 1927.

⁵³Piece work and accidents were inter-related and both were a consequence of the industry's profitability constraints. Workers had to excavate a fixed amount of chrome before their tickets were marked and as a result 'Natives who discover a rich deposit of chrome are loath to leave it merely because the ground above them may cave in'; see S235/504, NC, Lomagundi, report for year 1926.

⁵⁴Ibid.

⁵⁵S235/509, NC, Mashaba, report for year 1931; S235/511, NC, Mashaba, report for year 1933.

⁵⁶For penetration by American capital in the late 1940s and early 1950s, see Phimister, 'History of Mining'.



This work is licensed under a
Creative Commons
Attribution – NonCommercial - NoDerivs 3.0 License.

To view a copy of the license please see:
<http://creativecommons.org/licenses/by-nc-nd/3.0/>

This is a download from the BLDS Digital Library on OpenDocs
<http://opendocs.ids.ac.uk/opendocs/>