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DIRECTORATE OF INTELLIGENCE

Intelligence Memorandum

South Africa: Prospects for the Gold Industry

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CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
March 1968

INTELLIGENCE MEMORANDUM

South Africa: Prospects for the Gold Industry

Summary

Potentially, South Africa could profit considerably if the price of gold on the free market settles significantly above $35 an ounce. Under these conditions, not only would the value of its major export rise, but also the life of the country's gold mines would be extended. If the free market price of gold increases only moderately (say up to $40 an ounce) it is far from certain that South Africa would decide to increase the current capacity to process ore, and hence the volume of gold production would be unlikely to rise. In the absence of a significant price increase, it is estimated that gold output in South Africa will soon begin to decline, unless the government takes measures to alleviate the tax burden on the industry or greatly increases subsidy payments.

In recent years the world demand for gold has grown enormously. This growth has far outstripped the increase in gold production. Industry, private hoarders, and speculators have taken the lion's share of newly mined gold and have left relatively little for additions to official monetary reserves. From 1963 to 1967, Free World consumption by industry and the arts increased 100 percent and purchases by private holders increased about 200 percent, whereas production increased only 7 percent. The sharp upturn in speculative activity

Note: This memorandum was produced solely by CIA. It was prepared by the Office of Economic Research and was coordinated with the Office of Current Intelligence.

in recent months has drawn down the Free World's monetary gold reserves significantly.

Gold production has failed to expand more rapidly because of a cost-price squeeze that has become particularly acute in recent years. During the 34 years since the price of gold was set at $35 an ounce, costs of production have risen greatly. Many mines have been forced to close, and prospecting in several countries has ceased completely. World production would have declined had it not been for the discovery of extremely rich deposits in South Africa after World War II. Extraction of gold from higher quality ores enabled the South African gold mining industry to offset the increase in costs per ton of ore extracted and production rose dramatically. However, South African production now has reached a plateau.

South Africa has contributed about 56 percent of the World's production of gold from 1950 through 1967; 33 percent came from other Free World countries, and 11 percent from the Soviet Union. In 1967, South Africa's share was 66 percent, while the rest of the Free World accounted for only 21 percent and the Soviet Union for the rest.

Gold has played an extremely important role in the South African balance of payments. Net foreign exchange earnings in excess of $12 billion from gold sales since World War II were a crucial factor in the transformation of South Africa from an agricultural to an industrial nation because they financed a large share of the required imports.

The World Gold Supply

1. World demand for gold has expanded rapidly with the large increase in international trade, rising industrial production, and the development of new uses for gold. In recent years, there has been an increased desire by both governments and private individuals to hold gold in the belief that the United States will increase its price. Production recovered slowly after World War II and reached its 1940 level of $1.4 billion* only in 1962. Now it is $1.6 billion, but this barely satisfies normal industrial requirements and other private demand, and total private demand for gold has exceeded new supply during periods of heavy speculation (see Table 1 and Figure 1). The world's official monetary gold reserves have been declining since mid-1966, and this decline accelerated during the public gold buying stampede of late 1967 and early 1968.

2. From 1950 through 1967 approximately $24 billion was added to the Free World gold supply.** About $5 billion, or 20 percent, was used by industry and the arts; only about $6 billion entered official reserves, and the remainder was purchased by private holders. Official reserves increased by only about 20 percent, in sharp contrast to a 200 percent expansion in world trade during this 17-year period. By the third quarter of 1967, official Free World monetary gold reserves reached about $43 billion: $40.6 billion was held by individual countries and $2.7 billion by the International Monetary Fund. Private holdings, believed to have been at least one-half the size of official reserves, have increased sharply in recent months as official reserves have been drawn down to meet the demand of speculators.

3. Production costs have risen rapidly since 1950, whereas the official price of gold has remained at $35 a troy ounce. Consequently, many

* *Unless otherwise stated, gold is valued at the present US price of $35 per troy ounce. This price was set in January 1934.*

** *In the long run, production and supply tend to be equal, but in the short run they differ because of Soviet sales, which are sporadic.*

Table 1

Estimated Distribution
of the Free World's Annual Gold Supply
1950-67

Billion US $

Year	New Supply	Net Consumption by Industry and the Arts	To Private Holdings	To Official Holdings
1950	0.9	0.2	0.6	0.1
1951	0.9	0.1	0.6	0.2
1952	0.9	0.2	0.4	0.3
1953	1.0	0.2	0.4	0.4
1954	1.0	0.1	0.2	0.7
1955	1.1	0.2	0.2	0.7
1956	1.1	0.2	0.4	0.5
1957	1.2	0.2	0.3	0.7
1958	1.2	0.3	0.4	0.5
1959	1.4	0.2	0.4	0.8
1960	1.3	0.3	0.7	0.3
1961	1.5	0.3	0.6	0.6
1962	1.5	0.3	0.8	0.4
1963	1.9	0.3	0.8	0.8
1964	1.9	0.4	0.8	0.7
1965	1.9	0.4	1.3	0.2
1966	1.5	0.5	1.1	-0.1
1967	1.5	0.6	2.3	-1.4
Total	*23.7*	*5.0*	*12.3*	*6.4*

mines in South Africa and elsewhere have been forced to close, and production has leveled off or declined nearly everywhere except in the USSR, where the industry does not have to operate profitably by Free World standards (see Table 2 and Figure 2).

South Africa's Role

4. South Africa has dominated world gold mining almost since the country began producing in the 1880's. Its share of world production was 40 percent in 1900 and 50 percent in 1920. Now

Figure 1

ESTIMATED DISTRIBUTION OF THE FREE WORLD'S ANNUAL GOLD SUPPLY, 1946-67

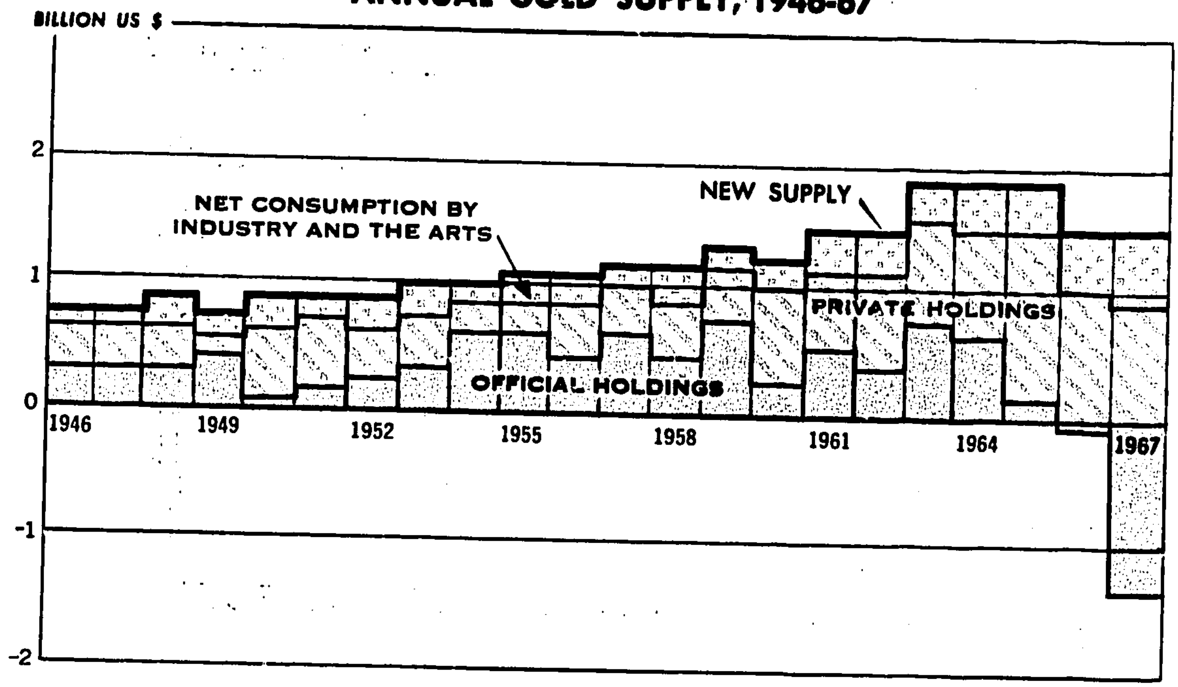

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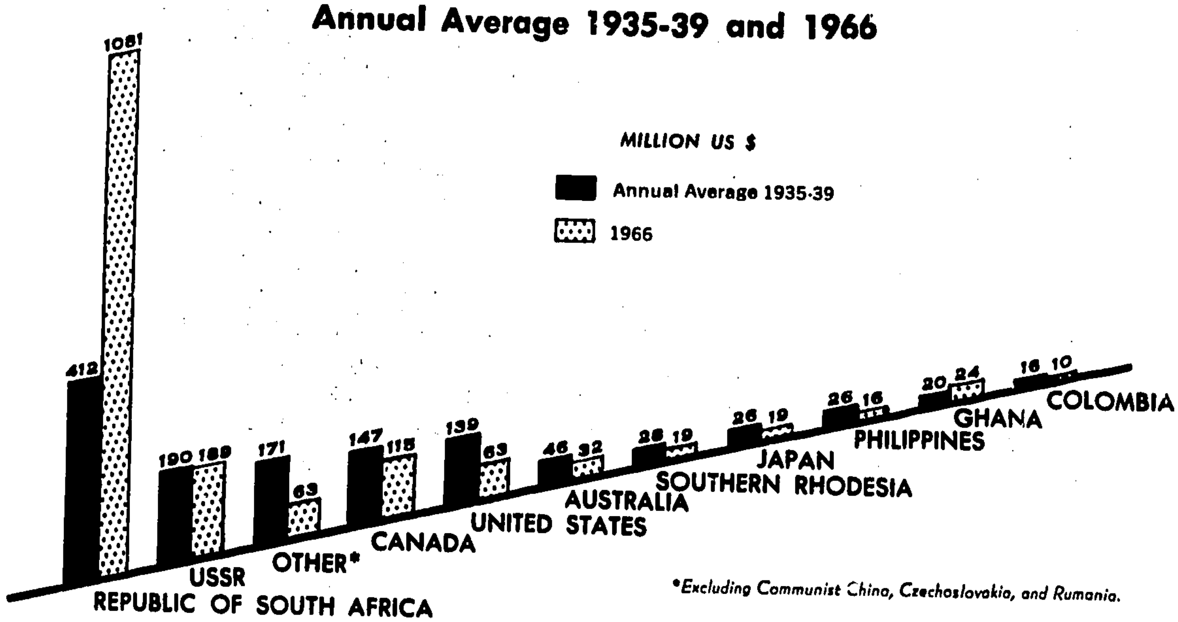
Figure 2

OUTPUT OF GOLD BY MAJOR WORLD PRODUCERS
Annual Average 1935-39 and 1966



*Excluding Communist China, Czechoslovakia, and Rumania.

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Table 2

Output of Major World Gold Producers
Annual Average 1935-39 and 1966

Million US $

	Annual Average 1935-39	1966
Republic of South Africa	412	1,081
USSR	190	189
Canada	147	115
United States	139	63
Australia	46	32
Ghana	20	24
Japan	26	19
Southern Rhodesia	28	19
Philippines	26	16
Colombia	16	10
All others a/	171	63

a. Excluding Communist China, Czechoslovakia, and Rumania.

South Africa accounts for 66 percent of world production (see Table 3 and Figure 3).

5. The phenomenal growth of the Republic's gold output in the post-war period from $417 million in 1946 to $1.08 billion in 1966 has more than compensated for a $260 million decline from pre-war levels in production of other Free World countries. The expansion in South Africa was made possible chiefly by the discovery of extremely rich deposits after World War II and to a lesser extent by technological improvements. About 80 percent of South Africa's total gold production now comes from goldfields developed in the past 25 years. Other factors favoring South Africa are the supply of exceptionally cheap and amenable labor and the economies of a well-organized industry with large capital resources available for prospecting and for investment in the most modern mining equipment and techniques.

Table 3

World Gold Production a/
1950-67

Million US $

Year	World	South Africa	USSR	Other
1950	972	408	126	438
1951	952	403	125	424
1952	977	414	125	438
1953	970	418	122	430
1954	1,018	463	121	434
1955	1,061	511	121	429
1956	1,097	556	117	424
1957	1,138	596	119	423
1958	1,174	618	123	433
1959	1,250	702	123	425
1960	1,301	748	123	430
1961	1,348	803	133	412
1962	1,444	892	144	408
1963	1,510	961	154	395
1964	1,567	1,019	161	387
1965	1,615	1,069	175	371
1966	1,631	1,081	189	361
1967 b/	1,615	1,068	200	347

a. Excluding Communist China, Czechoslovakia, and Rumania.
b. Preliminary.

Importance to South Africa

6. The gold industry now accounts for about 10 percent of South Africa's gross domestic product (GDP). The entire output, worth more than $1 billion in 1967, is sold abroad and earns about 40 percent of South Africa's foreign exchange. From 1961 through 1965 the industry paid $788 million in taxes and spent $1,320 million in wages and salaries and $1,741 million locally on mining equipment and supplies.

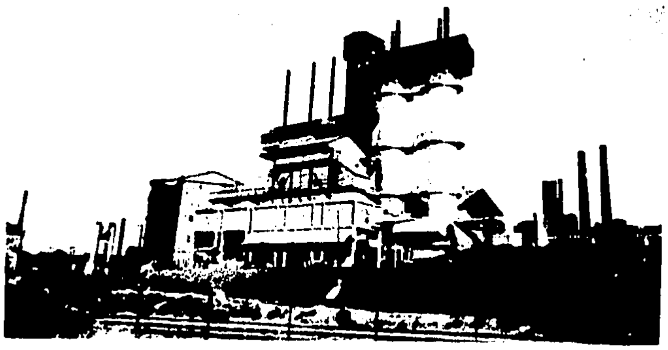
7. Gold has financed much of South Africa's economic growth. Since World War II, gold sales have totaled $14 billion and have enabled South

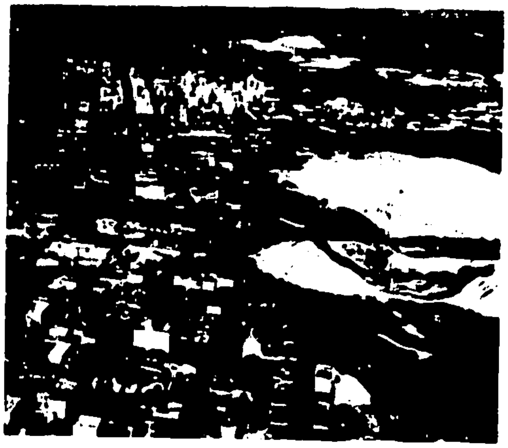
The seventeen bars of gold bullion in this photograph are valued at approximately US $595,000 at $35 per troy ounce and represent about 2-1/2 days production of gold by the Anglovaal group mines.

Africa to develop rapidly into an industrial economy. Gold exports have accounted for about 40 percent of total exports and have financed close to one-half of total imports. Moreover, government receipts from taxes on gold mining companies are an important source of government revenue, representing about 19 percent of the Republic's receipts from direct taxes in recent years.

Goldfields

8. South Africa's first important gold mines were opened in 1886 in the Central Rand. Soon after the turn of the century, gold was also discovered in the East and West Rands and both developed into major producing areas. The Kerksdorp area in the Orange Free State has accounted for one-third of South Africa's total output. The latest gold discoveries have been the Evander fields in the Eastern Transvaal, where the first mine was opened in 1958. Output





These photographs show the proximity of the gold mines to the city of Johannesburg.

there has since increased steadily and is expected to continue to increase as the Kinross mine begins production in 1968. The search for gold continues, and in the past ten years $42 million has been spent on prospecting. All new discoveries have been extensions of existing fields, however, and hope is fading that rich new fields will be found. (For the geographical location of South Africa's goldfields, see the map, p. 11.)

Organization

9. The South African gold mining industry is made up of more than 60 mining companies which are owned or controlled by seven major financial houses. Coordination of mining activities is done through the South African Chamber of Mines. The Chamber represents the industry in negotiating agreements with government departments and administrative

bodies and in wage contracts with labor unions. The Chamber issues statistics, carries on research, conducts safety campaigns, oversees safety regulations, supervises workers' welfare services, and, with the government, runs training schools for mineworkers. The Chamber owns the Rand Refinery Ltd., which refines 95 percent of the country's gold output. Gold bars are sold to the South African Reserve Bank, which has used the Bank of England as its agent on the London market. Because the Bank of England and other members of the former London Gold Pool have indicated that they will no longer buy newly produced gold, South Africa may develop other markets in addition to London.

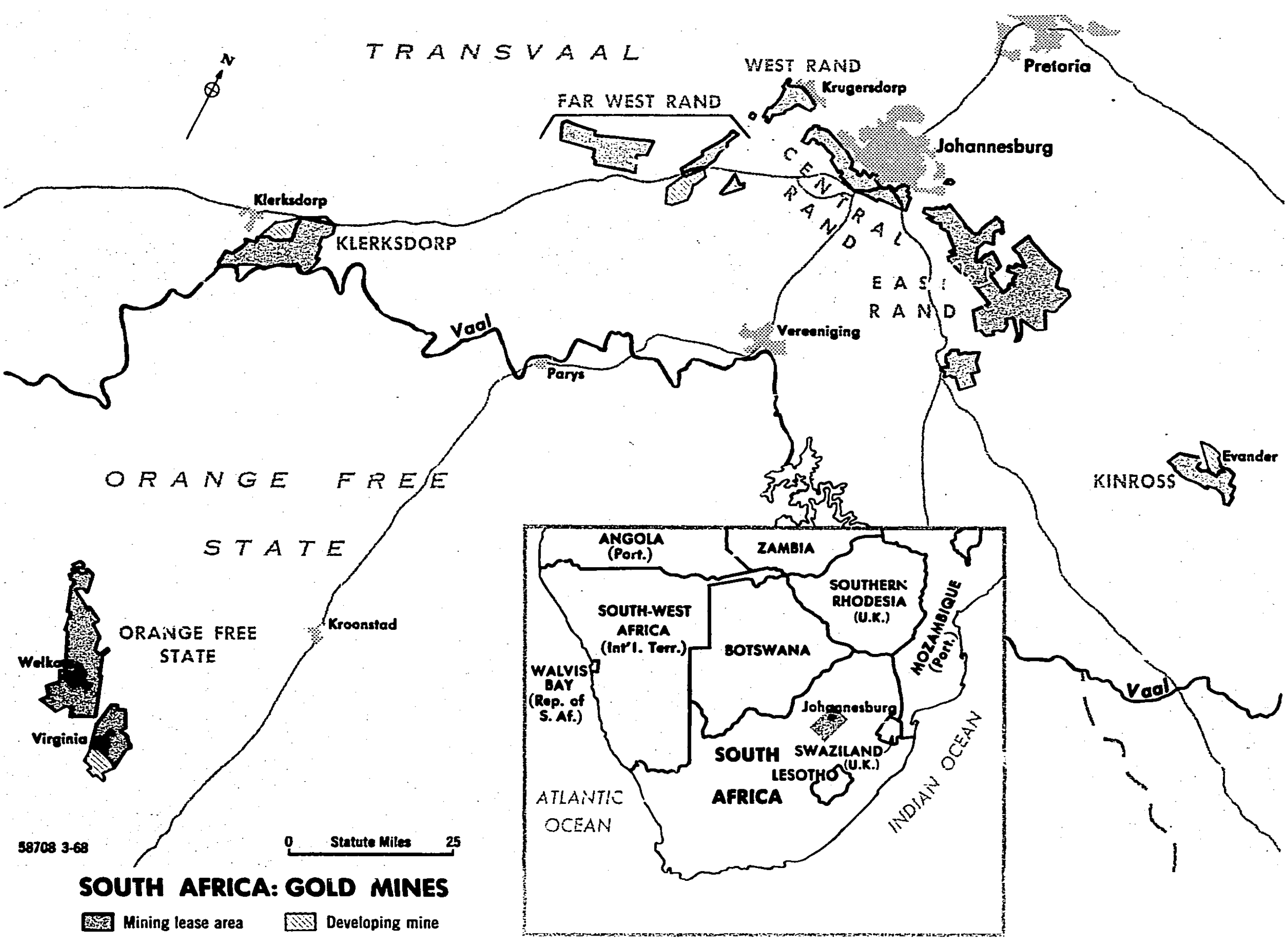
<u>Labor</u>

10. The gold mines employ about 425,000 persons, of whom about 90 percent are Bantu.* On an average, 40 percent of the 380,000 Bantu mineworkers come from the Republic, another 20 percent from Mozambique, 20 percent from Lesotho, Botswana, and Swaziland, and most of the rest from Malawi.

City Deep gold mines main compound barracks.

A surveyor and his assistants at work in a gold mine.

* *Bantu is the South African term for black Africans.*



SOUTH AFRICA: GOLD MINES

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Government Policy

13. South Africa's policy toward the gold industry is largely one of maximizing government revenue while at the same time encouraging the opening of new mines. As such, the industry has borne an exceptionally heavy tax burden for many years. Profits of less than 6 percent of gross sales are not taxed. But above this, the tax rate increases sharply to a maximum of 55 percent. There are also other forms of taxes, including a temporary surcharge of 5 percent and an additional 5 percent tax called a "loan levy." The latter loan will be repaid by the government in seven years under present law.

14. Capital expenditures incurred in bringing a mine into production are fully deductible -- that is, no tax is paid until these expenditures have been fully recovered. An example of this is the Welkom mine in the Orange Free State which began production in 1953 but did not incur a tax liability until 1966 after producing more than 5 million ounces of gold. This tax writeoff was at first limited to gold mines established after February 1946 but has since been extended to all deep mines to encourage older mines to maintain operations by mining at deeper levels. More recently, capital allowances have been extended to 106 percent, and a 108 percent writeoff is allowed for mines established after 17 August 1966. In specific cases involving exceptionally high capital costs, such as the $56 million invested in the Western Deep Levels mines, additional capital allowances were made by special legislation.

15. Payments are made by the government to less profitable mines to finance the cost of pumping water seeping in from abandoned underground workings. By June 1966, seven mines had received about $2 million for this purpose. In addition, between April 1964 and the end of 1967 ten mines had received $9.5 million in loans to cover operating losses up to 10 percent of revenue. In mid-1967, assistance had increased to an annual rate of $5.6 million a year. The total of about $15 million paid to marginal mines since the inception of these benefits is estimated to have been responsible for additional gold production of about 4 million ounces valued at $140 million.

16. An important indirect subsidy for marginal mines in South Africa has been government leniency if not actual encouragement of mergers of profitable and unprofitable mines. Because of the tax structure, benefits can be obtained from the application of tax losses, and mergers of this type can result in substantial savings for the companies involved.

17. The choice South Africa faces with respect to the future of its gold industry is essentially one of resource allocation. By reducing taxes on the gold industry, the government could maintain a high level of gold production for many years, or it could use these tax revenues to develop other export industries to replace gold in part. Some officials emphasize that gold is a wasting asset and the economy must be adjusted during the remaining years of high output to an eventual loss of gold production. The gold industry contends that gold is still South Africa's cheapest means of earning foreign exchange and will remain so for some time. The government, however, appears to anticipate a long-term decline of gold production and will probably stress development of other exports.

Prospects

18. Without an increase in the price of gold, the future of South Africa's gold industry is far from bright. Production now has reached a plateau, and by the early 1970's output is likely to begin a decline that will have little chance of being reversed. The sharpness of the decline will depend on how fast costs increase and on whether the government gives the industry tax relief and larger subsidies. As things now stand, the South African Chamber of Mines estimates that if costs per ton of ore increase 4 percent per year, which seems realistic, production would drop from about $1 billion in 1970 to $950 million in 1974, after which the decline would probably become quite abrupt. They further estimate that by 1978 production would fall to about $700 million, and by 1982 to about $125 million. An increase in the price of gold matching the 4 percent annual increase in the cost of extracting the ore would bring the price of gold to almost $40 an ounce in 1970, $46 in 1974, and $54 in 1978 (see Figure 6).

19. If South Africa sold gold in the world's free markets at an average price significantly above $35 an ounce, this would increase the receipts from gold exports and extend the life of the gold mining industry by allowing it to process lower grade ores profitably. But in the short run a higher gold price probably would not result in increased production. The reason is that the South African gold mining industry is now extracting ore at rates that approach the capacity of existing processing facilities. If lower grade ore were mined, the recovery of gold from a given processing capacity would be smaller. In the long run, capacity for processing ore could be expanded and gold production increased, but the South Africans are unlikely to undertake the investments necessary to increase capacity unless they expect the average price at which they can sell gold to remain well above $35 an ounce for a long enough time to make the investment profitable. If the price increase were small (up to $40 an ounce) they might well decide not to increase capacity, but would be able to postpone the decline in production which is expected to begin about five years hence. In any case, the South Africans are likely to wait until the market and price prospects for gold have become clear before taking any important steps.

Figure 5

SOUTH AFRICA: GOLD MINE OPERATIONS, 1966

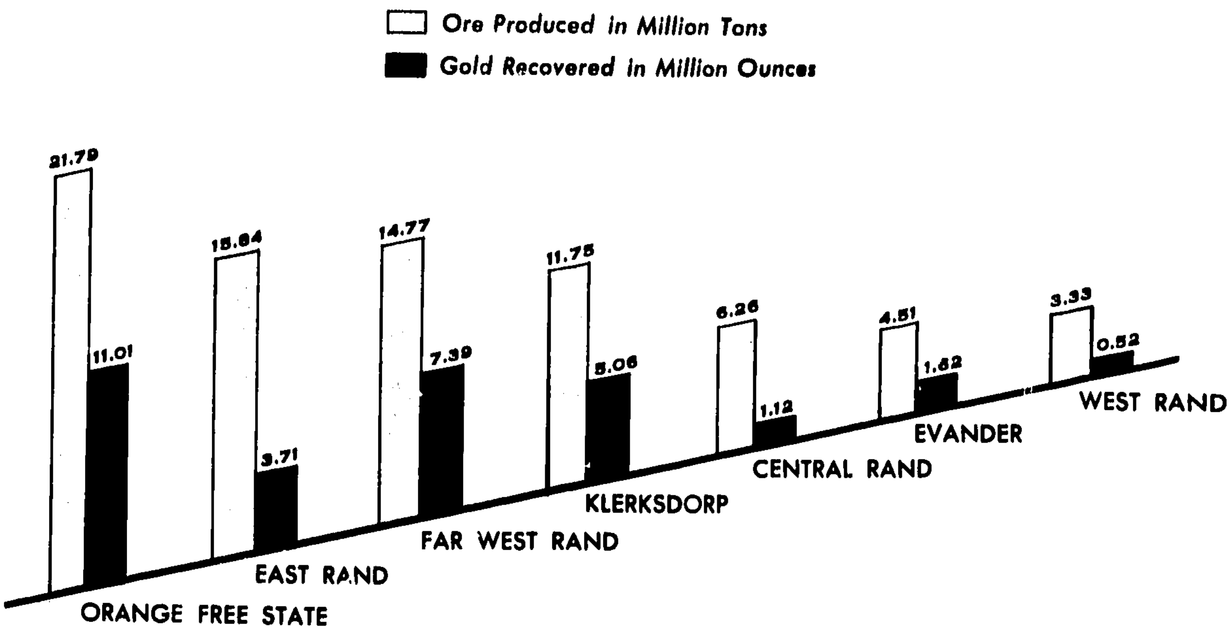

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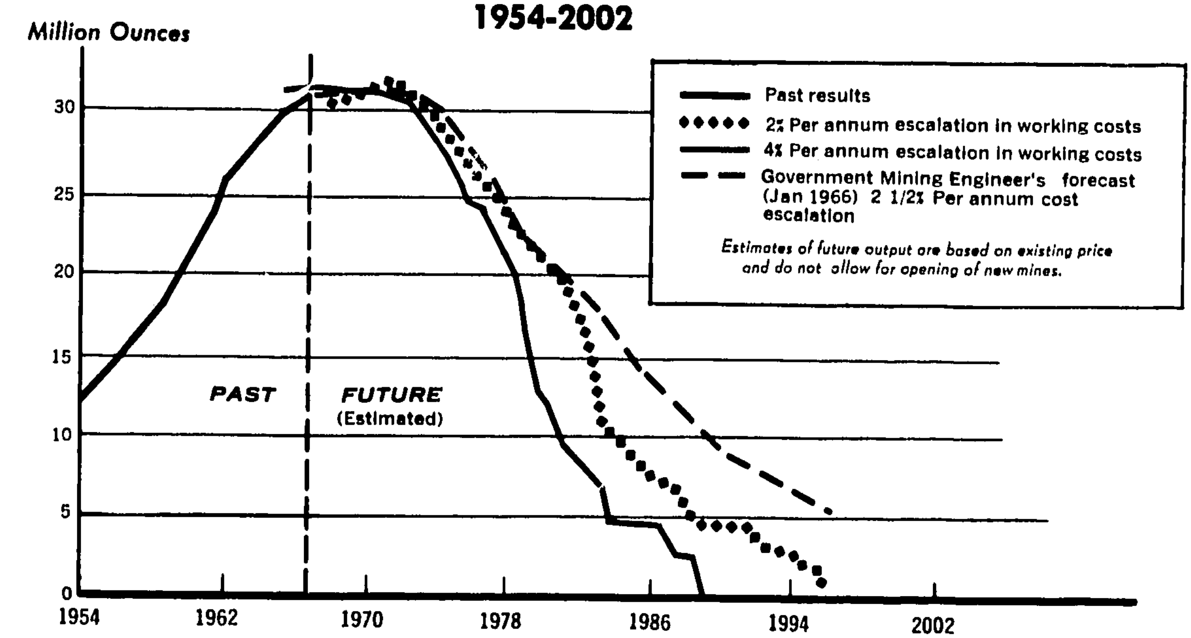
Figure 6

SOUTH AFRICA: PROJECTED DECLINE AND FALL OF GOLD PRODUCTION 1954-2002



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