

Theft from South African Mines and Refineries

The Illicit Market for Gold and Platinum

by Peter Gastrow

PREFACE

ACKNOWLEDGEMENTS

Chapter 1

INTRODUCTION

Chapter 2

PRODUCT THEFT OF GOLD

Chapter 3

PRODUCT THEFT OF PLATINUM GROUP METALS

Chapter 4

RELATIONSHIP BETWEEN THE MINING INDUSTRY AND THE DIAMOND AND GOLD BRANCH OF THE SAPS

Chapter 5

FINDINGS AND RECOMMENDATIONS

NOTES

ILLUSTRATIONS

This publication is funded by the



EUROPEAN
UNION



CHAMBER OF MINES OF SOUTH
AFRICA

PREFACE

This Monograph draws from a study undertaken by the Institute for Security Studies (ISS) for the Chamber of Mines of South Africa at the beginning of 2000. The study aimed to assess the threat faced by the South African economy, the mining industry and its employees as a consequence of the theft of precious metals from mines and refineries.

The decision to commission such a study arose, among others, out of a concern expressed by the Chamber that large volumes of gold and platinum group metals were being stolen annually from mines and refineries without any independent assessment being made of the extent of such theft. Nor had any independent study been made to assess the extent to which such thefts represented a threat to the mining industry, its employees or the economy of the country. There was concern that the incidents of theft appeared to be increasing and that the strategies being adopted by both the mining industry and the government to address this were not being given sufficient priority due to a lack of credible information.

This first attempt to assess the extent of the theft of gold and platinum group metals has many imperfections. The findings of the study were based on incomplete statistics obtained from mines and the police and on assumptions with clear limitations that will hopefully no longer apply when similar exercises are undertaken in future. The gold and platinum group metal (PGM) mining sectors are very diverse and information relating to product theft and security on mines was insufficiently shared between mines and mining houses in the past. The information about product theft collected by mining houses was kept confidential as in-house information for the use of the specific mining house only. The reasons for such confidentiality may be understandable, but they need to be reconsidered. It is clear that, without reliable statistics from mines and the police, a reasonably accurate national assessment of the nature, extent and impact of gold and platinum product theft in South Africa will not be possible.

The study also attempted to throw some light on the role played by organised criminal groups in the theft of gold and platinum group metals. Far more work needs to be done on this aspect. From the study it became apparent that, despite the widespread theft of precious metals from mines and refineries, very few of the top illicit gold and platinum group metal dealers have been arrested. At the top level, the criminal networks that are involved have reached a level of sophistication that makes their successful investigation and prosecution very difficult. This is a problem that law enforcement agencies face across the world. As a result, a debate has emerged among experts on organised crime about the need to develop a better understanding of illegal criminal markets. It is argued that governments need to look at illegal commodities and their markets as a whole, considering how to attack the market itself rather than solely depending on legislation and law enforcers to stop the activity of the criminals or a specific criminal group. Hopefully, this study will contribute towards efforts by the government, the South African Police Service, the mining sector and the public to combat organised crime in the mining industry more effectively and to reduce the criminal market for gold and platinum group metals.

The study into the activities of organised criminal groups was based almost exclusively on primary research. Police records were made available and interviews were held with members of the Diamond and Gold Branch at different locations in the country. Some of the Branch offices were visited and interviews were conducted. This report therefore contains some insight into the magnitude and nature of their task and the conditions under which they operate. With limited resources, particularly insufficient numbers of staff, they find it difficult to cope with the increased activities of the numerous criminal networks that are active in the illicit markets for gold and platinum group metals. The priority now given to organised crime by the South African government has led to the establishment of new specialised investigative units. A restructuring of existing specialised units is also under way. This may affect the Diamond and Gold Branch and therefore the interests of the mining industry as well. Studies such as this will hopefully provide information that is relevant to the debate around restructuring.

In undertaking this study, the assumption was made that particulars relating to the extent of the theft of gold and platinum group metals at mine level, as a matter of practice, were forwarded to

the head office of the mining house concerned on a regular basis. The representatives of the mining houses who were consulted confirmed this. As a consequence, the investigation into the extent of this kind of theft focused more on the information that is available from the head offices of the relevant mining houses than on information that might be available at mine level. Visits to some of the gold and platinum mines were primarily aimed at obtaining information about mining processes, the nature and location of thefts, and the general security measures at mine level. The assessment of the extent of theft was therefore dependent on the information supplied by the head offices of the mining houses and not by the mines themselves. Meetings and discussions were held with representatives of relevant mining houses as well as with personnel from some mines.

At an early phase of the study, information was sent to the General Secretary of the National Union of Mine Workers (NUM) to explain the nature and objective of the study and to seek an interview with him. The purpose of the interview was to obtain the perspective of the NUM on the issues that were to be dealt with in the report. The NUM office subsequently indicated that, as the NUM had not been informed by the Chamber of Mines about the study, it would not serve a purpose to participate or to proceed with an interview. As the NUM had declined to provide its perspective, it was regarded as potentially divisive and damaging for labour relations to proceed with meetings with the other labour unions that are active in the mining sector. For this reason, the report was prepared without input from any of the labour unions involved in the mining sector.

Finally, the ISS, as an independent research institute, takes no institutional positions on issues relating to research done by its staff. Researchers have the freedom to express their own opinions without the ISS necessarily endorsing them. This monograph therefore does not reflect the views and findings of the ISS as an institution. As the author of the report, I take full responsibility for its content.

Peter Gastrow
Director: Institute for Security Studies
Cape Town Office

ACKNOWLEDGEMENTS

In undertaking this study, the full co-operation by and assistance from the main roleplayers must be gratefully acknowledged:

- the Chamber of Mines of South Africa;
- the South African Police Service;
- Rand Refinery Limited; and
- mining companies in the gold mining and platinum group metal sectors.

More specifically, I wish to thank Mr Anton van Achterbergh, Assistant Legal Adviser of the Chamber of Mines of South Africa, and Senior Superintendent Piet Otto, Head of the Diamond and Gold Branch of the SAPS for their assistance. They went out of their way to provide information and assist in opening doors in a mining sector environment where there was initially considerable caution and suspicion about a study of this nature.

It would not be appropriate to mention the many names of individuals from the mining companies and individual mines that assisted with this project. They placed considerable trust in me by providing me with general information and statistics relating to their specific operations. I

tried to abide by their request not to publish statistics relating to product theft in such a way that the information could be linked directly to their specific mines or mining houses. Individual members of the Diamond and Gold Branches involved in interviews and visits also went out of their way to provide information. At no stage did I get the impression that relevant information was being withheld. The fact that the police management at the SAPS headquarters in Pretoria provided the necessary clearance for me to conduct visits and interviews gave members of the police at Branch level the confidence to provide information which could not be published. I am therefore indebted to all those who assisted.

I am also indebted to Clare Jefferson and Ettienne Hennop, two colleagues from the ISS, for their contribution. They collected a considerable amount of information through interviews and field trips to mines and police stations. In short, a study such as this is only possible when the relevant roleplayers agree with its necessity and therefore co-operate fully. I was fortunate that this was the case throughout the study.

The publication of this monograph is funded by the European Union and the Chamber of Mines of South Africa.

Chapter 1

INTRODUCTION

THE ROLE OF THE GOLD AND PLATINUM GROUP METAL MINING INDUSTRY IN SOUTH AFRICA

The economic and strategic importance of South Africa's mining industry is beyond dispute. While there has been a recent decline in mining volumes mined and the sale of some minerals such as gold, the significant mineral reserves of the country suggest that South Africa's mining industry will continue to be an important global roleplayer for many decades to come. The country has about 40% of the world's gold reserves and 90% of platinum group metal (PGM) reserves.¹ South Africa is therefore ranked first in the world in respect of both gold and platinum reserves.

Although the contribution of gold and platinum mining towards South Africa's economy is constantly changing, it has been significant over many decades. This does not mean that the industry will not face significant challenges in future. Of the gold and platinum mining industry, gold mining has had to pass through the most turbulent times during the past few years.

GOLD MINING

The profound changes that the gold-mining industry has experienced, have been caused by both local and international conditions. Cost increases in the industry have been significant, while both the tonnage and the grade of the ore have declined. Recent statistics indicate that this trend is continuing.² South Africa's gold production fell from 494 tons in 1997, 464 in 1998 to 428 tons (at an annualised rate) in the first half of 1999.³

At the same time, the price of gold has dropped, making many mines marginal. During 1999 spot gold prices dropped to US \$256 per ounce, the lowest in two decades, following the announcement by the Bank of England that the United Kingdom treasury intended to dispose of more than half of its gold reserves over a period of two years. It is further estimated that only if the gold price remains in the region of US \$300 or above would there be a dramatic reduction in price-related retrenchments of mineworkers.⁴

Despite declining production and export figures, the gold-mining industry directly contributes just under 4% to gross domestic product. It is more likely to contribute a total of closer to 10% if the indirect contribution of the industry's multiplier effects is taken into account. The estimated total direct taxation paid towards the national fiscus for the fiscal year 1996/1997 was R2 billion.⁵

The value of gold exports as a percentage of South Africa's foreign exchange earnings has declined from more than 50% in 1983 to just over 20% in 1996. More recent estimates show that gold exports in relation to total exports have declined to a record low of 11.5% in 1999 from 25% in 1990.⁶ If the fact is taken into account that, in contrast to the manufacturing sector, the gold-mining industry is a relatively low net user of foreign exchange, then even its contribution of about 11.5% to South Africa's foreign exchange earnings remains significant.

As a result of increasing costs, a decline in tonnage and the grade of the ore mined, and a drop in the gold price, employment levels in the gold mining industry have seen significant decreases over the past ten years. From a total of approximately 520 000 people employed in the gold mining sector in 1987,⁷ there has been a decline to an employment level of 258 815 in 1998, a decline of approximately 50%.⁸ The negative impact of such job losses becomes even more serious when considering that every worker in the gold-mining industry is estimated to have between seven and ten dependants.

The above factors explain why the gold-mining industry, despite playing a prominent role in South Africa's economy, is presently experiencing significant threats to its economic survival. Productivity and profitability are therefore key to its survival.

PLATINUM GROUP METALS MINING

South African mines are the world's primary producers of the platinum group metals (PGMs): platinum, palladium, rhodium, ruthenium, iridium and osmium. The impact of platinum-mining on the South African economy is growing, both in terms of export earnings and as a significant employer of labour. PGMs are presently the country's second largest export after gold and the gap between gold's export earnings and those of PGMs is narrowing. In 1998, gold exports earned R24 billion, while those of PGMs earned R14 billion.⁹ Almost 100 000 South Africans are employed in this sector.

Uncertainties about the production levels and marketing strategies of the world's second largest producer of PGMs, Russia, continue to complicate forecasts of international price, demand and production levels. During November 1999, for example, prices for PGMs reached new highs based on fears that Russia could halt exports of palladium during 2000. The platinum price followed suit. When Russia's acting president signed legislation providing for the resumption of Russian platinum exports in January 2000, the London platinum price immediately dropped.

Despite these uncertainties, however, international demand for PGMs is expected to rise. Analysts expect metal markets to absorb resumed Russian exports because of the rising global demand.¹⁰ The platinum-mining industry is therefore planning for ongoing expansion, but in an international environment of uncertainty as far as global supply and price are concerned.

In summary:

- Despite its ongoing prominent role in South Africa's economy, the gold-mining sector is currently experiencing significant challenges to its economic survival related primarily to

issues of productivity and profitability.

- The PGM mining industry is expecting increased international demand, but in an environment of uncertainty as far as global supply and prices are concerned.

This brief background indicates that the issues of productivity and profitability have increasingly come under the spotlight. It therefore stands to reason that the theft of precious metals from mines and refineries have been accorded a higher priority by the mining industry than in the past. In its 1998/1999 Annual Report, the South African Chamber of Mines (Chamber) reported that:

"The theft of gold, platinum, copper and diamonds has taken on alarming proportions within the mining industry. For example, in respect of gold it is conservatively estimated that in 1996 some 30 tons of gold to the value of approximately R1,58 billion was stolen."

Chapter 2

PRODUCT THEFT OF GOLD

EXISTING ESTIMATES BY THE INDUSTRY

The only existing estimate of the extent of the theft of gold from mines and refineries in South Africa is the figure provided by the Chamber of Mines of 30 tons valued at approximately R1.58 billion that is estimated to have been stolen during 1996.

This figure has been mentioned on a number of occasions by the industry. An attempt to establish the origin of this figure revealed the following facts.

During a visit to a European gold refinery, an official from the South African gold industry was asked what the annual figure was for the theft of gold in South Africa. According to the official concerned, he mentioned the figure of 11 tons for the year 1996. The European refinery representative apparently dismissed this figure claiming that the refinery itself had bought approximately 25 tons of South African gold from unofficial sources during 1996. During a trip to another refinery in Europe, the South African visitor was informed that the refinery in question had bought approximately 7 tons of South African gold from unofficial sources during 1996. The information from both refineries was given to the South African during casual discussions and on an informal basis. Neither of the two refinery representatives was apparently prepared to divulge more information and there was no follow-up to obtain confirmation of these figures from the refineries concerned.

On the basis of this information, the South African official concluded that a conservative estimate of gold stolen in South Africa during 1996 was 30 tons for the year 1996, although he believed it to be closer to 50 or 60 tons. The information given to the South African visitor could not be verified, nor is there any basis on which to suggest that the information supplied by the European refinery representatives was false. The information is unconfirmed and uncorroborated, however, and was published in the Annual Report of the Chamber without any closer scrutiny of the claims having been undertaken. In order to have a degree of credibility, estimates should be based on projections or calculations derived from a factual basis that can be verified.

Even though there are no facts available on the basis of which the figure of 30 tons can be

confirmed or refuted, the assessments made in this study were not influenced by it. The point of departure for the study was therefore that the extent of theft from gold mines and refineries in South Africa was unknown.

POLICE STATISTICS

The Diamond and Gold Branch of the South African Police Service (SAPS) rendered every assistance possible in support of this study. Its national statistics relating to the recovery of unwrought gold and arrests, among others, are set out in figure 1. The information was supplied by the Pretoria headquarters of the Diamond and Gold Branch based, in turn, on statistics supplied by local Diamond and Gold Branch offices in the provinces.

Figure 1: Police statistics: Theft of gold, 1994-1998						
Unwrought gold	1994	1995	1996	1997	1998	Total 1994-1998
Unlawful purchases						
Arrests	101	92	153	98	82	526
Cash paid to suspects, for gold recovered (R)	514 003	827 852	546 926	1 390 022	4 302 922	7 581 725
Unlawful possession/theft						
Arrests	1 488	1 960	1 607	1 667	1 413	8 135
Mass (kg)	179	370	151	236	287	1 223
Value (R)	8 959 215	18 486 057	7 571 655	11 774 887	14 368 263	61 160 077
Found and/or seized						
Mass (kg)	28	1	24	22	87	162
Value (R)	1 421 888	6 002	1 214 721	1 122 304	4 333 032	8 097 947
Source: Diamond and Gold Branch, SAPS, Pretoria, 1999						
"Summary: Mass and value of gold recovered by the police, 1994-1998"						
Year	1994	1995	1996	1997	1998	Total 1994-1998
Mass (kg)	207	371	175	258	374	1385
Value (R)	10 381 103	18 492 059	8 786 376	12 897 191	18 701 295	69 258 024

The mass of unwrought gold recovered nationally by the Diamond and Gold Branch can only be an indicator, albeit a very inadequate one, of the prevalence of theft of gold from mines. These statistics are inevitably based on estimates. Recovered unwrought gold consists of different concentrations, ranging from the gold-bearing ore which thieves carry out of gold mines to well refined gold. To attach an accurate value to such recoveries is difficult. The gold content of a bag of gold-bearing material can only be established once such ore has passed through the processing of a gold mine. Even then such ore is not refined separately from the regular ore recovered by the mine. In practice, the police return unwrought gold that they confiscate to the mine from which, in their assessment, such unwrought gold or gold-bearing material originates. The mine in question thereafter refines the gold bearing material and informs the police of the

mass and value of extracted gold. The prime indicator of the extent of unwrought gold seized or found by the police is therefore the value that mines place on the gold-bearing material received from the police.

The general approach of police headquarters in such cases is to attach a value of R50 to a gram of refined gold. When a mine therefore informs the police that the value of the stolen gold-bearing material handed in by them for processing was R100 000, the police will record the mass of this gold as 2 000 grams. In order to compute annual national statistics, the police add up the value that mines have attached to the unwrought gold and gold-bearing material that were supplied to them for processing and divide the sum by 50 in order to arrive at the estimated mass of the gold. This was also the method applied in arriving at the mass of unwrought gold recovered as set out in figure 1 below. The valuation of R50 per gram of gold is in fact conservative if account is taken of the fact that the average gold price on the London gold market for the years 1994 to 1998 was R53.39 per gram.¹¹

This method of computing the mass of stolen gold recovered by the police has its shortcomings. Precisely how do mines deal with stolen gold that the police return to them? Do all mines follow the same procedures when processing and determining the value of such unwrought gold? Do all Diamond and Gold branches in the country follow a uniform approach in this regard? It is well known that some top dealers in illicit gold sometimes add gold from Kruger coins to gold bought on the illegal market when smelting the gold for export. This happened in the widely publicised Chemfix case. Should the police confiscate such a consignment, or should the South African syndicate leader sell such gold to a European refinery, the mass of this gold will clearly not provide an accurate reflection of how much gold was stolen from mines and refineries in South Africa. The question of how to reflect the mass of detected gold stolen from mines and refineries is therefore an aspect that requires further examination by both the police and the gold mining sector.

It has happened, for example, that the police and mines have agreed that the police would not publish information relating to the mass or value of confiscated gold-bearing material returned to the mines. Such information would then clearly not form part of police statistics and would only be available to the gold mines. This was the case in the Welkom area with gold-bearing material that was confiscated during raids on the well-known G Hostel in Thabong township outside Welkom. Clearly, such ad hoc arrangements between the police and the mining industry make it very difficult to obtain accurate statistics relating to the extent of the theft of gold from mines.

Even if the national statistics supplied by the police were an accurate reflection of the mass of stolen gold recovered by them, it is clear that what they recover can only be a fraction of the actual volumes that are stolen on an annual basis. The regional case study referred to below, and other indicators to which reference is made in this study, confirm this assertion.

The mass of gold in the summary that follows was arrived at by attaching a value of R50 per gram, based on a division of the total value of the gold recovered by 50. If the actual average gold price per gram over the five-year period — R53.39 per gram — had been used as a measure, the total mass of the gold recovered by the police over this period would have been 1 297 kilograms instead of the 1 385 kilograms reflected above.

Police statistics (as illustrated in figures 2, 3 and 4) show two different trends. While the number of arrests for unlawfully purchasing gold, for being in unlawful possession of gold and for the theft of gold has shown a gradual decline since the peak reached in 1995, the figures relating to the mass and value of gold recovered by the police show a marked increase since 1996. It

suggests that the quantity of gold-bearing material that is being recovered or confiscated by the police is higher per person arrested than in the past. This could also indicate a greater sophistication among gold smugglers and thieves enabling them to deal in larger quantities of gold. This would mean that they are more difficult to arrest than was the case three or four years ago. The decrease in the number of arrests, however, could also have been influenced by a general shortage of personnel and resources in the various Diamond and Gold Branches in the country.

Figure 2: Arrests by the SAPS, 1994 - 1998

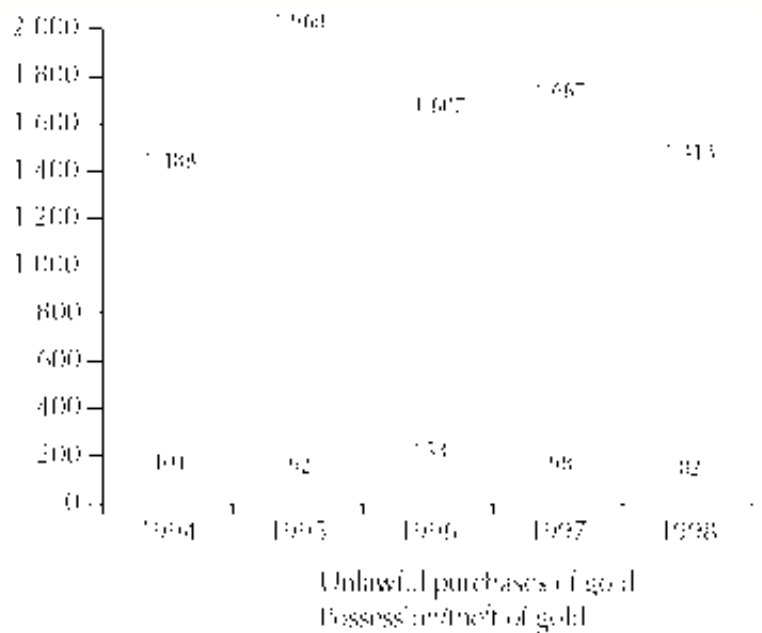


Figure 3: Gold (kg) recovered by the SAPS, 1994 - 1998

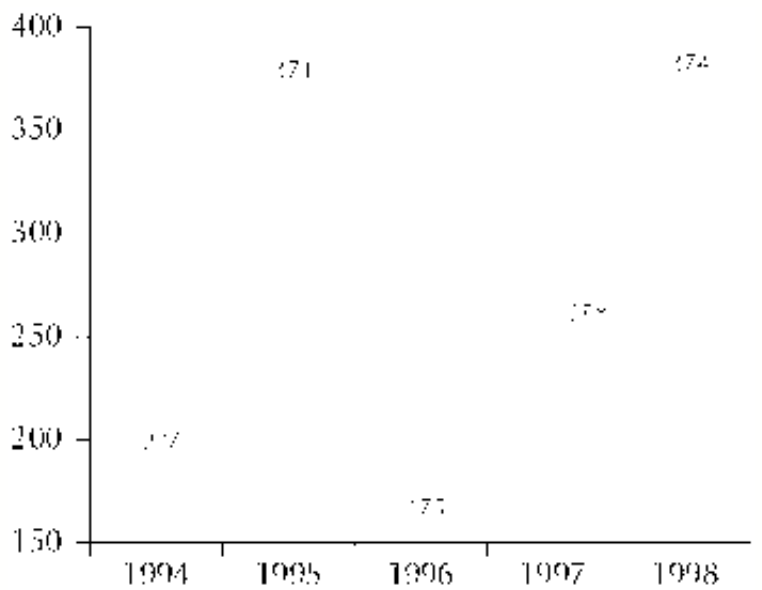
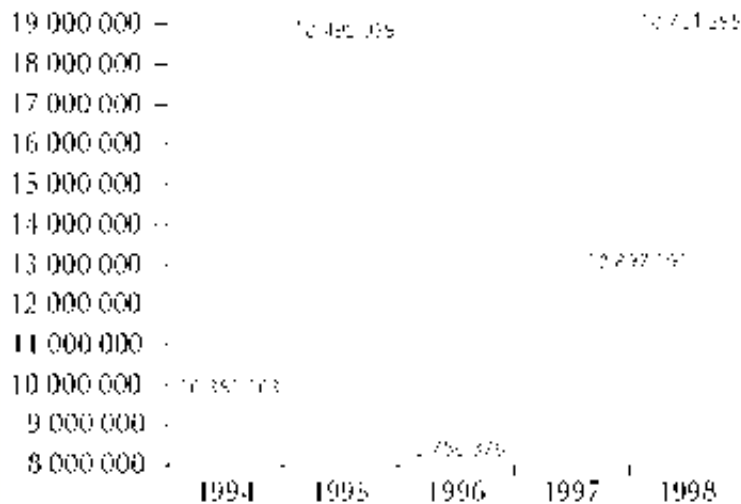


Figure 4: Value (Rand) of gold recovered by the SAPS, 1994 - 1998



CASE STUDY: THE FREE STATE GOLD FIELDS, WELKOM

The scope of this study did not provide for visits to every Diamond and Gold Branch in the country in order to study their activities. Nor was it intended to examine, on a nationwide basis, the activities of those involved in the theft of gold. A case study of a particular geographical area will therefore assist in throwing some light on the issue. The Free State gold fields in the Welkom area were chosen because they are situated in a circumscribed geographical area and with one responsible Diamond and Gold Branch. A case study of Gauteng, or a part of it, for example, would have been more complex because of the overlapping activities of the various Diamond and Gold Branches and because the origin of thefts is more difficult to determine.

In examining the extent and nature of the theft of gold from mines in the Welkom area of the Free State, the activities of the following roleplayers will be considered: the Welkom Diamond and Gold Branch, the gold mines and their personnel, and individual and organised criminal elements.

WELKOM DIAMOND AND GOLD BRANCH

The Branch should have a personnel level of 45, including administrative staff. In 1999, it had to manage with a total staff complement of 30. Their investigation tasks relate mainly to gold, but cases relating to stolen diamonds are also dealt with on a regular basis. The area for which the Welkom branch is responsible covers approximately 42 796 square kilometres where 24 gold-mining shafts are in operation, and nine gold plants are attached to various mines. The only gold refinery in the Free State is also situated in this area. Detectives of the branch are responsible for an average of 70 case dockets per month requiring investigation. The annual report of the Branch for the year 1 April 1998 to 31 March 1999 provides statistics that do not only relate to the theft of gold. The report also includes statistics relating to, for example, cases of corruption and the theft of diamonds. These statistics are included in figure 5 in order to illustrate the range of activities covered by the Branch.

It is not known whether there were agreements between the police and gold mines about publishing some of the gold recovery statistics during the period covered by the Annual Report. What is clear is that the Welkom Diamond and Gold Branch valued 1 gram of gold at less than the valuation of R50 per gram applied by head office. The information in figure 5 shows that the value of the 91 kilograms of gold confiscated by the Welkom police was calculated at approximately R44 per gram. This illustrates that police statistics contain some variations and inconsistencies, complicating the assessment of the exact extent of gold recovered by them.

Figure 5: Welkom Diamond and Gold Branch, Annual Report, 1998/1999	
Diamonds	
Unlawful purchase of uncut diamonds	
Number of persons arrested	20
Cash paid over and confiscated	R430 981
Value of diamonds confiscated	R1 023 041
Mass of diamonds (carats)	189 ct
Number of diamonds	38
Unlawful possession/theft of diamonds	
Number of persons arrested	56
Estimated mass (carats) confiscated	137 ct
Estimated value of confiscated uncut diamonds	R245 990
Number of diamonds	13
Diamonds found/picked up	
Number of uncut diamonds	6
Mass (carats) of uncut diamonds	28 ct
Estimated value of uncut diamonds	R20 084
Fraud (glass sold as diamonds)	
Persons arrested	1
Potential value of the transaction	R182 000
Gold	
Unlawful purchase of unwrought gold	
Number of persons arrested*	41
Mass of gold confiscated	91 kg
Estimated value of gold confiscated	R4 023 000
Unlawful possession/theft of unwrought gold	
Number of persons arrested*	499
Estimated mass of gold bearing material confiscated	2 958 kg
Estimated value of gold bearing material confiscated	R3 739 800
Corruption	
Number of persons arrested	9
Cash confiscated	R15 330
Dockets	
Dockets received	365
Number of convictions	240
Number of cases withdrawn	72
Number of cases without substance	14
Number of cases 'not guilty'	79
Number of incomplete cases on hand on 31 March 1999	1 231
Number of warrants of arrest issued	59
Files	
Files for investigation opened	1 093
Files for investigation completed	1 042

Bribery	
Number of persons arrested	7
Estimated value of diamonds offered as reward	R200
Price offered as reward	R5 000
*According to the police the arrests relate mainly to runners and a few middle level dealers in gold	
Summary, 1998/1999	
Arrests:	639
Value recovered:	
Gold	R 7 762 800
Diamonds	R12 891 115
Total	R20 653 915
Mass recovered:	
Gold	91 kg
Diamonds	354 ct
Gold-bearing material	2 958 kg

The number of dockets and files that the detectives of the Welkom Diamond and Gold Branch are responsible for at any given time indicates that they are faced with an unacceptably heavy workload. Bearing in mind that there were approximately 170 illegal smelting houses in the gold fields of the Free State in 1997 and that their numbers are increasing, also in squatter areas, it becomes clear that the police have an overwhelming task. They have to operate in an environment where they are constantly under pressure.

In addition to their heavy workload, the police have to deal with the debilitating phenomenon of corruption within their own ranks. It is inevitable that any work with precious metals and diamonds provides temptations because of the particular characteristics and value of the articles involved. In the Welkom area, there have been alarming incidents of members of the police being involved with crime syndicates as 'runners', leading to the elimination of opposition syndicates and their own enrichment through such activities. Police corruption does not only involve uniformed members of the police, but also detectives attached to the Diamond and Gold Branch.

For example, detectives at the Branch would tip off 'friendly' gold-smuggling syndicates of an impending police raid in return for payment. Police members have also pulled known syndicate members or runners from the road to search their cars. Any diamonds, gold, or money found by the corrupt police official is then confiscated without arresting the suspect and without handing the confiscated items in at the police station. As is typical in cases of corruption where both parties are involved in an unlawfully act, the suspect car driver tends not to lay a charge with the police and such incidents therefore continue and remain undetected by the authorities. The police official would then sell the stolen articles to other syndicates involved in gold-smuggling and the profits are distributed among those participating in the act.

Even when members of the police are found in possession of precious metals, diamonds, or even gold-bearing material, the explanation that they are busy with investigations and possess such items as part of their official police duties are difficult to refute.

According to members of the Welkom Diamond and Gold Branch, police corruption is increasing, not only in their area, but also among other branches. Gold smugglers in the Welkom area have complained that the activities of corrupt police officials were undercutting the price of gold-bearing material on the illicit market. To the credit of the Welkom Diamond and Gold Branch, the problem of corruption is clearly recognised and it appears to be treated with serious concern.

WELKOM GOLD MINES AND THEIR SECURITY PERSONNEL

Six different mining companies operate mines in the Welkom area. Gold-bearing ore is brought to the surface by way of 24 shafts, many of them linked underground. Nine gold plants are in operation and one gold refinery has started its operations.

While the different mining houses implement their own security systems and these differ from mine to mine, general trends have become discernible during the past few years. According to the police, one such trend is the increased reliance by some mining companies on contractors to perform specialised functions. Such functions relate to, for example, the transport of gold and the maintenance of security on mines. In general, the number of in-house security personnel appears to have decreased and greater use is being made of private security companies to perform such functions at mines. Some mines regarded this as a cost-reducing development and as being more effective than using in-house security.

From the perspective of the police, the increased use of private security companies has had a detrimental affect on mine security. It has led to an increase in collusion between security personnel and members of syndicates who remove gold-bearing material from mines. The close co-operation that had built up over the years between in-house mine security staff and members of the Diamond and Gold Branch suffered when new and inexperienced private security companies started to play a greater role. According to the police, the calibre of the average private security official is not the same as of those who used to be part of in-house security staff. Some private security staff members prefer to work night shifts only. The additional money that can be earned through collusion appears to be the main reason. In one incident, three security officials were suspected by mine management and the police of helping syndicate members to enter the mine illegally to retrieve gold-bearing ore. They were searched at the end of one of their shifts and an amount of R21 000 was found between them. For a private security official, who sometimes earns as little as R1 200 per month, the opportunities for extra income through collusion must appear irresistible.

While co-operation between mines and the police appears to be good, the police believe that some mines are reluctant to admit that widespread theft of gold-bearing material is taking place. This has happened in cases where the 'fingerprinting' of confiscated gold has pointed to a particular mine without the mine being prepared to admit that it has security problems. There is a suspicion that some of the security firms do not report all thefts from mines to the police for fear of being regarded as an organisation with ineffective security and in order to avoid jeopardising the future of their existing mining contract.

INDIVIDUAL AND ORGANISED CRIMINAL ELEMENTS IN THE WELKOM GOLD FIELDS

Police have identified 25 syndicates in the Welkom area that are involved in illicit gold transactions. The use of the word 'syndicate' could suggest that these groups are all organised and structured groups of criminals. However, this is clearly not always the case. All these syndicates do not follow a particular hierarchical structure and their 'membership' varies.

Syndicates are sometimes family or ethnically based. They can operate together on a temporary, ill-defined basis in pursuit of similar objectives. These groups or syndicates frequently have shifting and loose alliances with other syndicates or individuals and form part of a network in which different components co-operate when appropriate, but also compete in order to safeguard their own interests.

Their range of sophistication also varies considerably. From small and loose groups of unemployed former miners, to the sophisticated and wealthy buyers, who might operate from Gauteng or Durban, are involved. They all tend to be referred to as syndicates, which is often misleading. The nature of their activities should determine where the different groups fit into the informal hierarchy of syndicates. This should also be the basis of any attempt to classify them into different categories.

The most notorious centre for illicit gold-smuggling in the Free State is the G Hostel in the Thabong township outside Welkom. Tons of gold-bearing material, either ore brought up from the mine or amalgam stolen from mine processing plants, can be found there at any given moment. The gold-bearing material is transported to G Hostel in 30 kilogram bags, but also by any other method conceivable. Raids by the police during 1998 netted more than ten tons of gold-bearing material and 76 gas bottles that were used to smelt it. A day or two after such raids, the smelters and smugglers are in full operation again. Melting equipment, small mills, and the 'slides' in which molten gold is run down and collected at the bottom can be seen at many places around the hostel at any given time. Enterprising individuals at the hostel manufacture the mills needed to crush gold-bearing ore into a fine form and sell them for R90 a piece.

Observations by a mine security group recorded 63 transactions involving the sale of gold to illegal buyers taking place over one weekend. In one of their raids on the hostel, the police seized a record book kept by one of the many gold sellers that provided an indication of the quantity of gold sold by him. It indicated that he had collected an amount of R747 664 in 66 days and that, on average, 2 882 grams of gold were sold per day during that period. During one week, on average, he would have sold about 20 kilograms of gold and during one year, about one ton. However, the police find it difficult to obtain evidence to link specific individual hostel dwellers to illegal acts such as dealing in unwrought gold or operating a smelter.

Many of the individuals involved in smuggling gold in G Hostel and the Welkom area are illegal immigrants and former miners who return to Welkom from Lesotho, Zimbabwe and elsewhere. Having lost their jobs as a result of retrenchments, they return to Welkom to make a living from activities based on their considerable experience as miners. The police estimate that there are approximately 300 000 illegal immigrants in the Welkom area.

Groups of up to 25 individuals are known to obtain illegal access to mines in order to mine and remove gold-bearing ore from underground shafts. Collusion by security personnel makes this possible. These groups are well equipped and tend to take with them food, water and clothes that would last for a week. They do their own blasting work underground with stolen explosives and build their own support structures in the areas where they mine. The areas illicitly mined in this way are usually no longer used by the mine. For example, a detailed map of the underground tunnel structures of one of the mines in question was found on one of the miners who were arrested.

Mine inspectors, who have to inspect underground ventilation shafts, have encountered these groups on a number of occasions and have sometimes been threatened and attacked, even with

firearms. Underground conditions are such that an approaching group of mine security officials can normally be heard a long way off. The illicit miners are therefore forewarned, a factor that makes mine security understandably apprehensive about confronting them. In addition, gold diggers will often enter from one mine and move through tunnels that enable them to mine ore in a second or third mine. The gold-bearing material that is illicitly obtained is stored in disused shafts and then retrieved over a period of time, often in collusion with runners who are employed in the mine. It is then transported to one of the more than 170 smelting houses in G Hostel and elsewhere in the Free State gold fields.

At the smelting houses, which can be situated in a normal urban residence, a shack in a squatter area or in G Hostel, the gold-bearing material is crushed, washed and smelted into lumps of unwrought gold. The various steps and transactions, through which the gold that is retrieved underground passes before it reaches its ultimate destination, are the following:

- Step 1: Gold-bearing ore or amalgam is illicitly mined underground or stolen from the gold-processing plant. A runner, or those who stole the gold-bearing material, will then transport the material from the mine in a bag or by other methods and sell it to a middleman for approximately R36 per gram of gold content.
- Step 2: The middleman, who buys considerable volumes of gold-bearing material from runners, sells it to the smelting house operator for about R39 per gram of gold content. The smelting house operators are not necessarily members of a larger syndicate. Some smelting houses are operated by individuals or by families.
- Step 3: At the smelting house, buyers pay about R41 per gram for the solid gold lumps that are produced. These buyers are often the agents of more sophisticated syndicates or they operate as independent couriers for such syndicates. Their task is to buy and transport the solid gold from the smelting house to wealthy syndicate leaders who may be operating from Gauteng or elsewhere.
- Step 4: The syndicate leader/buyer in Johannesburg or elsewhere is likely to pay between R43 and R45 per gram of gold to the courier who transported it. The syndicate buyers of purified gold based in metropolitan areas such as Johannesburg, Lenasia and Durban smelt the stocks of gold that they have purchased from various sources. It is then sold to local or international contacts.

There are clearly different permutations and additional steps that could be added to the above four. The working methods, the sequence of the transactions and the parties involved in the chain of events in dealing with stolen gold are subject to constant changes and exceptions.

The Welkom Diamond and Gold Branch focuses primarily on groups and individuals who are active in steps 1 to 3 above, particularly those operating at the lower and middle level of the hierarchy of criminal groups. This also applies to Diamond and Gold Branches elsewhere in the country. Couriers who buy and transport gold to buyers in Gauteng are also occasionally targeted. Those who remain largely untouched are the individuals and syndicates referred to in step 4 above. They are part of sophisticated organised criminal groups and do not get their hands dirty with the high-risk transactions further down the line. They are well connected, use modern technology and have expert professional advice on legal, financial and technical matters.

Despite some regional differences, the above description of the police, gold mines and

syndicates in the Welkom gold fields reflects general developments and experiences that also occur in other parts of the country where gold is mined. Different mining houses also have different approaches towards mine security. Some have made significant improvements and maintain high standards, while others are lagging behind. The way in which gold is stolen from mines also varies in different parts of the country, something that could not be expanded upon in this report.

STATISTICS FROM THE SOUTH AFRICAN GOLD-MINING INDUSTRY

The gold-mining industry has undergone profound restructuring over the past ten years. During this process, adjacent operations have been merged, mergers between long established companies took place, structures and geographical orientation changed and some of the well-known mining companies have disappeared. In 1997, Anglo American Corporation announced the formation of AngloGold, the biggest mining company in the world. In 1998, Gencor and Goldfields merged their gold-mining interests to form Gold Fields, the second largest gold-mining company in the world. Other key players in the South African gold-mining industry have undergone similar changes.

The asset base of most existing large mining companies has therefore changed significantly over the past five years. So have management, the number of mines and shafts and plants they operate, the volumes they produce, the number of employees on their payroll and the geographical areas where they have gold-mining operations. In order to accommodate these developments, most of the newly formed mining entities have had to start with a clean slate as far as records and statistics are concerned. The process of collecting, interpreting and producing statistics relating to the theft of gold from mines has also been affected. The companies formed through mergers did not necessarily adopt or retain identical approaches towards this issue as those of the past.

The gold-mining industry in general has only recently started moving towards greater transparency with regard to information on thefts from mines. Mining companies and refineries have always jealously guarded information on the theft and loss of gold-bearing material from mines. There appeared to be a belief that such information would affect shareholders negatively and that its revelation could be used by competitors to undermine those who reveal the extent of their losses. The general secrecy about gold thefts created an environment where speculation about the quantities that were stolen annually was rife. Virtually any claims could be made without anyone being in a position to gainsay them. Under such circumstances any attempt to develop a co-ordinated approach to counter gold thefts would have been fruitless.

From about 1996 onwards, there has been a tendency among some of the gold-mining companies to be more forthcoming about the quantities and value of gold-bearing material that was lost or stolen from mines.

Bearing these difficulties in mind, those mining companies that were requested to assist with information and statistics for this monograph went out of their way to comply. They were all members of the Chamber of Mines of South Africa and represent some of the largest companies, which together produce over 60% of South Africa's annual gold production. They supplied information on the understanding that this report would not specifically identify the statistics provided by their companies. The information that they supplied was therefore used to identify trends rather than to obtain accurate statistics for the entire gold-mining industry. This would not have been realistic, as the scope of this report did not provide for such an extensive exercise. It should also be borne in mind that not all gold producers are members of the

Total gold production in South Africa during 1998 was 464 391.2 kilograms, as reflected in figure 6.

Figure 6: Total South African gold production (kg), 1998-2000			
Source	1998	1999	2000
Members of the Chamber	421 652.0	399 489.6	378 393.3
Other mining production	42 739.2	49 982.6	49 910.2
Total (kg)	464 391.2	449 472.2	428 303.5
Source: Chamber of Mines of South Africa, Progressive gold mine working results, 4th quarter summary, January to December 1998, <www.bullion.org.za/bulza/stat/ProgAnal.htm>.			

The statistics provided by producers of more than 60% of South Africa's total gold production have been presented in this report to reflect a view of the entire gold-mining industry. It was assumed that the statistics obtained from these producers are a reasonable indication of what occurs at those mines that produce the remaining 40% of the country's gold. Those mining companies that assisted with information applied different criteria in producing their statistics. These are all problems and limitations that should be borne in mind when estimates of the extent of product theft of gold are made in this report.

Statistics supplied by mines indicate that approximately 483 733 kilograms gold-bearing material, that was stolen or suspected to be stolen, were recovered by mines during the five years from 1994 to 1998 (figure 7). When the 22 810 kilograms of gold and gold-bearing material recovered by the police (figure 1) are added, the total comes to approximately 506 543 kilograms of gold-bearing material recovered in South Africa over the five-year period.

In this report, very little significance is attached to the mass of gold-bearing material recovered, as such figures bear no relation to the actual gold content of the material. It is the actual gold content and the value that will be concentrated on.

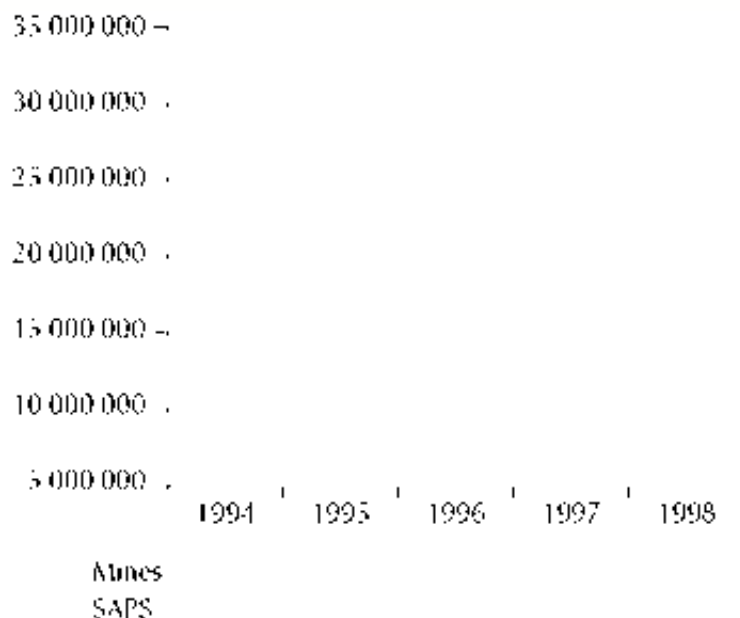
Figure 7: Value of stolen gold recovered in South Africa by mines and the SAPS*						
	1994 (Rand)	1995 (Rand)	1996 (Rand)	1997 (Rand)	1998 (Rand)	Totals (Rand)
SAPS	10 381 103	18 492 059	8 786 376	12 897 191	18 701 295	69 258 024
Mines	31 122 717	15 834 033	15 525 682	16 747 167	8 709 562	87 939 161
Totals	41 503 820	34 326 092	24 312 058	29 644 358	27 410 857	157 197 185
*The figures relating to thefts from refineries are not included.						

Figure 7 shows values that were computed (and adjusted) on the basis of the statistics supplied by mines. They suggest that gold mines recovered unlawfully removed gold-bearing material worth approximately R87 939 160 during the five-year period from 1994 to 1998. The value recovered by the police was R69 258 024.

The total value of gold recovered by both the SAPS and the mines over the five-year period is summarised in figure 7 and graphically illustrated in figures 8 and 9. The figures show an overall decline during 1997 and 1998 in the recovery of unlawfully removed gold-bearing material.

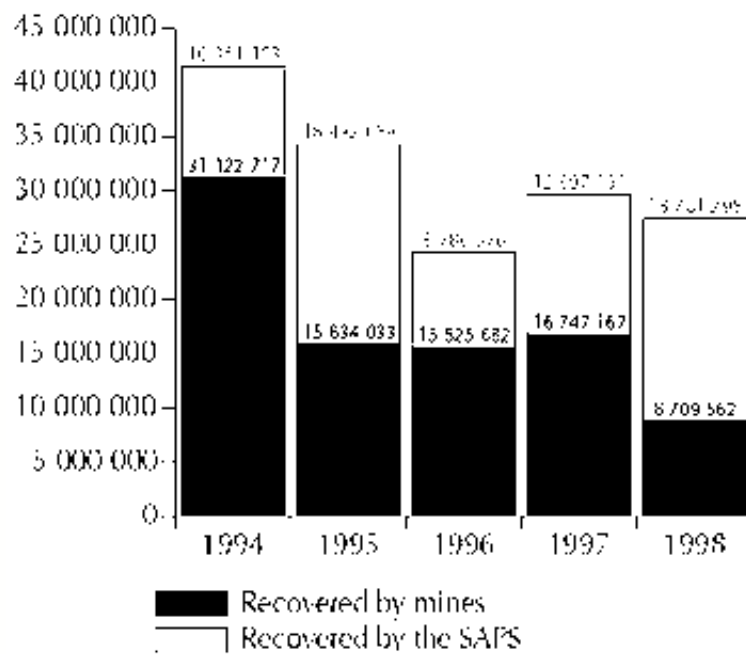
Marked differences, however, appear in the recovery trends between the gold mines and the Diamond and Gold Branch of the police. Figure 8 illustrates that, particularly from 1997 onwards, the police recorded significant increases in their recovery rates, while the value of gold-bearing material recovered by mines went into a strong decline, reaching a five-year low in 1998. The reasons for these contradictory trends are not clear.

Figure 8: Approximate value (Rand) of unlawfully removed gold material recovered by mines and the SAPS, 1994 - 1998



One explanation for the decline in the value of unlawfully removed gold-bearing material recovered by mines could be the more effective security measures that many mines have introduced. If this is the case, how can the increased recovery rate of the police be explained? It may be due to improved policing methods, or to the apparent increase in the volume of stolen gold found on persons arrested. It must be assumed that the gold retrieved by the police largely originated from gold-bearing material that passed undetected through mine security systems.

Figure 9: Total value (Rand) of gold-bearing material recovered by mines and the SAPS, 1994 - 1998



Of interest is the indication, based on mine statistics, that by far the largest volumes of gold-bearing material is unlawfully removed from gold plants rather than from shafts or elsewhere. If the statistics that were provided by a significant roleplayer are adjusted to apply to the gold-mining industry as a whole, it would appear that, in 1998, approximately 71% of the gold-bearing material recovered by mines originated from gold plants, about 23% from shafts, and the remaining 6% from unknown sources. The high rate of removal of gold-bearing material from plants is a clear indication that this part of mine operations still constitutes the highest risk area despite improved security.

GOLD REFINERIES

Refineries have a less difficult task than mines when assessing the mass and value of gold stolen from them. A careful record is kept of all gold delivered to the refinery, as well as of the gold, once refined, that leaves the premises. Any difference between the input and the output of the refinery could be ascribed to two factors only: process loss and theft.

Refineries, as has been the case with some mines, have also been reluctant to reveal the extent of the theft of gold in their custody. Rand Refinery Limited, by far the largest refinery in the country, made some statistics available that are reflected in figure 10. The refinery has determined that up to 0.02% of the total mass could be ascribed to process loss. However, it is accepted that some percentage of this portion is attributable to theft.

Figure 10: Gold deposits received by Rand Refinery Limited	
Source	1998
Members	
Mass (kg)	2 379 175
Value (R)	116 832 094 716
Non-members	
Mass (kg)	234 137
Value (R)	10 614 719 015
Total South Africa	
Mass (kg)	2 613 312

Value (R)	127 446 813 731
Total foreign	
Mass (kg)	40 100
Value (R)	1 618 037 787

According to the refinery, there have been significant improvements in the provision of more effective security. In the past, approximately 99.98% of the gold delivered was recovered from the refinery process. The loss of the balance (0.02%) was ascribed to theft. If this formula is to be applied to 1998, the mass of gold stolen would have been approximately 98.28 kilogram, valued at R4 914 000. The refinery is of the view that additional security measures, as well as the improved recovery methods that have been introduced during the past few years have by now produced an almost 100% recovery rate. The information that was made available indicates that, between 1 January 1994 and 23 September 1999, the refinery recovered a total of 8 779 kilograms of stolen unwrought gold, valued at R438 950.

A reasonable estimate cannot be made of the losses resulting from undetected theft at the refinery. If undetected thefts had occurred, it would have been virtually impossible to determine due to process losses. The gold stolen and recovered from the refinery can therefore be considered insignificant as a contribution to the overall volumes of gold that is smuggled in South Africa.

TOTAL DETECTED PRODUCT THEFT OF GOLD

An assessment of the total product theft of gold that relies on statistics provided by the police, mines and the refinery has obvious limitations. Figures only reflect those thefts that were detected and not the ones that remain undetected. Figure 11 summarises the extent of detected gold thefts over the past five years in respect of which official statistics are available, albeit in an imperfect form. The figures are confined to stolen gold recovered.

Figure 11: Total value of detected stolen gold recovered in South Africa, per year, 1994-1998						
	1994 (Rand)	1995 (Rand)	1996 (Rand)	1997 (Rand)	1998 (Rand)	Total (Rand)
SAPS	10 381 103	18 492 059	8 786 376	12 897 191	18 701 295	69 258 024
Mines	31 122 717	15 834 033	15 525 682	16 747 167	8 709 562	87 939 161
Refinery	87 790	87 790	87 790	87 790	87 790	438 950
Total	41 591 610	34 413 882	24 399 848	29 732 148	27 498 647	157 636 135

On the basis of the values provided in Figure 11, the mass of the detected theft of gold per year can be calculated by dividing the annual value of detected gold thefts by the average gold price per gram during a particular year. The results are provided in figure 12.

Figure 12: Total value and mass of detected stolen gold recovered in South Africa, 1994-1998			
Year	Approximate total value stolen	Average price per gram	Approximate total mass stolen
1994	R41 591 610	R48.09	865 kg
1995	R34 413 882	R49.15	700 kg
1996	R24 399 848	R58.70	416 kg
1997	R29 732 148	R53.74	553 kg

1998	R27 498 647	R57.25	480 kg
Total	R157 636 135	R53.39	3.014 tons

Even though the gold referred to in Figure 12 was stolen, or suspected to be stolen, it was in fact recovered by mine security or by the SAPS and returned to the mines or plants. The amounts reflected in Figure 11 can therefore not be regarded as constituting a loss to the gold production figures of the gold-mining industry. Significant expenses would have been incurred both by the state and the mining industry in recovering the stolen gold, but it will have been reported as part of the annual gold production of the industry. The fact that the gold was returned, however, does not negate the fact that the returned gold is correctly referred to as 'stolen'.

The value of the gold *known to have been stolen* from mines between 1994 and 1998 amounted to an average of approximately R32 million per annum, involving an average of about 603 kilograms of stolen gold per annum. However, these figures do not reflect the actual (*undetected*) theft of gold.

There are many limitations that need to be borne in mind when considering the above statistics. For example:

- Some of the gold-bearing material recovered by the police is occasionally returned to the relevant mines without being reflected in police statistics.
- Some of the unwrought gold recovered by the police contains elements of gold that was not necessarily stolen from mines. Licensed gold dealers and pawnbrokers sometimes mix stolen gold that they have purchased with gold legitimately obtained, such as gold jewellery, and then forward it to refineries for refining.¹²
- Police statistics reflect volumes of gold-bearing material that are calculated by attaching a value of R50 per gram of gold that was extracted from the confiscated gold-bearing material.
- The statistics relating to the theft of gold-bearing material from mines are based on the actual statistics provided by producers responsible for more than 60% of South Africa's total gold production. These statistics were used to calculate figures that would apply to the entire gold production in the country.
- The statistics relating to gold refineries are based on information from one refinery only. However, the extent of theft from refineries appears to be insignificant and unlikely to make any difference to the total figures.

The challenge remains to explore whether enough facts and circumstantial information are available to justify an estimate of undetected gold thefts.

AN ASSESSMENT OF UNDETECTED THEFT OF GOLD

The information supplied by mines suggests that the value of gold-bearing material known to have been stolen has declined between 1994 and 1998 (figure 7). The Diamond and Gold Branch statistics indicate that the number of arrests relating to the theft of gold have remained

more or less constant during the same period, with a slight decrease experienced during 1998 (figure 2). The only statistical indicators that could suggest that the incidents of theft from mines might have increased during the past few years, are the increased recovery rates attained by the police, both with regard to the mass of gold-bearing material and the value of gold recovered (figures 3 and 4). To what extent this increased rate of recovery is influenced by more effective police investigative measures, or to what extent it is due to increased (but undetected) thefts from mines is difficult to say. What is clear though, is that it is not possible to conclude that the gold-mining industry is experiencing a serious increase in the theft of gold-bearing material from mines from the statistics provided by mines and the police.

Yet, in the clear and almost unanimous view of gold mine security personnel and members of the Diamond and Gold Branches who were interviewed in different parts of the country, the theft of gold has increased significantly. They all share the belief that both mine and police statistics reflect merely the tip of the iceberg. Their conclusions are based on a wide range of factors that warrant some examination.

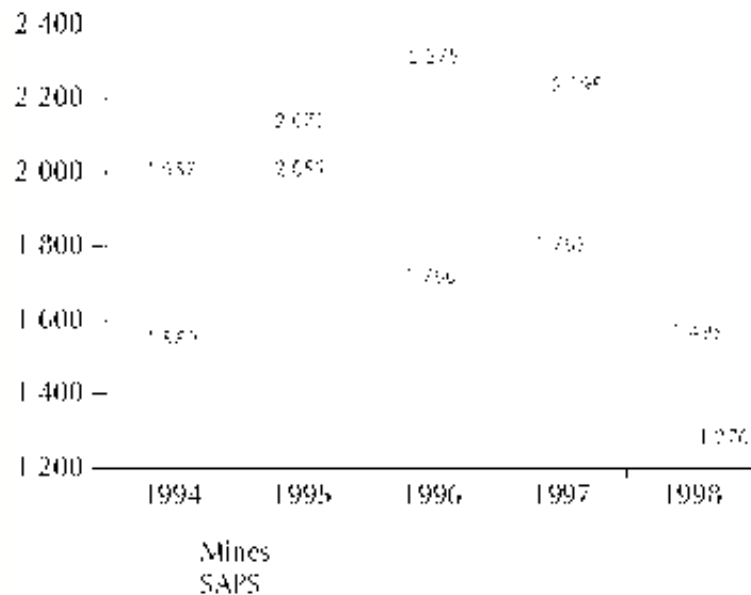
INCREASE IN THE NUMBER OF 'SMALL-TIME' GOLD SMUGGLERS

Both the police and mine security personnel are of the view that there has been a significant increase in the number of small-time operators involved in theft from mines. This is ascribed to the general state of the economy with its high unemployment rate, but also to the retrenchment of thousands of mineworkers in the past decade. Many retrenched mine workers, who have gained considerable experience and knowledge about the mining process, soon return from their homes in far-flung areas or from neighbouring states, to try and make a living near the mines with activities best known to them: the mining of and dealing in gold. They link up with local illegal smelting houses or smuggling rings and set about obtaining gold in whatever form, and from any location possible. Some are known to be digging tunnels into disused mine dumps with the hope of reclaiming some gold.

This category of operators provide the runners and those who, in the Welkom area and elsewhere, find their way into shafts at night to remove gold-bearing material. According to mine security personnel, such night mining did not take place four or five years ago. They regard it as a new trend. Retrenched workers tend to know many of the regular mine workers who work at the mine in question, and therefore have no problem in borrowing their security cards to gain entry into the mine. They may not individually steal large quantities of gold-bearing material, but collectively their activities must account for significant volumes of gold stolen.

If their numbers have increased over the past few years, which by all accounts seems likely, then this is not reflected in police statistics or in the adjusted mine arrest rates as shown in figure 13.

Figure 13: Arrests by mines and the SAPS



A drop in the number of arrests by both the police and mines, during a period when there seems to have been a significant increase in the number of small-time gold thieves, could actually explain why their numbers have increased. It seems clear that they are operating in a relatively risk-free environment with a very slim chance of being arrested. In the absence of an increase in arrests, their contribution towards the theft of gold from mines remains unrecorded and not reflected in police or mine statistics.

It is therefore reasonable to deduct that far more gold is likely to be being stolen from mines by small illegal miners and runners than official statistics suggest. It is, however, an impossible task to determine accurately the quantities that are involved. If there was more success in arresting the main players, such as the sophisticated syndicate leaders in Gauteng, Durban and elsewhere, a start could be made in accurately estimating the extent of undetected gold thefts. The few grams of gold that the illegal miner may recover per week, when multiplied by the number of those active in illicit mining, are likely to add up to significant volumes. These small quantities are sold and smuggled through the various hierarchies of syndicates until the few large buyers who operate in South Africa buy them up. When arrests and confiscations take place at this level, it will be less difficult to draw inferences about the levels of undetected theft of gold from mines.

THE ROLE OF MIDDLE LEVEL AND TOP SYNDICATES DEALING IN GOLD

While the retrenched mine worker, who returns to the mine to retrieve gold-bearing material illegally, is situated at the bottom of the ladder of hierarchies in the criminal world, the more sinister role of the top structures that are involved is seldom highlighted. These are the sophisticated and well-organised criminal groups to whom the stolen gold is channelled and who then dispose of it internationally or locally. Because of the lack of success by the police in prosecuting these groups, little is known about them. Among members of the Diamond and Gold Branch, however, there is a fairly accurate notion about the identity of individuals who are involved. They know the names and addresses of the key roleplayers, but always add that those individuals are difficult to prosecute because they tend not to get personally involved. Many of them have been operating for many years without being prosecuted. Other than the well-known Chemfix case, there have been very few police successes against the larger operators involved in the theft of gold. In the Chemfix case, 7.7 tons of gold obtained over a period of about one year, were involved. A portion of the 7.7 tons, however, did originate from Kruger coins.

In one of the few other successful operations involving a sophisticated organised group, the Randfontein Diamond and Gold Branch, acting on a tip-off, seized approximately 20.3 kilograms of gold worth approximately R1 million from a private jet that was about to depart to Geneva from Lanseria airport in 1995. There were indications that the plane was to travel via the Rand Airport to take on another load of smuggled gold. The pilot, who was apparently paid an amount of R10 000 as a courier reward, was arrested and so was the person who supplied the gold. The supplier of the gold was eventually convicted in 1999 and sentenced to a fine of R15 000 and three years imprisonment, suspended for five years — a sentence that can only reinforce the view of top gold syndicate members that their illegal ventures carry low risks. The fingerprinting of the confiscated gold indicated that its source was both the West Rand and the Free State gold fields, a good example of how small amounts of gold recovered by the individual illegal miner are eventually bought up by the top syndicates with international links.

Within the gold-mining and the Diamond and Gold Branch fraternity, different views exist about the number of top crime syndicates that are actively dealing in stolen gold. A senior person in the industry claims that there are six such syndicates. A top person in charge of security for a very large gold-producing company is of the view that ten to eleven such syndicates are active. The police are not certain about the number of top syndicates involved. They admit that they mainly tend to catch the 'small boys' or runners and occasionally members of larger middle level syndicates. They are not sure about the end market for the gold except that some of it leaves regularly for Hong Kong and Bangkok in the form of machine parts. Others believe that most of the stolen gold ends up on the internal market.

Because so little is known about the extent to which the 'top boys' deal in stolen gold, local Diamond and Gold Branches regard the larger buyers or syndicates operating in their area as falling into the category of 'larger middle level gold buyers or syndicates'. They are not regarded as part of the few top syndicates or buyers in the country. Some members of the Carletonville Branch, for example, have identified six big syndicates within their area of jurisdiction. Within the area of jurisdiction of the Randfontein Diamond and Gold Branch, there are at least four large syndicates that are large buyers of gold. According to a senior person involved with mine security, there are about 22 big buyers of illegal gold in the West Rand area, with 12 to 13 of them operating syndicates. He also referred to 85 illegal smelting houses that operate in the area.

The various Diamond and Gold Branches are constantly engaged in covert operations against syndicates within their area of jurisdiction. This often occurs with the involvement of mine security staff. Some of the local gold-buying syndicates that they investigated appear to have a considerable turnover of stolen gold. On the West Rand, for example, the police recently searched the house of the leader of such a syndicate and confiscated 8.1 kilograms of gold nuggets. They estimate this to have been one week's stock. Such a syndicate can probably be regarded as a middle level syndicate on the ladder of hierarchies. In another operation, police bought 43 kilograms of unwrought gold, worth R1.2 million, from a syndicate over a six-month period. A total of 81 arrests were made. This category of syndicate, even though it is of local importance, does not fall into the category of the top syndicates with international connections. In another operation in Johannesburg during 1997 police bought 63.8 kilograms of unwrought gold valued at approximately R2.5 million over an eight-month period.

Welkom Diamond and Gold Branch members have identified 25 syndicates of various sizes in their area. They maintain that most of the gold stolen in their area is eventually moved from Welkom to Gauteng and to a specific syndicate that they have identified. During an eight-month

long undercover operation in 1999, the Welkom Diamond and Gold Branch bought 90 kilograms of stolen gold worth approximately R3.5 million from various small-time gold thieves who had stolen it from local mines. Their conservative estimate is that approximately five kilograms of unwrought gold leaves the G Hostel complex on a daily basis. That would add up to 1.8 metric tons per annum.

The head office of the Diamond and Gold Branch provided the most reliable information relating to the number of larger middle level gold dealers or syndicates operating in South Africa. After an exercise that also involved the various branches in the regions, the police concluded that there were approximately 36 larger middle level gold dealers or syndicates operating throughout the country (figure 14).

Figure 14: Geographical spread of larger middle level dealers in South Africa	
East Rand area	4
Johannesburg	6
West Rand area	6
Klerksdorp	7
Durban Area	5
Welkom	8

ESTIMATES: UNDETECTED THEFT OF GOLD

As mentioned above, very little is known about the top gold-buying and selling syndicates. When local branch members were asked why they did not investigate the well-known wealthy buyers/sellers in Gauteng, their response was that those syndicates fall into the area of jurisdiction of another branch and that a file or docket appeared to have been opened by another branch in respect of those syndicates. As a result, few of the top syndicates have been successfully investigated and the extent to which they constitute a threat is difficult to assess.

To rely on the few successful exposures of the top syndicates, or on anecdotal information, with the aim to estimate the extent of the undetected theft of gold would not lead to credible projections. The information that is available about larger middle level syndicates or gold dealers provides a more reliable base from which to make estimates. This is the only avenue through which it might be possible to arrive at an estimate of undetected gold thefts. However, the following three assessments were made without being confined ourselves to larger middle level gold dealers or syndicates.

- Estimate 1 (small syndicates/buyers): If police on the West Rand, who searched the house of a local syndicate leader and found 8.1 kilograms of gold, are correct in their assessment that this represents only one week's takings, then it follows that over one year such a seller/syndicate would deal with about 421 kilograms of stolen gold. On the assumption that there are at least 50 syndicate/sellers with a similar capacity active in South Africa, such syndicates would together account for a turnover of about 21 tons of stolen gold. The assumption that at least 50 similar sized syndicates are active in the country is by no means far-fetched if the following is taken into account. According to a senior mine security official, there are 22 big syndicates/buyers of stolen gold in the West Rand area alone. The Welkom Diamond and Gold Branch has identified 25 syndicates within its area of jurisdiction that buy stolen gold. Not all gold-mining areas or Diamond and Gold Branches were canvassed for information about the number of syndicates operating in

their areas. Even without having undertaken such an exercise, it can confidently be assumed that there are well in excess of 50 lower level small-time syndicates/buyers in South Africa that deal with similar volumes of stolen gold.

Estimate 1 suggests that the undetected theft of gold from mines and shafts could be approximately 21 tons per year.

- Estimate 2 (larger middle level syndicates/buyers): During one of their recent raids on G Hostel, the Welkom Diamond and Gold Branch seized a record book kept by one of the sellers of gold in the hostel for the purpose of recording the particulars of his transactions. The notes reflected that the seller had received R747 664 in 66 days and that, on average, he sold 2 882 grams of unwrought gold per day. During one week, this person would have sold, on average, about 20 kilograms of gold and during one year, about one ton. This was just one of many sellers in the hostel. Many of the other sellers in the Welkom area operate from outside G Hostel.

Estimate 2 suggests that the undetected theft of gold from mines and shafts could be approximately 35 tons per year.

Although this seller by no means falls into the category of the top sellers/syndicates in the country, he seems to have a more significant turnover than the 8.1 kilograms per week of the syndicate leader from the West Rand example referred to above. It would be more appropriate to regard this dealer as falling into the 'middle level' category of operator or syndicate. The number of sellers/syndicates at this level of operation is likely to be smaller than the estimated 50 referred to in the previous example. Therefore, on the basis that there are at least 35 buyers/syndicates in South Africa of a similar capacity as the one from G Hostel, a total of 35 tons of stolen gold would have changed hands due to their activities in one year. Some members of the police and mine security regard the estimate of about 36 syndicates/buyers with a similar capacity operating in South Africa as conservative. The view of a senior mine security officer that there are 22 big syndicates/sellers in the West Rand area alone, can also not be ignored. However, the police are of the view that the figure of 22 includes several smaller syndicates that operate on a smaller scale.

- Estimate 3 (top national syndicates/buyers): In the Chemfix case, a mass of 7.7 tons of gold were involved. Not all of it originated from illicitly obtained gold, as a portion of the 7.7 tons was made up of gold from Kruger coins. Ignoring this aspect, and on the assumption that there are at least six top sophisticated syndicates active in the country that deal in similar volumes of stolen gold, it could be deduced that these six syndicates could have a joint turnover of about 42 tons of gold per annum. Although this projection of 42 tons of gold being stolen in South Africa per annum may not be far-fetched, it is based on insufficient factual information to give it credibility. No reliable information could be obtained about the number of top gold-dealing syndicates in the country.

Estimate 3 suggests that the undetected theft of gold from mines and shafts

could be approximately 42 tons per year.

While the 42 tons may well be realistic, estimate 3 is unlikely to have sufficient credibility in the absence of more information on which such an estimate can be verified.

The theft of 21 tons and 35 tons as suggested by estimates 1 and 2, respectively, seems more realistic. However, these remain estimates that are based on insufficient evidence to justify elevating them to the level of statistical fact. It is not known, for example, what the exact degree of purity of unwrought gold was that the dealer sold over the 66-day period. Despite these limitations, and taking into account all the information that was obtained during the process of undertaking this study, the estimate of 35 tons of undetected gold stolen from mines and plants per year is not unrealistic. It may well have been more, but there would be too much speculation involved in attempting to explain such volumes. The capacity of the larger middle level syndicates and buyers in all likelihood have expanded since 1994. However, it is not unreasonable to assume that the estimate of 35 tons could have equally applied to any one of the years between 1994 and 1998.

It is therefore estimated that the undetected theft of gold from mines during the five years from 1994 to 1998 amounted to an average of 35 tons per year.

In order to arrive at the average mass of detected plus undetected theft of gold per year during the five years from 1994 to 1998, the 603 kilograms of gold recovered on average per year by the police and mines have to be added. The mass of gold stolen from mines between 1994 to 1998 can therefore be said to be an average of 35.6 tons per year.

It is therefore estimated that an average of 35.6 tons of gold were stolen per year from mines in South Africa during the five years from 1994 to 1998. Of this total, an average of 603 kilograms per year were recovered by the police and by mines.

Chapter 3

PRODUCT THEFT OF PLATINUM GROUP METALS

THE MINING AND REFINING PROCESS OF PGM'S

Platinum ore is mined from the Merensky and the UG2 reefs, the two main platinum-bearing reefs in South Africa. The two reefs are contained in what is known as the Bushveld Igneous Complex, a horseshoe-shaped geological feature that is confined to the northern parts of the country. It extends for 400 kilometres from Rustenburg in the North-West, around to Potgietersrus in the Northern Province and then across and down to Lydenburg in Mpumalanga. The problem of product theft from platinum mines and plants is therefore confined to a relatively manageable geographical area in comparison with the much wider distribution of gold and diamond mines. In addition, the number of Diamond and Gold Branches of the SAPS responsible to police the theft of PGMs is also much smaller.

Platinum is merely one of seven precious metals and three important base metals that are extracted from the ore mined on the Merensky and UG2 reefs. The six platinum group metals (PGMs) are platinum, palladium, rhodium, osmium, iridium and ruthenium and the major base metals recovered are copper, nickel and chrome. The ore body also contains minor portions of gold.

While gold-bearing reefs consist of sedimentary deposits, platinum reefs are igneous rocks originating from molten volcanic magmata that rose from below the earth's crust and then cooled and solidified. The precious metals occur in the ore in a variety of patterns and forms and in different values. Unlike gold-bearing ore, which is often found in seams where there are significant concentrations of gold, PGMs are found in the form of minute mineral particles that are generally thinly distributed in the ore. These particles are not visible to the eye and, unlike gold, do not appear in concentrations that make it attractive for thieves to remove PGM-bearing material from underground mining operations. Two or even three milling stages may be required to recover the very fine mineral particles from the ore. The technical and financial requirements for such a process are presently beyond the means of most potential PGM thieves. The phenomenon found in the gold-mining industry where significant volumes of gold-bearing material are illegally removed by thieves from underground shafts and transported to illicit smelting houses, is not common in platinum mines. The fact that platinum-bearing rock can contain up to 12 different metals also makes it less attractive to steal than gold-bearing ore. Thefts of PGM material therefore tend to occur above ground during one of the recovery phases in the plant.

Depending on the mineralogy of the ore, the PGM recovery process has to go through four complicated stages of concentration, smelting, base metals removal, and precious metals refining:

- **Concentration:** During this process, the ore is ground into fine particles with the aim of liberating and recovering the mineral particles in the form of a concentrate by froth flotation.
- **Smelting:** The flotation concentrate is then melted in an electric furnace. On melting, the concentrate separates into two layers. The upper layer is a slag, which is tapped off and then either discarded or returned to concentration. The lower layer is a converter matte, which is sent for base metal removal.
- **Base metal removal:** Base metals are removed from the converter matte. They constitute a valuable by-product of PGM extraction and the extent to which they are further refined is largely dictated by economies of scale. The concentrate, which remains after the removal of base metals, is then sent for further processing into refined precious metals.
- **Precious metals refining:** Refining processes during this phase differ and improved methods are constantly being introduced. During this phase PGMs such as rhodium, platinum, iridium and others are finally separated into individual metals.

THE ROLE OF THE RUSTENBURG DIAMOND AND GOLD BRANCH

The Rustenburg Diamond and Gold Branch, which is situated at Phokeng approximately 20 kilometres from Rustenburg, is responsible for policing the major part of South Africa's PGM-producing areas. The large PGM producers, namely Amplats, Implats and Lonmin, as well as a

few small companies, operate about 30 shafts and six plants in this area. The jurisdiction of the Rustenburg Branch covers an area of approximately 20 000 square kilometres. It stretches as far as the Botswana border and includes three border posts. In addition, and as a result of the fact that the nearest Diamond and Gold Branch to the north of Rustenburg is situated at Pietersburg, members of the Rustenburg Branch are frequently required to work in a 10 000 square kilometre area in the Northern Province. Their reaction time to attend to incidents of theft in large parts of the Northern Province, for example in Thabazimbi, is much quicker than that of members of the Pietersburg Diamond and Gold Branch.

The now disbanded Bophuthatswana Diamond and Gold Branch formerly used the facilities that now house the Rustenburg Branch at Phokeng. From a departmental point of view, the use of such existing facilities is probably based on financial reasons. From an effective policing point of view, the optimum location for the Branch would be the town of Rustenburg. It is much closer to the platinum shafts and plants than Phokeng. In addition, it must be borne in mind that the movements of members of the Branch are much easier to monitor at the relatively isolated location of Phokeng than would be the case in Rustenburg. When sophisticated organised criminal groups are involved in the theft of PGMs, it has to be assumed that the movements of investigators will occasionally be monitored in order to find out when they are out of their offices, where they are travelling to and in which car. While this could also happen in Rustenburg, it becomes more difficult to do so in a town where there are significant movements of people and vehicles and where branch members may experience a greater degree of anonymity. What needs to be explored by the platinum-mining sector and the police is whether, through a co-operative effort, a relocation to premises in Rustenburg is possible.

During 1998, the Rustenburg Branch had ten investigators on its staff. By 1999, the staff complement had been reduced to six investigators. They have to do their own administrative work, as no administrative staff is available to attend to it. As a result, the Branch no longer has the capacity to follow up all the information that it receives. Valuable information and crime intelligence are sometimes lost because of the unavailability of investigators to follow up on such leads. Rustenburg Diamond and Gold Branch members are constantly engaged in crisis management and 'fire-fighting' exercises rather than with proactive initiatives to address the theft of PGMs. Lack of time and personnel also prevents the proper training of those investigators who lack experience.

Corruption also appears to be a problem in the Rustenburg Branch. According to mine security personnel, dockets can be bought for as little as R1 000.¹³ It has also happened that sources from within the police have warned syndicates of impending raids, thereby rendering such raids ineffective.

The Rustenburg district is a well-known transit area for the smuggling of gold and diamonds to and from Botswana and Angola. As a result, members of the Rustenburg Branch are engaged from time to time in joint operations that target non-PGM thefts such as gold and diamonds.

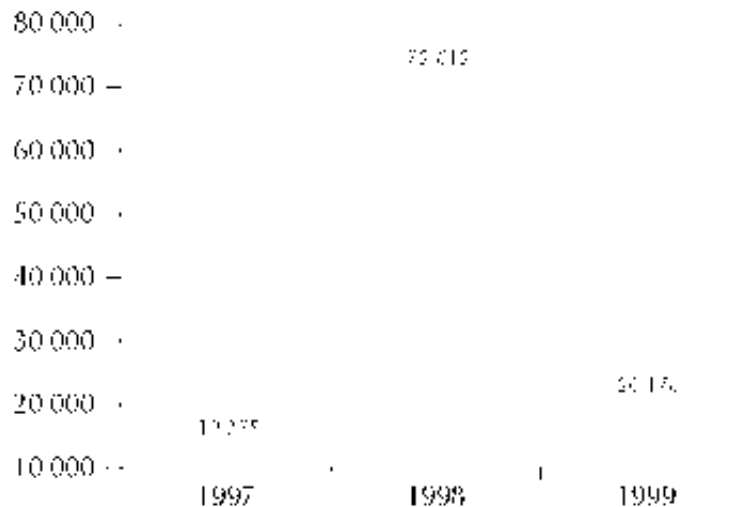
Figure 15 sets out some Rustenburg Branch statistics relating to the years 1997, 1998, and 1999. Statistics relating to seizures of unwrought gold and stolen diamonds have been omitted.

Figure 15: Annual statistics, Rustenburg Diamond and Gold Branch				
PGMs*	1997	1998	1999	Total
Unlawful purchases				
Arrests	0	0	0	0

Cash paid to suspects	0	0	0	0
Unlawful possession/theft				
Arrests	38	60	39	137
Confiscated (gram)	19 275	17 568	15 551	52 394
Value (R)	781 965	910 491	1 099 200	2 791 656
Found and/or seized				
Mass (gram)**	0	55 244	10 672	65 916
Value (R)	0	2 910 616	734 160	3 644 776
*Referred to in the Annual Reports as "unwrought precious metals (excluding gold)"				
**These statistics relate to the mass of PGMs and not to the mass of concentrate found or seized.				

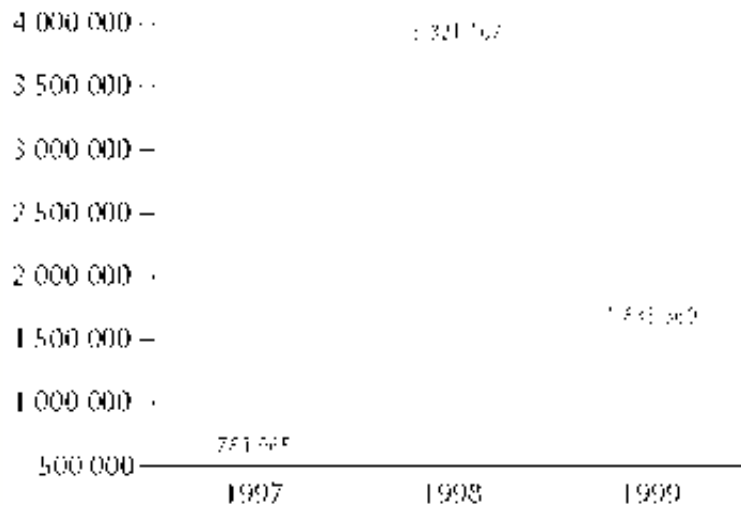
The above statistics indicate an increase in seizures of PGMs during 1998, both in volume and value. However, a noticeable decline appears during 1999. Figures 16 and 17 below provide graphic illustrations of these trends.

Figure 16: Mass (gram) of unwrought PGMs recovered by the Rustenburg Diamond and Gold Branch, 1997 - 1999



The decline of seizures during 1999 occurred at a time when the number of dockets opened for prosecution, and the number of files opened for the investigation of suspects, increased significantly. During 1998, the Rustenburg Branch opened 289 dockets and files, while this increased to 348 in 1999. These statistics suggest a significant increase in the investigative workload of the Branch but a declining success rate when measured against the seizures of PGMs. The statistics relating to dockets and files that follow do not relate exclusively to thefts of PGMs, but include cases relating to the theft of unwrought gold and diamonds. However, the overwhelming majority of dockets and files opened relate to PGMs.

Figure 17: Value of unwrought PGMs recovered by the Rustenburg Diamond and Gold Branch, 1997 - 1999



Investigators appear to have difficulty in investigating the increasing number of dockets and files to a successful conclusion. There are just not enough heads and hands available to do so. The drop in the number of investigators available to the Rustenburg Branch (from ten in 1998 to six in 1999) is therefore the most likely explanation for this. The negative consequence for the platinum-mining sector is that the perception of a low-risk environment for PGM thieves is strengthened and that more syndicates are therefore likely to be attracted to it. Bearing in mind South Africa's large reserves and the optimistic forecasts for PGMs on the international market, it must be expected that criminal organisations will increasingly turn their attention to this sector. The inadequate number of staff at the Rustenburg Diamond and Gold Branch should therefore be a matter of serious concern for both the platinum-mining sector and the police.

Figure 18: Dockets and files opened, 1997-1999				
Rustenburg Diamond and Gold Branch	1997	1998	1999	Total
Dockets opened to investigate for prosecution	55	53	75	183
Files on new suspects opened	140	236	273	649

NATIONAL POLICE STATISTICS

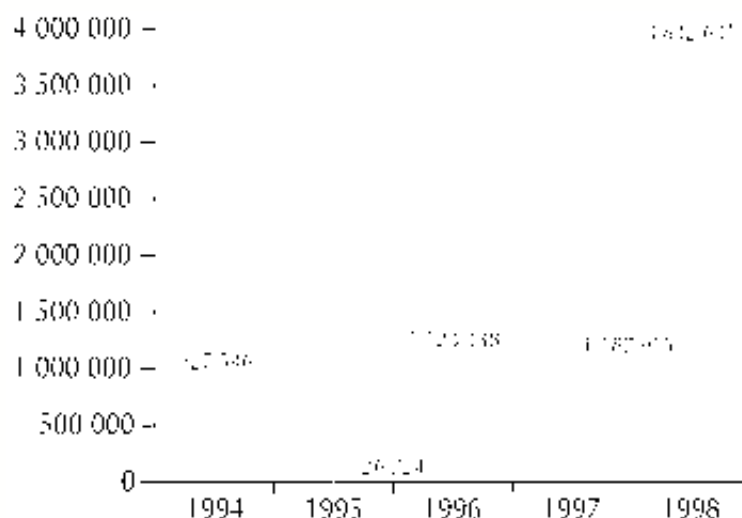
The annual reports of the national head office of the Diamond and Gold Branch in Pretoria provide relevant national statistics. However, these statistics do not specifically relate to platinum or PGM thefts as a distinct category. The reports do provide a category of statistics that relate to 'all other unwrought metals (excluding gold)'. According to police management, however, this category refers almost entirely to PGMs. Although these statistics can therefore be regarded as a fairly accurate indication of police activities relating to PGM theft, the exact composition of these statistics remains unknown. Figure 19 summarises the relevant statistics for the five years from 1994 to 1998.

Figure 19: National police statistics for unwrought precious metals (other than gold), 1994-1998						
Unwrought precious metals	1994	1995	1996	1997	1998	Total
Unlawful purchases						

Arrests	0	1	0	0	5	6
Cash paid to suspects, precious metals recovered (R)	183 163	0	0	0	68 423	251 586
Unlawful possession/theft						
Arrests	104	99	60	69	85	417
Mass (kg)	144.347	604.249	327.62	75.896	65.423	1 217.535
Value (R)	736 997	24 999	1 082 250	1 187 368	3 764 208	6 795 822
Found and/or seized						
Mass (kg)	5.538	0.526	11.615	0.033	0	17.712
Value (R)	7 386	1 725	41 088	547	0	50 746

Not too much weight should be attached to the figures reflecting the mass of recovered PGM material. Significant inconsistencies exist. For example, during 1997, the police recovered about 76 kilograms of PGM material valued at R1 187 368. A year later, during 1998, only about 65 kilograms were recovered but according to figure 19 it was valued at R3 764 208, more than twice the 1997 amount. The discrepancies are likely to stem from different concentrations of PGMs contained in the material that was recovered. It is also difficult to explain how the value of PGMs recovered by the police between 1995 and 1998 could have increased so significantly (figure 19) when there was a significant decline in the mass of material recovered during the same period (figure 20). The most likely explanation for this is that the PGM material recovered during 1996, 1997 and 1998, although less in mass than before, contained a considerably higher concentration of PGMs than in the previous years.

Figure 20: Value (rand) of unwrought precious metals (other than gold) recovered by the police, 1994 - 1998



The increase in the value of PGMs recovered by the police coincides with a similar development at platinum plants. Figure 20 below indicates that, for two years after 1995, platinum mines recovered increasing values of stolen PGM material at plants. Security measures have been significantly beefed up during the past few years, particularly at plants owned by the larger mining groups. While the successes at plants suggest that improved security measures by

mining companies proved to be effective, the fact that police confiscations also increased during the same period suggests that sufficient volumes of PGM material were still slipping through the mine security system to enable the police to increase their seizures outside plants.

The number of arrests by the police relating to 'all other unwrought metals (excluding gold)' declined slightly between 1994 and 1998. They remained more or less constant while the volumes recovered by the police declined. It therefore appears that, on average, arrested suspects had PGM material in their possession with a lower overall mass, but with a higher concentration of PGMs than before 1995.

Despite the increase in the value of seizures, police and senior mine security officials maintain that the theft of PGM concentrates continues to increase. However, they agree that the improved security measures at some plants have made it more difficult for thieves to remove PGM material from those plants. They believe that this has lead syndicates to focus more intensely on those mines and plants where security remains weak. This applies particularly to smaller mining companies.

Figure 21: Mass (kg) of precious metals (other than gold) recovered by the police and related police arrests, 1994 - 1998



It would assist both the industry and the police if national police statistics could reflect PGM statistics in future as a distinct category and if the police and the industry could follow a similar approach when recording the mass of PGM material recovered. A review of the manner in which such national statistics are presented will make it less difficult to identify trends accurately and therefore ease the task of developing more effective steps to combat the theft of PGMs.

PGM MINING GROUPS

Platinum production in South Africa is dominated by two groups of companies: Amplats (holding company Amplats) and Implats (holding company Impala Platinum Holdings Ltd). Amplats and Implats are the world's largest and second largest producers of platinum, respectively. During 1998, they produced a total of about three million ounces of platinum.¹⁴ In preparing this report, both Amplats and Implats readily provided their assistance. A third important producer of platinum, Lonmin Platinum, was equally helpful.

Total PGM production in South Africa for 1998 amounted to 5.9 million ounces, 13 000 ounces more than 1997.¹⁵ It was not possible to obtain national production figures for platinum as distinct from PGMs. What is clear is that Amplats, Implats and Lonmin together produce a very high percentage of South Africa's platinum and PGMs. Lack of more detailed information makes it difficult to attach a percentage to their total platinum or PGM production. The statistics provided in figures 21 and 22 below are based on information obtained from the above three mining groups. Even though they do not cover the entire national production of platinum and PGMs, they are as close a reflection of what is occurring in this sector as is possible.

The three mining companies have adopted different criteria in presenting statistics relating to theft and losses of PGM material. Some refer in their statistics to 'theft of PGMs', while others distinguish between product theft 'at BMR' (base metal refinery) and the value of parcels stolen or found 'at PMR' (precious metal refinery). Such a distinction would be very useful if all the mining groups followed it. The different ways in categorising thefts inevitably lead to different valuations being given to the mass of PGM concentrate recovered. For example, mining company X may value 12 000 grams of PGM material at about R145 000 while company Y values 12 000 grams of PGM material stolen at about R60 000. The different valuations inevitably arise because the PGM material contains different concentrations of PGMs. Such differences will occur between PGM material that is recovered at a base metal refinery and PGM material recovered at a precious metal refinery. For this reason, it would serve little purpose to refer to volumes of PGM material recovered by mines in this report. The values attached by the different mines to the volumes that were stolen, as shown in figure 21, is a more accurate reflection of potential losses that they could have incurred through theft had the theft not been discovered.

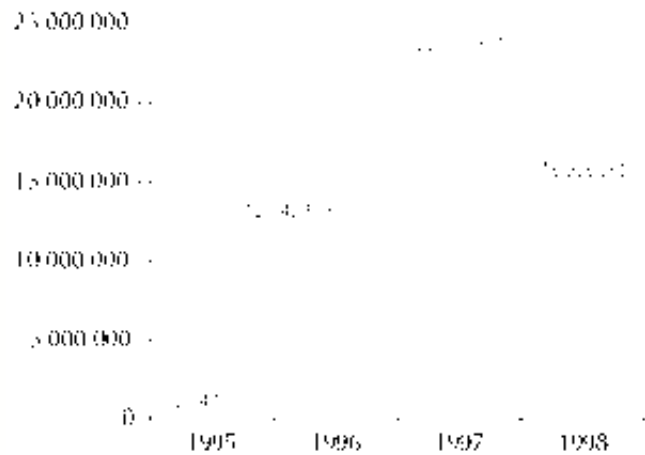
As mentioned before, the increase in the value of seizures by mine security during 1995, 1996, and 1997, as illustrated in figure 21, is probably the result of improved security measures at plants. The decrease in seizures during 1998 is difficult to explain. What is noteworthy is that all three mining groups concerned experienced a drop in seizures during 1998.

Police statistics show that, during the same year that the mining groups experienced a drop in seizures, 1998, the police recorded their highest levels of seizures in five years (figure 19). National police statistics for 1999 are not available to establish whether or not this trend continued at national level during 1999. However, the recovery statistics of the Rustenburg Diamond and Gold Branch reflect a decrease in the value of PGMs recovered during that year.

Despite the decrease in the value of seizures by mines during 1998, figure 22 shows that amounts involved continue to pose substantial threats and potential losses for the mining groups concerned.

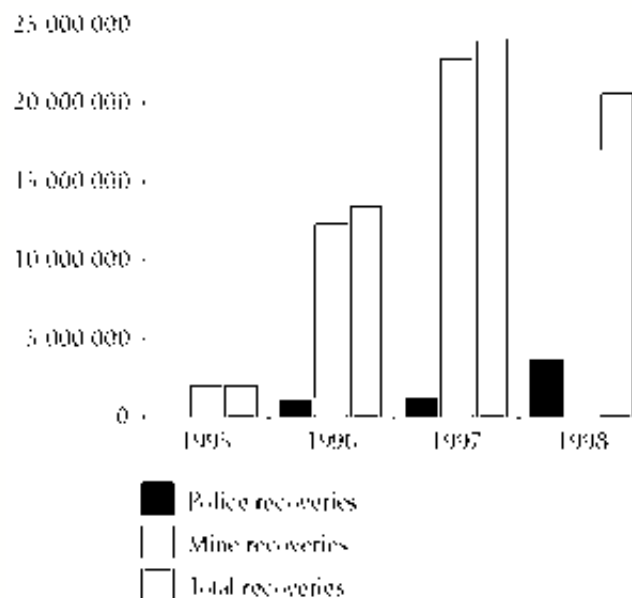
The above figures relate to PGM material that was unlawfully removed from the normal refining process by persons who intended to use the products for their own financial benefit. The PGM material is therefore correctly referred to as stolen material, although it was largely recovered and returned to the plants.¹⁶ This means that the value of PGMs referred to in Figure 22 cannot be regarded as constituting a production loss that the PGM industry has suffered as a result of detected product theft.

Figure 22: Value of detected thefts of PGMs as identified by the PGM industry, 1995 - 1998



The mass and value of the undetected theft of PGMs from mines and plants remain unknown. Unlike in the case of product theft of gold, there are insufficient facts and indicators available even to attempt an estimate of undetected theft of PGMs. Insufficient seizures from large PGM smugglers or syndicates have taken place to justify an estimate of the likely mass and value of stolen PGM material that is being sold on the black market. In one of the few successful investigations of a top platinum-smuggling syndicate, police recovered R2 million worth of stolen PGM material in various concentrations during 1998. The syndicate had acquired a smelter worth about R500 000 that was specifically designed for smelting PGM concentrates. Police are of the view that the PGM concentrates that were seized were earmarked for export. Even though this seizure is regarded as constituting the tip of the iceberg, it provides an insufficient basis on which make a projection of the overall value of stolen PGM material that is being smuggled on the black market in South Africa.

Figure 23: Value (rand) of suspected stolen PGMs recovered by the police, Amplats, Implats and Lonmin, 1995 - 1998



Based on statistics supplied by Amplats, Implats and Lonmin and by the police, the total value of detected PGM product theft from plants between 1995 and 1998 amounted to approximately R59 million or an average of R14.7 million per year.

THE ROLE OF SYNDICATES AND INDIVIDUAL CRIMINALS

The high-risk areas for theft are certainly not the shafts through which ore containing PGMs is brought to the surface. As mentioned before, the PGM containing particles in the ore are so minute and so widely distributed that it is hardly an economic proposition for a thief to steal such ore with the hope of profitably extracting PGMs. One ton of ore would have to be crushed into fine dust to extract approximately four grams of PGMs. Despite these odds, finely crushed ore has been offered for sale on the illicit market, albeit in very small quantities.

The high-risk areas are therefore the plants where the ore passes through the different phases of crushing, extraction and refining. Even low-grade converter matte has a black market value. Police refer to an incident where an undercover agent was offered approximately one ton of low-grade matte for sale. It appeared to originate directly from a plant. An intimate knowledge of the refining process is clearly present in many of the detected cases of theft. The high rewards for stolen PGM concentrates make the investment of time and knowledge by the smuggler worthwhile. In one case that was tried in the Rustenburg court, a 1.5 kilogram packet of PGM concentrate removed by a suspect from a base metal plant was valued at R55 502.¹⁷

Some thefts occur at the stage in the process where the base metals are removed from the converter matte. However, the activities of thieves become more intense as the refining process moves closer to its final stages. An example is the case where syndicate members contaminated a batch of platinum sponge on purpose in the final refining stage (99% pure). They anticipated that by contaminating the batch it would be rejected and returned for re-refining to a less secure area where it would be possible for them to remove and hide it unnoticed. They then removed the 41 kilogram batch, split it into different 'parcels', and hid it for later removal from the premises. They could do so unnoticed, as the return of this batch to the specific phase of refining was not expected in the ordinary flow of the process.

As is the case in the gold-mining sector, the so-called runners constitute the lowest level in the hierarchy of criminal operators involved in the theft of PGMs. They consist of individuals who could be miners at the mine or employees at the plant or they could be independent operators who are retrenched mine workers who no longer have any links to the mine. Some are linked to syndicates while others try to make an independent existence. They tend to be involved in the high-risk aspects of the theft such as removing the concentrate from the plant and transporting it to their syndicate connection or selling it to low-level dealers in the area. Runners who act independently tend to have a wide network of black market contacts, including illicit smelters. Some runners supply their stolen concentrate to smelters in their area who refine it for a fee. Police are aware of at least seven illegal smelting houses that operate in the Rustenburg area, some of them technically quite advanced. Mine security personnel believe that, in the West Rand area, nine illegal PGM smelters are operating. Smelters are also believed to exist on the East Rand but not much information is available about them.

The emergence of organised criminal groups (syndicates) that specialise in the theft of and illicit dealing in PGMs is a relatively new phenomenon. They appear to have established themselves during the past five to ten years. Their increasing activities in the platinum-mining sector are directly linked to the expanding production and increasing value of PGMs. Some syndicates appear to have diversified from gold to PGMs due to the latter's increasing value and availability. According to the police, the modus operandi of PGM syndicates remain very similar

to those that continue to concentrate on dealing in gold. In fact, most syndicates that focus on PGMs are also involved in the illicit dealing in gold or diamonds. Members of the Rustenburg Branch point out that they know of at least three syndicates in their area that specialise in the theft of and illicit dealing in PGM materials. These syndicates vary in size and follow no particular structure. They frequently co-operate with non-syndicate members on an ad hoc basis. Competition between the syndicates does exist and it is not uncommon for members of three different syndicates to be active in the same plant.

As a result of significant steps taken by platinum mines to improve security at plants, including measures such as high technology surveillance equipment and the use of polygraphs, syndicates have tended to focus increasingly on the weak links in the human chain in order to obtain access, information and PGM material from within plants. Although security personnel have constituted their main targets, there appear to be few persons employed in plants and refineries that are not regarded as potential recruits by syndicates. It is known that significant payments are offered to security staff and other personnel to turn a blind eye to the removal of PGM concentrates from plants. Collusion between mine personnel and syndicate members is rife and is likely to increase as PGMs become more attractive and valuable than gold. A likely consequence of improved security measures at plants and refineries is an increased focus by syndicates on those parts of the mining process where security is not yet as sophisticated. Areas where relatively low concentrate produce is found are therefore likely to become more and more attractive to syndicates in future.

Unwrought PGMs that have been through one of the illicit smelting houses are readily purchased on the illicit market for about R32 to R40 per gram. The buyers, who appear to be the link between runners and more sophisticated syndicates operating from Johannesburg or Durban, constitute the next level in the hierarchy of criminal operators. They appear to be part of middle level syndicates that tend to operate in the vicinity of the mines and plants. They in turn sell the unwrought PGMs to sophisticated buyers who have national and international links. The international market for unwrought PGMs appears to be more attractive than the South African market. Both the police and senior mine security officials are of the view that the ultimate destination is inevitably a buyer abroad rather than someone in South Africa.

The Rustenburg Diamond and Gold Branch has very little information available on these sophisticated national syndicates. They are mostly situated in Johannesburg, Durban or Lenasia and consist of people who keep their hands clean and who operate with a level of sophistication that makes it difficult for a local Diamond and Gold Branch to investigate them successfully. Police tend to arrest runners or middle level operators without succeeding to crack those syndicates at the top of the hierarchy.

The fact that the available information on the nature and activities of syndicates active in the PGM sector is very general and vague should be a cause for concern for the industry. There should be a degree of urgency for both the platinum-mining sector and the state in taking steps to improve the information base on these syndicates. Improved crime intelligence, the sharing of crime information by mines, as well as the strengthening of the relevant Diamond and Gold Branches, would constitute steps that will enable the state and the industry to develop a more accurate assessment of product theft of PGMs.

At this stage, an assessment of the extent of product theft of PGMs has to confine itself to detected thefts based on the figures supplied by the three mining companies and the police. These figures show that, during the four

years from 1995 to 1998, the total value of stolen PGM material recovered was R58 742 384. Recoveries peaked during 1997 at a value of R23 674 097. No attempt can be made even to estimate the value of undetected thefts of PGMs at this time.

Chapter 4

RELATIONSHIP BETWEEN THE MINING INDUSTRY AND THE DIAMOND AND GOLD BRANCH OF THE SAPS

RELATIONSHIP AT MINE AND BRANCH LEVEL

In assessing the working relationship between the mining industry and the Diamond and Gold Branches of the SAPS, two levels of interaction between mine personnel and police officials will be considered. The first level relates primarily to the interaction between the security personnel of individual mines and the local Diamond and Gold Branch members, while the second level refers to the interaction between the gold-mining industry and the police at more senior level, both regionally and nationally. Other levels of interaction could be identified, but it is in essence at these two levels that the relationship between the gold-mining industry and the police is determined.

Every significant mining company employs its own investigators who in many ways mirror the activities of members of the Diamond and Gold Branch, except that their activities are generally confined to the mine property. Their task is to protect the mine's property at source. They open their own dockets on suspects who are being investigated, and they confiscate gold and PGM-bearing material that is suspected of being stolen. Agents infiltrate at all levels of the mines in order to identify individuals involved in unlawful activities. They establish their own database on suspects and related matters. The members of the local Diamond and Gold Branch are involved with similar activities but in a wider geographical area and with more extensive powers. The similarity in their activities has the potential of either leading to a closeknit co-operative relationship between the two, or could result in negative rivalry. The degree of competitiveness that is inherent in such a situation could therefore benefit both the mine and the police if it is correctly managed, or it could lead to a breakdown of the relationship between mine security staff and the police to the detriment of both. The management of the relationship between the two often depends on the personalities involved.

Not all mines or Diamond and Gold Branches were canvassed for their views on this matter, as it was not within the scope of this study to do so. However, as a result of interviews conducted with members of the police and mine personnel in the Free State, West Rand, Rustenburg, Namaqualand, Pretoria and Johannesburg, it is possible to make the following observations:

- Mine personnel often complain that the police only arrest the 'foot soldiers' and not the senior syndicate leaders who buy and deal in large volumes of gold. Some are of the view that the police do not seem to have the necessary enthusiasm to do so and that they seem to have no strategic plan to tackle the top buyers and sellers.

On this issue, members of the Diamond and Gold Branch concede that there have been very few successes against the 'top boys'. They see themselves as overworked with huge docket loads and with local projects that keep them occupied with covert investigations. Such investigations do not necessarily focus on the few large buyers and sellers in Gauteng or Durban. They tend to know about the existence of these top syndicates but are often under the

impression that some other unit of the police is probably busy investigating them. "We had a file on that (Gauteng) buyer but Johannesburg also has one", was one response.

At senior police level, there is uncertainty over the destination of South Africa's stolen gold. Some claim that a large proportion is smuggled out of the country almost on a weekly basis to the East, while others believe that most of the stolen gold goes to the internal market via Europe.

- Both the police and mine personnel complain about corruption. Police add that the biggest problem that they have in some areas is the increase in collusion that occurs on mines between mine security and illegal operators. They blame this on inexperienced, badly qualified and poorly paid private security company personnel who have been employed. The co-operation between the police and mine security seems to be better where long established in-house security is in place.
- A criticism that the local police and the mine security personnel share is that neither of their head offices make enough resources available to enable them to do their job properly. Both are of the view that the shortage of resources leads them to focus more extensively on reactive than proactive initiatives.
- The relationship between mine security and the local Diamond and Gold Branch is significantly influenced by the personalities of top officers of the local branch and those responsible for security on the local mines. Where there is a positive approach from both sides and a will to co-operate and to build up a relationship of trust, the relationship between mine security and the police is inevitably a very positive one.

Where the necessary relationship of trust does not exist, criticism related to the other's bona fides occasionally emerges. With regard to some mines, for example, the police are of the view that they are not prepared to admit the full extent of theft from their mines. This complicates the police's task. Some mine security staff members are of the view that police statistics are not accurate, while police officers claim that there are certain mineralogists at mines that lie about the ore grades that they have to determine. They allegedly do so because it could affect their bonus.

- One view that was expressed by a senior mine security official suggests that the phenomenon of theft of gold from mines could be addressed more effectively if the Diamond and Gold Branches of the police were to be privatised and taken over by the mines. He referred to the considerable degree of overlap between the activities of the two.

Despite some criticisms that mine security personnel and police members have about each other, the overwhelming impression was that the level of co-operation between the two was very healthy. In general, there was an ongoing exchange of information, the mines make resources such as vehicles and electronic equipment available to police investigators for specific operations, and regular contact occurred between the two. The fact that both mines and the Diamond and Gold Branches are dependent upon each other for success seems to be the major driving force that determines the need for ongoing co-operation and good relations between them.

RELATIONSHIP AT REGIONAL AND NATIONAL LEVELS

At these levels, the relationship between the Diamond and Gold Branches (from head office to

local branches) and representatives from mines and mining companies was also found to be very positive. Among some mining companies there is a fear that the government might want to scale down the operations of the Diamond and Gold Branches and many branch members were also not certain about what the future holds for them. In discussions during 1999 with the divisional commissioner of the Detective Service and the head of Specialised Investigations, the assurance was given that there were no plans to scale down or disband the activities of the Diamond and Gold Branches. They commented favourably on the co-operation and relationship between the mining industry and the police.

Senior officials from the mining industry, while pointing out that there was room for improving the co-operation between the two, were satisfied that a good relationship existed. There was a view that this good relationship should be the basis on which both the police and the mining industry jointly explore more effective ways of co-operating in order to reduce theft from mines. Frequent reference was made to the recently established National Forum and Regional Forums.

The initiative to set up these forums came from the mining industry. The objective was to increase the co-operation between the Diamond and Gold Branch and the mining industry with the aim of reducing the theft of precious metals and diamonds from mines. The thought was that a better strategic co-ordination of resources would follow and that this would lead to a reduction of theft from mines. Among others, it was hoped that the establishment of the National Forum and the Regional forums would lead to the merging of the different databases that exist at regional and national levels. A National Forum has been in place since 1998 and Regional Forums are operating in areas such as Carletonville, Klerksdorp and the Free State.

The Regional Forums consist of representatives from mines who are responsible for mine security and members of the local Diamond and Gold Branch(es). The officer commanding of the local Diamond and Gold Branch is often the chairperson. The Regional Forums normally meet on a monthly basis to exchange information, inform each other of operational plans and to identify areas of future co-operation between the mines and the police in the area concerned. One of their aims is to develop a joint intelligence gathering system in each area covered by a Regional Forum.

The National Forum, presently chaired by the national head of the Diamond and Gold Branch, comprises representatives from the Standing Committee of the Chamber of Mines representing gold, platinum and diamond industries, the chairperson or a representative from each Regional Forum, representatives from the National Diamond and Gold Branch and a representative from the National Office of Public Prosecutions or the Department of Justice. The National Forum presently meets on a monthly basis. Some of its objectives are to:

- improve the communication process between regions and national structures of the SAPS and the mining industry;
- ensure that Regional Forums are established and function properly;
- collect, share, evaluate and analyse data and relevant information; and
- develop more effective approaches to neutralise major crime syndicates.

It is also in the interest of all parties to the Forum to ensure that crime relating to precious metals and diamonds is accorded a higher priority by the state. Some hold the view that a National Investigation Team, consisting of investigators from the mining industry and the

Diamond and Gold Branch of the police, and of representatives from the office of the national prosecuting authority, should be established.

From discussions at all levels it appears that both the National and Regional Forums have contributed positively towards the relationship between the Diamond and Gold Branches and the mining industry. There was, however, a degree of frustration noticeable among some of the persons interviewed that the rate of progress was not what it ought to be. There is a lack of clarity about how suggestions such as a joint intelligence gathering system, or a National Investigation Team, will be accepted and accommodated by the state.

COMMENTS ON THE NATIONAL AND REGIONAL FORUMS*

(*This monograph was completed during 2000 before the SAPS announced the restructuring of specialised police units (editor's note).

The establishment of these forums was a very positive and commendable step. Their creation should be seen as the first phase in an evolutionary process in which the forums need to be flexible and creative so that they can constantly adapt themselves to changing circumstances. Their present role and functioning should therefore continuously be evaluated and adapted where necessary.

Some of the key issues that the National Forum has not yet been able to resolve are the following:

- Precisely how should the state and the mining industry co-operate in ensuring that major syndicates are exposed and apprehended?
- Is a National Investigation Team feasible and how will it relate to the state with regard to command and control and resources?
- Is it feasible to establish an industry owned common database at regional and national levels, staffed by both members of the Diamond and Gold Branch and the mining industry?

It was not within the mandate of this study to investigate these issues specifically, but they do impact on the relationship between the industry and the police.

In exploring how best to combat organised crime and the top crime syndicates, it is important to bear in mind that there has been a fundamental shift in the approach of the state when dealing with this phenomenon. Ten years ago organised crime was not a concept under consideration by the police that required a different investigative approach from the ordinary criminal investigation against an individual suspect. A docket would be opened to investigate a case against a suspect and if sufficient evidence was found, there would be a prosecution. The focus was not to establish whether or not the individual was part of an organised group and who the individuals at the top were who were co-ordinating the activities of small-time criminals.

A change in approach by the police occurred in 1991, but it has been particularly evident during the past four years. Not only has organised crime been declared a priority crime, but the entire approach of the police towards investigating it has also changed. In essence, the new approach attempts to beat sophisticated crime at its own game. Top crime syndicates, including those involved in buying and selling stolen gold and PGMs, inevitably rely on the best technology and

expert advice available. They have the money to obtain the best legal, financial and technical advice on the basis of which they then plan their activities and attempt to outwit the authorities. The new approach by government is also to combine the best investigative, legal, financial, forensic and technical skills in combating organised crime in an holistic manner. The establishment of the Scorpion Unit is evidence of this new approach. Countering organised crime requires intelligence-driven investigations by a team of investigators who have multidisciplinary skills. The objective is to crack the conspiracy at the top rather than to prioritise the prosecution of the individual junior member of a crime network. The aim is not only to arrest and convict the top leaders of criminal groups, but also to deprive them of their livelihood, those assets they have acquired through the proceeds of crime. The controversial Prevention of Organised Crime Act of 1999, which entitles the state to seize the assets of crime bosses, is an example of this approach.

Of course, the investigation and prosecution of individual criminals must and will proceed as usual. But where there is an indication or suspicion that a suspect is part of a larger organised criminal group, the extent of the threat that such a group poses to society will determine whether the investigation will proceed by the detective against the individual only, or whether it is to be dealt with as an organised crime case requiring an intelligence-driven multidisciplinary approach. Crucial, therefore, to the combating of sophisticated organised crime, also in the mining industry, is a threat analysis of those top organised criminal groups to assess the impact that they have on society, in general, or on the mining industry specifically.

Because the above holistic investigative approach towards sophisticated organised crime was only introduced in South Africa during the past few years, the SAPS has embarked on a steep learning curve to develop reliable and scientifically sound threat analysis methods to assess organised criminal groups.

The fact that a number of syndicates, some with international links, are actively involved in dealing in stolen gold and PGMs, is beyond dispute. The role that is played by the smaller local syndicates that mine, crush and melt, transport and sell gold and PGMs at local level is quite clear to mine security staff and the police. It is the more dangerous syndicates — those at national level that have international contacts — about which very little is known. In line with recent developments in the area of organised crime, such syndicates are likely to use the most sophisticated methods of operation that can only be accurately identified by intelligence-driven investigations. The mining industry needs to ensure that the seriousness of the threat that is posed by the top gold-smuggling syndicates is brought home to the relevant authorities. This should ensure that the government's new approach towards organised crime is also applied when investigating such syndicates.

The determination with which the government is pursuing its new course against organised crime is evident in comments made by the Minister for Safety and Security, Mr Steve Tshwete, at a media briefing in parliament on 7 February 2000:¹⁸

"As the Justice, Crime Prevention and Security cluster of Government, we have set ourselves priorities for the coming year that will ensure our contribution towards this vision (i.e. the President's) ... Our main objective will be to focus our endeavours and resources jointly in addressing the incidence of crime and public disorder (security breaches) that has the most negative effect on society, which are mainly organised crimes, serious violent crimes ... The Cluster has identified several strategic interventions that will be highlighted in this presentation. These are:

Social crime prevention

Prosecution-led and intelligence-driven investigations

More effective border control

Alternative containment mechanisms and reduction of awaiting trial prison population

Human Resource Development

Quality service delivery

Private-public partnerships ...

Prosecution-led and intelligence-driven investigations are a key element in the fight against crime and corruption. All prosecutions are being brought into line with the national strategy concerning crime and crime prevention. The legislative framework for the Directorate for Special Operations (Scorpions) is nearing finalisation and will be tabled in Parliament later this month.

The creation of this unit gives effect to the cluster's determination to increase national conviction rates through prosecution-led investigations. This unit will direct its energies at priority crimes including vehicle hijacking, syndicated drug and arms dealing, transnational crimes, money laundering and corruption. Cases are given priority according to clear guidelines, and the resources and services of several Departments are being brought together where required, in a structured manner.

The Intelligence Services will be pivotal to combating crime at its source. Improved methods of intelligence gathering and closer co-operation between the intelligence arms of State, the SAPS, Scorpions, customs and immigration services will contribute to significantly improved investigations which in turn will impact on the quality of prosecutions and increase public confidence in our systems.

To ensure more effective intelligence capacity, the cluster has agreed that the consolidation of signal intelligence capacity is a priority for the year 2000. The Ministry for Intelligence Services will spearhead the setting up of the national communication centre during the course of this year. This will give us a crucial weapon in our fight against crime."

What is of concern is that the mining industry and the National Forum do not appear to be part of the above debate or of the developments that are rapidly taking shape. The impression exists that, despite the great strides forward that were made with the establishment of the National and Regional Forums, they have somehow been left behind and need to catch up.

Indications are that a restructuring is taking place within the SAPS to accommodate the new focus of a co-ordinated approach towards sophisticated organised crime. There has been speculation, for example, that the South African Narcotics Bureau (SANAB) might be radically restructured or even disappear in order to be merged with some of the new multidisciplinary organised crime units. The logic behind such a development is not difficult to understand. Sophisticated drug syndicates that deal in narcotics, are also involved with crimes such as money-laundering, vehicle theft, diamond-smuggling, prostitution and others. If SANAB

concentrates on investigating big narcotic cases and not so much on money-laundering, vehicle theft and diamond-smuggling, can it investigate such an organised criminal group more effectively than would the newly established multidisciplinary investigating teams? Where does the work of SANAB stop and the work of existing organised crime units start? Does the resource, skills and information base that SANAB maintains not constitute a duplication of what the new organised crime units have, or require? It would seem that there is a case for restructuring some of the specialised police units that were established in the past in order to strengthen the hand of the police against organised crime in general. Specialised units such as SANAB or the Motor Vehicle Theft Units, should perhaps become part of the holistic approach towards attacking organised crime. There are probably very few top organised criminal groups whose criminal activity relates only to drugs, or only to motor vehicle theft.

If a restructuring within the police is taking place, it could have direct consequences for the Diamond and Gold Branch of the SAPS, despite the assurances by senior police officers (in September 1999) that there are no plans to do so. The question has to be posed: In the light of the government's new approach towards organised crime, is the Diamond and Gold Branch the most appropriate structure of the police to investigate those top gold-smuggling syndicates that have until now escaped the net? Would an organised crime unit, equipped with top investigators, prosecutors, financial experts, electronic device experts and undercover agents not be better equipped to deal with them?

The possibility of an affirmative answer by the government cannot be disregarded. The office of Mr Bulelani Ngcuka, the National Director of Public Prosecutions, plays an important role in these matters. It is also from there that the Scorpion Unit was established.

Despite the possibility of those investigations relating to top crime syndicates (including those involved with gold and PGMs) being taken over by newly established organised crime units, there is an overwhelming case for the retention of the Diamond and Gold Branches. Investigations into the theft of precious metals and diamonds require specialised investigation methods, skills and experience, also in cases relating to runners or middle level crime syndicates. Those responsible need to rely on their own intelligence and databases at local level if they are to succeed against the smaller syndicates in their areas. The cases that they handle fall into a category that cannot be successfully investigated by the normal detectives from the local police station who have to deal with many other types of crime in their area.

It would therefore appear that changes could occur as far as investigations into the top syndicates are concerned but that there is a strong case for the Diamond and Gold Branches to continue with their existing work. The mining industry, however, should not sit back and wait for possible changes to happen without being proactive and without engaging the relevant government actors in order to ensure that the best solutions are found. Initiatives by the mining industry, irrespective of how well intentioned they may be, are unlikely to be effective if they do not relate to the emerging new strategies of the state to deal with crime, and more specifically organised crime. Among others, the following aspects could be considered by the mining industry:

- In the first instance, the mining industry — gold, PGMs and diamonds — should get together on this issue in order to ensure that they speak with one voice when engaging the state on the issue of product theft from mines and initiatives to counter it.
- The expertise and resources of mine security divisions have a crucial role to play in assisting with investigations and preventive measures to combat theft from mines. The

mining industry should therefore develop proposals on how this could best be achieved. Various possibilities exist. In discussion with the National Commissioner of Police, the National Director of Public Prosecutions, the intelligence agencies and others, a way can be found for a meaningful partnership between the state and the mining industry in jointly addressing crimes involving precious metals and diamonds. Such a partnership could include the establishment by both the industry and the police of a joint national investigation team that is linked up with organised crime investigating structures and not totally divorced from them.

- If members of the National Forum plan to establish a national database, separate from the database of police and intelligence organisations, and operated jointly by the industry and the Diamond and Gold Branch, a reassessment should be undertaken to ensure that its development occurs in consultation with those authorities that deal with organised crime. Again, it may well be possible to establish such a database, but it needs to relate to the state's strategies with regard to organised crime if it is to form a meaningful part of a state/industry partnership.
- Discussions with state authorities should also relate to the existing Diamond and Gold Branches of the police, the important role they play, and how a joint effort by the industry and Diamond and Gold Branches could enhance the effectiveness of their operations. While the wholesale privatisation of the Diamond and Gold Branches would be regarded as far-fetched at this stage, there may well be aspects or functions of the Branches that could be taken over by the industry after discussion with government authorities. More research needs to be undertaken into this issue and clear proposals developed in consultation with the relevant government authorities.

During his media briefing on 7 February 2000, Minister Steve Tshwete highlighted eight areas for strategic intervention by the justice, crime prevention and security cluster of government. One of the eight areas of intervention related to 'private sector partnerships'. In his statement, he had the following to say about private sector partnerships:

"Private sector partnerships are another way of ensuring effective service delivery. The member departments of the Cluster have been involved in various initiatives aimed at co-operative governance and enhanced service delivery. In the year to come, some critical partnerships will be established with the private sector, which will strengthen the public sector's hand in fighting crime and corruption. This includes:

- the strengthening of Community Police Forums in order to strengthen the interaction with the public
- Partnerships with private sector institutions such as banks to combat Border control financial crimes ..."

The banking sector, referred to by the minister in his statement, has established an effective partnership with the SAPS jointly to combat bank robberies and robberies of cash-in-transit. This co-operation between the public and private sector has contributed towards the considerable success that the police have had in apprehending members of the syndicates that were involved. As a result, the number of bank robberies and robberies of cash-in-transit have dropped since 1997. The number of reported robberies of cash-in-transit dropped from 410 in 1996, 230 in 1997, to 214 in 1998. The number of reported bank robberies for the same periods were 642, 497 and 214, respectively.¹⁹ The special police investigating team that was appointed

to deal with bank and cash-in-transit robberies also ascribes its recent successes to the increased reliance on intelligence gathering and better co-ordination.

There is therefore no reason why the mining industry should not explore the possibility of entering into a partnership with the relevant authorities responsible for combating crime in order to address thefts from mines more effectively.

While the existing relationship between the mining sector and the Diamond and Gold Branch of the police is a good one, the potential for far greater and more intensive co-operation has not been effectively explored. As a potential partnership with the justice, crime prevention and security cluster of government would involve a number of roleplayers in addition to the Diamond and Gold Branch, discussions with government on this issue should start at senior levels. The mining industry should use the positive environment that exists at present to develop a public/private sector partnership with the state jointly to combat product theft from mines more effectively.

Chapter 5

FINDINGS AND RECOMMENDATIONS

PRODUCT THEFT OF GOLD

- The Diamond and Gold Branch of the police recovered a total of 1.4 tons of stolen gold valued at about R69.3 million between 1994 and 1998. The highest levels were recorded in 1998 when 374 kilograms of gold valued at R18.7 million were recovered.
- Gold mines recovered approximately 483.7 tons of stolen gold-bearing material worth about R88 million during the five years from 1994 to 1998. The lowest levels were recorded in 1998 when gold-bearing material valued at about R8.7 million was recovered.
- The mass and value of gold stolen from refineries are insignificant when considering the overall figures of gold stolen or smuggled in South Africa. Between 1994 and September 1999, Rand Refinery Limited recovered 8.779 kilograms of stolen unwrought gold valued at R438 950.
- The total value of stolen gold recovered by the SAPS, gold mines and refineries between 1994 and 1998 amounted to approximately R157.6 million or an average of about R32 million per year.
- The mass of stolen gold recovered by the SAPS, gold mines and refineries between 1994 and 1998 amounted to approximately 3 tons or an average of 603 kilograms per year.
- Arrests of suspects by both the police and mines declined during 1997 and 1998. Both recorded a five-year low in 1998.
- The average of 603 kilograms of gold that were stolen, detected and recovered per year during the period 1994 to 1998 constitutes only a portion of the actual undetected theft of gold per year.
- It is estimated that the undetected theft of gold from mines during the five years from 1994 to 1998 amounted to approximately 175 tons or an average of 35 tons per year.

- In total, the detected plus the undetected theft of gold from mines amounted to an average of 35.6 tons per year between 1994 and 1998 (.6+35). Of this total, the police and mines recovered an average of 603 kilograms per year.
- The 603 kilograms of stolen gold recovered by mines and the police per year do not constitute a loss to South Africa's gold production as they were returned to mines and are reflected in production figures.
- The estimated 35 tons of gold stolen and unrecovered per year constitute a direct loss to South Africa's gold-mining sector. If the average London gold price over the period 1994 to 1998 (R53.39 per gram) is used as a basis for calculation, the loss to South Africa's gold-mining sector will have been R1.9 billion (R1 868 650 000) per year or R9.3 billion (R9 343 250 000) for the five years from 1994 to 1998.

PRODUCT THEFT OF PLATINUM GROUP METALS

- The PGM mining sector should anticipate that the industry will increasingly be targeted by local as well as sophisticated national criminal groups with international links.
- The Diamond and Gold Branch of the Police recovered PGM material valued at approximately R7.1 million during the five years from 1994 to 1998. The highest levels of seizures were recorded in 1998 when PGM material valued at R3.8 million was recovered.
- Amplats, Implats and Lonmin together recovered PGM material valued at approximately R54 million during the period 1995 to 1998. The highest levels were recorded in 1997 when PGM material valued at approximately R23 million was recovered.
- The total value of detected stolen PGM material recovered by the police, Amplats, Implats, and Lonmin during the four years from 1995 to 1998 was approximately R60 million or an average of R15 million per year.
- It is not possible to estimate the value of undetected thefts of PGM material from plants during the past four or five years. Insufficient information is available to do so.²⁰ The main reason for this is the lack of effective investigations and prosecutions of the sophisticated top syndicate members who deal in PGMs on national and international black markets.
- Both the police and senior mine security officials concur that, despite more effective steps taken by mining groups, the incidents of theft of PGMs from plants and refineries are increasing.
- Arrests relating to PGM thefts remained more or less constant between 1994 and 1998.
- Despite the robust competitive spirit that exists between mining groups in the PGM sector, there is a need for greater co-operation and co-ordination between them on matters relating to product theft of PGMs. Information relating to the activity of members of syndicates needs to be shared between mines and the police.

THREAT POSED BY PRODUCT THEFT OF GOLD

The loss through theft of an estimated 35 tons of gold during 1998 amounts to a loss of total gold revenue to the industry of approximately R1.9 billion. It constitutes a major threat to the

gold-mining industry and has far-reaching ramifications for the viability of gold mines, dividends paid to shareholders, the number of jobs that are threatened, and the amount paid in taxes to the state. To quantify this threat remains a major problem in the absence of the relevant statistics from all gold producers in the country. The statistics that have been made available relate to those gold producers that are members of the Chamber of Mines of South Africa. It is therefore possible to provide indications of how the theft of gold impacts on them. They are responsible for approximately 90% of the country's total gold production.²¹

GOLD MINING COMPANIES (MEMBERS OF THE CHAMBER)

Out of the total mass of 464 391.2 kilograms of gold produced in South Africa during 1998, members of the Chamber produced about 90%, or 421 652 kilograms. If the estimate of 35 tons applies to the industry as a whole, it would follow that those producers that are members of the Chamber would have lost about 31.5 tons of gold production through theft. Some of the consequences for producers that are members of the Chamber can best be illustrated by the following examples:

- It is estimated that a loss of 31.5 tons of gold during 1998 resulted in total working revenue of 6.8% less than it should have been. The working revenue of R24.302 billion during 1998 could therefore have been R25.946 billion, a difference of R1.644 billion.
- The working costs of retrieving gold during 1998 amounted to R46.444 per kilogram. If the estimated 31.5 tons of gold had not been stolen it would have reduced the working cost per kilogram of gold to R42.738. Product theft therefore contributed to an increase in working costs per kilogram of 8%.
- Total working profit for 1998 would have been 33.3% higher than it was if an estimated 31.5 tons of gold had not been stolen. The working profit of R4.935 billion would have been R6.579 billion.
- Total dividends would have been increased by approximately 33.3% during 1998 if the gold had not been stolen. Instead of the R1.9111 million that was paid out, the amount could have been R2.548 million. This is on the assumption that the dividends would have been increased in the same proportion as the profit increase.

EMPLOYMENT LEVEL

It is estimated that, without the theft of about 31.5 tons of gold, the number of marginal mines during 1998 would have been four instead of five. The number of jobs that were at risk at marginal mines during 1998 were 27 661. This figure would have been 6.2% lower, or 25 949, if only four mines were categorised as marginal. It needs to be borne in mind that it is estimated that every worker in the gold-mining industry has between seven and ten dependants who would be directly affected by retrenchments.

STATE REVENUE

Total taxation paid by gold mines that are members of the Chamber would have increased by approximately 13.4% from R910 million to R1 031 million.

THREAT POSED BY PRODUCT THEFT OF PLATINUM GROUP METALS

Although the total value of PGMs recovered by Amplats, Implats, Lonmin and the police

amounted to approximately R20.6 million in 1998, this did not amount to a loss of production as the quantities recovered constituted part of the overall production figures of the mines. Insufficient information is available to provide an estimate of the value of undetected PGM theft. A reasonable analysis of the threat posed by product theft from plants in the platinum industry can therefore not be provided.

NOTES

1. Mbendi Information for Africa, *South Africa: Mining industry profile*, <www.mbendi.co.za/indy/ming/mingsa.htm>, 14 January 1999.
2. Statistics South Africa, in Statistical Release P2041, suggests that the production of gold for the three months until October 1999 decreased by 2.7% after seasonal adjustment, compared to the previous three months, <www.statssa.gov.za/RELEASES/MINING/oct99/p2041.htm>, 14 January 2000.
3. *South African Reserve Bank annual economic report 1999*, <www.resbank.co.za/Economics/year99/foreign.html>.
4. B Godsell, *Chamber of Mines presidential review 1999*, <bullion.org.za/bulza/speeches/1999spee/presadd.htm>, 14 January 2000.
5. Chamber of Mines of South Africa, *The importance of gold mining to South Africa*, <www.bullion.org.za/bulza/education/nbgold98.htm>, 14 January 2000.
6. *Business Day*, 12 October 2000, referring to Absa's publication on South Africa's foreign trade performance.
7. Chamber of Mines, *The importance of gold mining in South Africa*, op cit.
8. Chamber of Mines of South Africa, *Economic overview: South African mining industry overview, 1998/99*, Johannesburg, 1999.
9. R Baxter, *Cape Times*, 12 November 1999.
10. B Davison, *Business Day*, 13 January 2000.
11. Chamber of Mines, Online statistical tables, <www.bullion.org.za/panl/stabgold/mongldpc.htm>.

On the basis that 1ounce = 28.3495 grams, the following average annual gold prices per gram on the London gold market were computed on the basis of the information supplied by this website:

1994: R48.09 per gram
1995: R49.15 per gram
1996: R58.70 per gram
1997: R53.74 per gram
1998: R57.25 per gram

The average price per gram over the above five years was R53.39 per gram.

12. *Example 1:* During a one-year period (1997), a person operating in Gauteng took about 400 kilograms of gold, valued at about R21 million, to a bank for sales. When questioned, he alleged that his register had been stolen out of his car and that he had no records available to indicate how he had obtained the gold.

Example 2: Between 1996 and 1998, a person operating from Gauteng took approximately 300 kilograms of gold, valued at about R15 million, for deposits to three different refineries. When arrested, 14 kilograms of unwrought gold in gold bars and 10 kilograms in the form of granules were confiscated. While this individual kept a register, more than 90% of the entries were false.
13. However, according to the annual report by the Rustenburg Diamond and Gold Branch, only one docket was reported stolen during the period 1997 to 1999.
14. Amplats produced about 1.9 million ounces, See Mbendi Information for Africa, *Platinum mining overview*, <www.mbendi.co.za/indy/ming/mingsa05.htm>. Implats produced 1.052 million ounces. See *Implats Annual Report 1998/1999*, <www.implats.co.za/annual_report/1999/default.htm>.
15. Chamber of Mines of South Africa, *Industry overview 1998*, <www.bullion.org.za/bulza/publications/Stats/Overvw.pdf>.
16. One of the mining groups supplied figures indicating that not all PGM material known to have been stolen was in fact recovered. The figures for 1996, 1997 and 1998 in Figure 20 are therefore not entirely accurate in that they reflect the full value of PGM material known to have been stolen, but not the full value of PGM material recovered. Even though the value of stolen PGMs that remain unrecovered is not substantial, it would not be appropriate to quantify it in this report without the specific approval of the mining company concerned.
17. Rustenburg CASE number 53/5/98.
18. *Media statement by the Government Communication Service*, 8 February 2000, obtained from V van der Walt, email: Vera@gcis.pwv.gov.za.
19. Crime Information Analysis Centre, *Crime in the RSA for the period January to December 1994-1998*, South African Police Service, Pretoria, May 1999.
20. A senior mine security official suggested that PGM thefts from plants and refineries result in a loss of approximately R30 million per month to the industry. This figure was based on a personal estimate with no reference to any verifiable facts.
21. The figures that follow are based on statistics and calculations provided by the Chamber of Mines of South Africa.

ILLUSTRATIONS

FIGURE 1

Police statistics: Theft of gold, 1994-1998

FIGURE 2

Arrests by the SAPS, 1994-1998

FIGURE 3

Gold (kg) recovered by the SAPS, 1994-1998

FIGURE 4

Value (Rand) of gold recovered by the SAPS, 1994-1998

FIGURE 5

Welkom Diamond and Gold Branch, Annual Report, 1998-1999

FIGURE 6

Total South African gold production (kg), 1998

FIGURE 7

Value of stolen gold recovered in South Africa by mines and the SAPS

FIGURE 8

Approximate value (Rand) of unlawfully removed gold material recovered by mines and the SAPS, 1994-1998

FIGURE 9

Total value (Rand) of gold-bearing material recovered by mines and the SAPS, 1994-1998

FIGURE 10

Gold deposits received by Rand Refinery Limited

FIGURE 11

Total value of detected stolen gold recovered in South Africa, per year, 1994-1998

FIGURE 12

Total value and mass of detected stolen gold recovered in South Africa, 1994-1998

FIGURE 13

Arrests by mines and the SAPS

FIGURE 14

Geographical spread of larger middle level dealers in South Africa

FIGURE 15

Annual statistics, Rustenburg Diamond and Gold Branch

FIGURE 16

Mass (gram) of unwrought PGMs recovered by the Rustenburg Diamond and Gold Branch, 1997-1999

FIGURE 17

Value of unwrought PGMS recovered by the Rustenburg Diamond and Gold Branch, 1997-1999

FIGURE 18

Dockets and files opened, 1997-1999

FIGURE 19

National police statistics for unwrought precious metals (other than gold), 1994-1998

FIGURE 20

Value (Rand) of unwrought precious metals (other than gold) recovered by the police, 1994-1998

FIGURE 21

Mass (kg) of unwrought precious metals (other than gold) recovered by the police and related police arrests, 1994-1998

FIGURE 22

Value of detected thefts of PGMs as identified by the PGM industry, 1995-1998

FIGURE 23

Value (Rand) of suspected stolen PGMs recovered by the police, Amplats, Implats and Lonmin, 1995-1998