

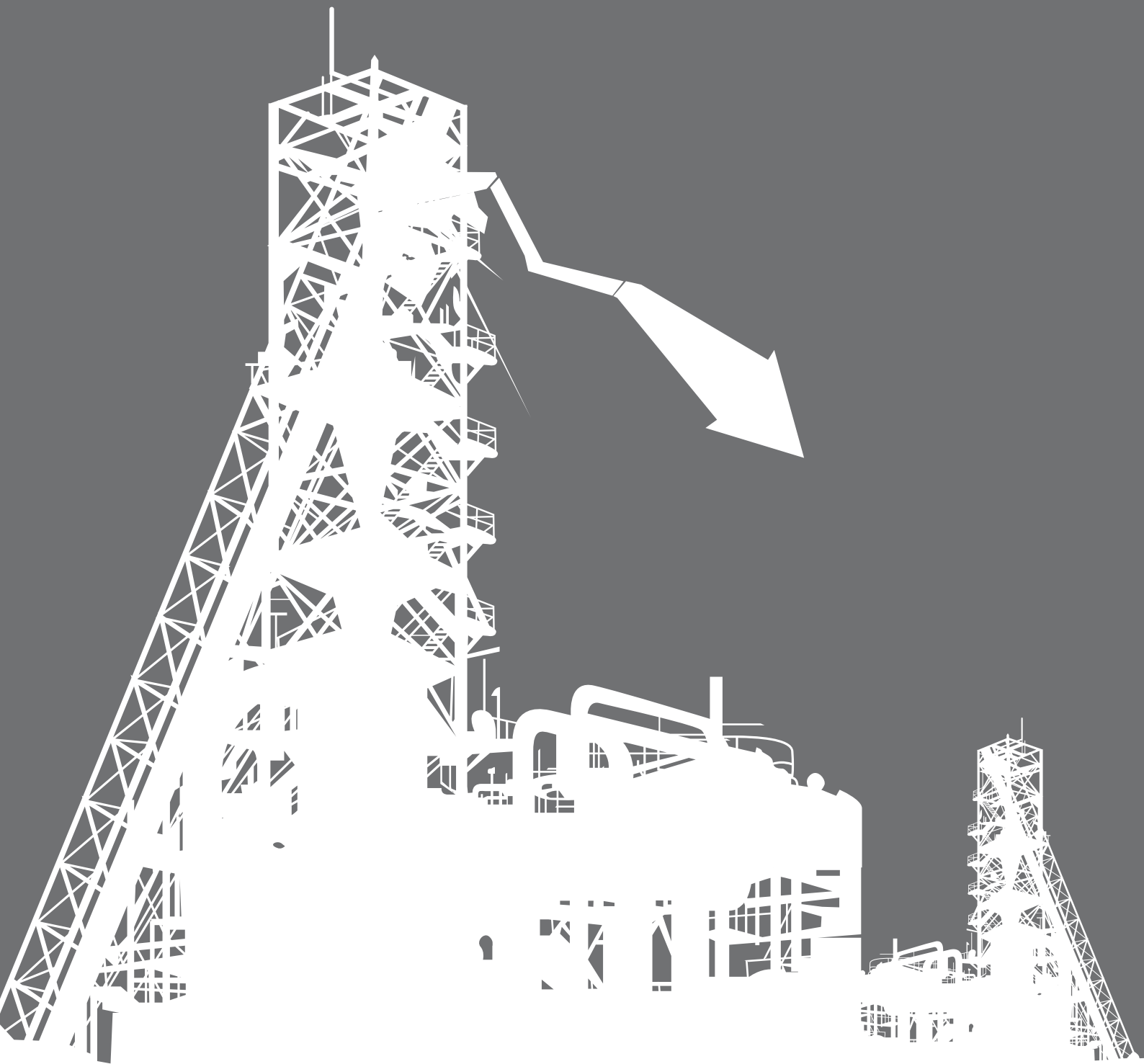
# mine health **and safety** inspectorate

annual  
report  
2007|08



**the dme**

Department:  
Minerals and Energy  
REPUBLIC OF SOUTH AFRICA



# CONTENTS OF THE ANNUAL REPORT

<b>1. GENERAL INFORMATION</b>	<b>1</b>
1.1. Submission of the Annual Report to the Executing Authority	2
1.2. Chief Inspector of Mines' Overview / Executive Summary	3
1.3. Legislative Mandate	4
1.4. Mission Statement	
<b>2. PROGRAMME PERFORMANCE</b>	<b>7</b>
2.1. Service Delivery Objectives and Indicators	8
<b>3. STATE OF SAFETY AND HEALTH AT MINES</b>	<b>15</b>
3.1. Occupational Safety	16
3.2. Occupational Health	17
<b>4. ACTIVITIES OF THE INSPECTORATE</b>	<b>20</b>
4.1. National Overview	21
4.2. Regional Operations – Coal	22
4.3. Regional Operations – Gold and Platinum	23
4.4. Regional Operations – Other Mines and Offshore	24
4.5. Policy Unit	25
4.6. Technical Support Unit	26
4.7. Internal Control Unit	27
4.8. Legal Support Services Unit	28
4.9. Support Services Unit	29
<b>5. ANNEXURE A</b>	<b>30</b>
<b>6. ANNEXURE B</b>	<b>31</b>
<b>7. ANNEXURE C</b>	<b>32</b>



## PREFACE

This document is a report by the Chief Inspector of Mines on health and safety at mines and the activities of the Mine Health and Safety Inspectorate, compiled as required by Section 49(1)(j) of the Mine Health and Safety Act, 1996 (Act No. 29 of 1996).

The Mine Health and Safety Inspectorate (MHSI), established in terms of the Mine Health and Safety Act, 1996 (MHSA) has the responsibility of protecting the health and safety of persons working at mines or affected by mining activities.

The Chief Inspector of Mines also has the responsibility of leading the tripartite structures formed in terms of the MHSA as the chairperson to the Mine Health and Safety Council (MHSC) and the Mining Qualifications Authority (MQA).

The MHSC consists of representatives from the state, employee and employer organizations. The Council was established to advise the Minister on health and safety issues and promoting a healthier and safer culture in the mining industry.

The MQA is an education and training authority for the minerals and mining sector and is responsible for attending to the education and training needs of the mining industry. The activities of the above-mentioned two bodies are intricately intertwined with that of the MHSI and their account is captured in their respective reports.



# GENERAL INFORMATION



## I. GENERAL INFORMATION

### I.1 Submission of the Annual Report to the Executing Authority

The Honourable Buyelwa Sonjica, MP  
Minister: Department of Minerals and Energy  
Republic of South Africa

Dear Minister

I am pleased to present to you the annual report of the Mine Health and Safety Inspectorate for the 2007-2008 reporting period. This report is in accordance with the requirements of Section 49(1) (j) of the Mine Health and Safety Act, 1996 (Act No.29 of 1996).

Yours sincerely



TE Gazi  
Chief Inspector of Mines  
Mine Health and Safety Inspectorate

### I.2 Chief Inspector of Mines' Overview / Executive Summary

#### Introduction

It is with great honour and pleasure that I present this report on the state of health and safety in the South African mining industry and the activities of the Mine Health and Safety Inspectorate (MHSI) for the financial year that ended 31 March 2008.

#### Current Health and Safety Performance

In line with the objective of Government of achieving a better life for all South Africans, the MHSI is responsible for ensuring that the impact of mining operations on the health and safety of employees and host communities are minimised.

Tuberculosis (TB) is second only to HIV as the leading cause of death in adults worldwide. The world health organisation (WHO) estimates that one third of the population is infected with TB with the highest incidence in sub-Saharan Africa, Asia and South America. The mining industry has not escaped this epidemic and information received from the annual medical report (AMR) indicates that the incidence of TB is quite high and this is fuelled by the surge in HIV/AIDS co-infection. The bigger mines have good TB programmes but the emergence of drug resistant strains is making control of TB much more difficult. Living conditions in some of the mines also contributes to this high scourge of TB. Contractors diagnosed with TB get lost in the system when they are referred to public health facilities, perpetuating the spread of TB infection in the mines and drug resistant TB. This can be overcome if the mines treated all employees the same as per the MHSA, 1996 and follow recommendations made by a study conducted by the policy unit. In that case, follow up would be easier and would complete their treatments hence avoiding or minimising incidence of drug resistant TB.

The milestone set by the Mine Health and Safety Council regarding the elimination of silicosis is that by:

1. December 2008, 95% of all exposure measurement results will be below the occupational exposure limit for respirable crystalline silica of  $0.10 \text{ kg/m}^3$ .
2. December 2013, with present diagnostic techniques, there will be no new cases of silicosis

Although statistics show that the total number of people exposed to airborne pollutants has increased in 2007 as compared to 2006. This can partly be attributed to the fact that more data was captured for 2007 than in 2006. NIHL seems to have increased but this is mainly due to early diagnosis in an endeavour to meet the milestone requirements. Mines still have to continue striving to eliminate the noise at source

At the Mine Health and Safety Summit of 2003, it was decided that it was imperative that the safety statistics of the South African mining industry become comparable with international trends. An agreement between the employers, labour and the DME were reached in 2005 to implement new fatality milestones based on the actual fatality rates of Australia, the United States of America and Canada. This requires that the safety statistics of South Africa decline by 20% per annum. The milestones will be revised at the end of 2009.

The safety performance of the South African mining industry has shown an undesirable downward trend in 2007. The fatality rate per million hours worked increased by 0.5% from 0.2 in 2006 to 0.21 in 2007. The injury rate per million hours worked showed an improvement from 4.14 in 2006 to 3.62 in 2007. It is sad to mention that 220 lives were lost in 2007 compared with 200 lives lost in 2006 in the South African mining industry.

It is encouraging to note that the number of injuries decreased from 4 169 in 2006 to 3 867 injuries in 2007. Although there has been a 22.2% decrease in the fall of ground fatality rate from 0.09 in 2006 to 0.07 in 2007, falls of ground accidents are still the largest contributor to the cause of fatalities in our mines. It is sad to note that 76 lives were lost because of fall of ground accidents in 2007.

Transportation and mining was the second largest contributor to fatalities in our mines. In 2007, 47 lives were lost in this category. However, the fatality rate because of transportation and mining accidents decreased by 20.0% from 0.05 in 2006 to 0.04 in 2007.

The largest contributor of reportable injuries, general category, is ironically the third largest contributor of fatalities in our mine. The injury rate per million hours worked decreased by 11.9% from 1.77 in 2006 to 1.56 in 2007. The fatality rate per million hours worked increased by 66.7% from 0.03 in 2006 to 0.05 in 2007. There were 1 671 injuries reported in this category in 2007 while a total number of 50 fatalities were reported.

The fatality rate per million hours worked in the machinery category regrettably increased by 100% from 0.01 in 2006 to 0.02 in 2007. There were no changes in the injury rate per million hours work in 2007 compared with 2006. A total of 19 fatalities and 286 injuries were reported because of machinery accidents in 2007.

The injury rates per million hours worked in conveyance and explosives accidents increased in 2007. In both instances, there have been increases of 50% each from 0.02 in 2006 to 0.03 in 2007.

## Disaster-type Accidents

There are about 28% year-on-year improvements on rock related fatalities in the gold sector. The platinum sector experienced an increase of about 36% regarding fall of ground fatalities. Contractor employees' fatalities in the platinum sector increased from 26 % in 2006 to 36% during the period 1 April 2007 to 31 March 2008.



There has been a decrease in rock related fatal accidents subsequent to the implementation of preconditioning and in-stope roof bolting. However, there is an alarming increase in fatal accidents, other than rock related fatalities, in the gold sector.

The President, Mr. Thabo Mbeki, ordered the Department of Minerals and Energy to conduct health and safety audits at all mines in South Africa. This resulted from an incident, which took place at the Main Shaft at the Elandsrand Gold Mine in Gauteng on 3 October 2007. It was reported that a segmented bend of a 700 mm diameter compressed air column had ruptured. A section of the pipe mudded free from the supporting brackets and fell down the shaft, which caused total electrical power failure. It took more than 24-hours to rescue the 3 000 workers who were trapped underground. Fortunately, there were no persons injured after being rescued via an adjacent shaft under poor and limited power supply.

During 2007, four in-stope workers were fatally injured at Mponeng Mine. A magnitude 2.3 event caused the multiple fatalities in Gauteng on 28 September 2007 and was seismic related.

Illegal and criminal miners remain one of the biggest threats to the health and safety of employees at mines. Illegal miners access current operations through various means. South African Police Services (SAPS) intervention is playing an important role in providing safety and security of the workers. Twenty-three illegal miners were found dead in the Harmony St. Helena operation in the Free State and during the past two years as many as twenty illegal miners died underground in the Barberton area in Mpumalanga.

## Policy and Legislation

The MHSI, as a state representative in the tripartite structures of the MHSC, has provided extensive advice to the Minister on the continued development of a revised regulatory framework for the industry. Occupational health and safety policy, prevention, research and enforcement within the mining industry in South Africa are regulated under the MHSA, 1996. The MHSA came into force on 15 January 1997.

The Department is currently in the process of amending the MHSA, 1996. This is done with the objective of ensuring that the MHSA is responsive to the ever-changing mining and legal environment in South Africa. The main purpose of the Amendment Bill is to:

- Simplify the fine system and increase the maximum amount from R200 000 to R1 million.
- Strengthen offences and penalties. Amend section 91 to include Corporate.
- Substitute, add and remove ambiguities in certain definitions and expressions;
- Effect certain amendments necessary to ensure consistency with other laws, particularly the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002).
- Amends section 47 of the MHSA so as to re-establish the MHSI as an organ of state and juristic person to be incorporated under the Mine Health and Safety Council
- Empower the MHSA to grant health and safety permits

The first draft of the Bill has been completed. The department is in the process of obtaining Cabinet approval of the draft Bill for public consultation and the subsequent tabling at Parliament.

The following regulations approved by the Minister were promulgated in the last quarter of the year:

- Conveyor Belts
- Hazardous Location
- General machinery
- Flammable Gas Regulations
- Water storage and pumping and
- Fires and explosions.

## Human Resource Development

The final restructuring of the Mine Health and Safety Inspectorate (MHSI) was implemented on 28 May 2007 after the Director-General signed it.

The MHSI continues to develop the skills and knowledge of its staff members in order to meet the new challenges that were necessitated by the restructuring process. A total number of 56 staff members

within the MHSI were trained, comprising of 39 managerial and administrative courses and 17 technical courses. The MHSI has also embarked on the process of addressing the skills shortages and past imbalances within the mining sector with the following interventions:

- Twenty-three Learner Inspectors (10 female and 13 male) have been appointed and commenced with their two-year training internship programme on 1 August 2007. They have been placed at the Gold Fields Academy, which has entered into a Service Level Agreement with the Department of Minerals and Energy.
- The Director-General has approved the request to fund eight bursaries to study towards occupational hygiene, engineering, surveying and mining. The total number of bursary holders at the Inspectorate will increase from the current eight (five female and three male) to sixteen once new bursary holders have been selected. (The Bursary Scheme was implemented during the previous reporting period).

## Staffing

The establishment of the Inspectorate provides for 338 posts (325 posts on the fixed establishment and 13 additional posts) of which 245 posts are currently filled. A total number of 92 posts are vacant which means that the vacancy level is currently 27%. The high vacancy rate is mainly due to problems with recruiting suitable engineering professionals.

The demographics of the MHSI as on 31 March 2008 was as follows:

Gender	African	White	Asian	Coloured	Total
Male	92	60	2	3	157
Female	64	21	0	3	88

Since 1 April 2007, the MHSI lost 42 staff members due to resignations, transfers and retirements. The job reservation legacy of the past resulted in a serious challenge to meet employment equity targets. Women accounted for 35.9% of the total staff complement (an improvement of the 31% for 2006/7). Although the majority of these women are in junior positions, progress has been made in that women have been appointed in senior positions within the MHSI.

## Small-scale Mining

Since the promulgation of the Minerals and Petroleum Resources Development Act, 2004 (Act No. 28 of 2004), the issuing of mining permits to SMMEs has increased drastically and stretched the regulatory capacity of the Inspectorate.

In light of this development, the MHSI had to match this increasing activity by conducting more inspections on these types of operations. The MHSI continues to offer training and assistance to small-scale miners. Most of these operations are concentrated in the diamond sector, and are thus located in the Northern Cape and North West Regions.



## HIV/AIDS and Occupational Health

The partnership between the Department of Minerals and Energy, labour and employers is committed to combat the HIV and AIDS epidemic in the mining industry. It is for this reason, that the Mining Industry Tripartite HIV and AIDS Committee has observed the 2007 World AIDS Day, and therefore held an event on 1 December 2007.

The purpose of the event was to:

- Encourage individuals/ mineworkers to become aware of their health status, including HIV status;
- Reduce the further spread of HIV in the mining industry and the associated communities;
- Reduce and manage the impact of HIV and AIDS on all stakeholders;
- Reduce and manage the economic impact of HIV and AIDS in the mining industry; and
- Improve supportive systems to those living with the virus and those affected.

It is "safe" to say that during the 2007/8 financial year, a substantial number of employees opted for voluntary HIV testing and that the programmes for providing Anti-retroviral medication to the affected employees are gaining momentum.

TB, HIV and AIDS and Noise Induced Hearing Loss are the main occupational health challenges faced by the mining industry. The large mines have mainly been implementing awareness and wellness programmes to improve on the current status. Most of the mines are administering Anti-retroviral medication to boost the health status of infected workers. The effort and level of success by these mines are commendable. All the mines are encouraged to develop and implement similar programmes.

Although there is still a challenge on achieving the health milestones, various initiatives and strategies have been implemented in a number of mines. The initiatives are aimed at ensuring compliance to limit both noise and silica hazards at mines.

Regional working groups have been formed and maintained by the Inspectorate to support and monitor progress made by the mines on the health milestones.

## MQA Skills Development

The MQA is charged with the responsibility of facilitating skills development in the mining and minerals sectors in terms of the Skills Development Act, 1998. In addition, the MQA in the execution of its mandate, supports the broad-based socio economic empowerment charter [Mining Charter] in terms of the Minerals and Petroleum Resources Development Act, 2002 (MPRDA) as well as the Mine Health and Safety Act, 1996. The Human Resources Development guidelines of the Mining Charter in conjunction with the MPRDA, 2002 make provision for enhanced opportunities to Historically Disadvantaged Individuals (HDI) within the mining and minerals sectors. These guidelines stipulates that by 2010, 40% of management and operational control positions in these sectors must be occupied by people from historically disadvantaged backgrounds and 26% ownership of assets in the mining industry should be in the hands of the Historically Disadvantaged South Africans (HDSA). A special concession requires that by 2010, 10% of all positions in the mining industry should be occupied by women.

The Sector Skills Research conducted by the MQA made an identification of relevant of critical and scarce skills in the mining sector that ultimately culminates to barriers for HDSA to enter the mining and minerals sectors. The scarcity of skills has been identified by the Joint Initiative for Priority Skills Acquisition initiative (JIPSA).

The research findings are continuously guiding the organisation of the implantation of the various imperative skills development strategies. The MQA has, in support of the Mining Charter, established a Mining Charter Support strategy. The MQA remained resolute in its endeavours to increase the number of HDI in the mining industry through interventions such as the Graduate Development Programme and the New Venture Creation to name a few. These interventions are aimed at supporting and empowering newly established SMMEs to acquire entrepreneurial skills and wishes to establish new business ventures.

The MQA Bursary Scheme is another strategic intervention aimed at providing funding for poor and underprivileged people who wish to study towards mining related careers in the scarce and critical skills disciplines. This programme also provides for Practical Training for undergraduates.

The MQA projects focus on Employment Equity (EE) and Black Economic Empowerment (BEE) transformation, skilling the employed workers, supporting unemployed people, assisting with the transitional support of the unemployed and finally assuring that the quality of training and learning at the workplace is obtained.

Due to the legacy of the mining industry, the MQA continued to invest in the provision of Adult Basic Education and Training (ABET) to eliminate illiteracy.

The organisation has also taken the call from Government for the beneficiation of minerals in South Africa very seriously. It has in the past two years ensured registration of Learnerships in Jewellery Manufacturing and Diamond Processing up to NQF Level 4. The MQA is confident that these qualifications will strengthen local minerals beneficiation initiatives. In the next financial year, the MQA will implement collaboration initiatives with the Jewellery Council of South Africa, the Diamond Board of South Africa, the State Diamond Trader and the Diamond and Precious Metals Regulator. These initiatives will result in the launching of a pilot project in support of skills development and minerals beneficiation.

TE GAZI

CHIEF INSPECTOR OF MINES

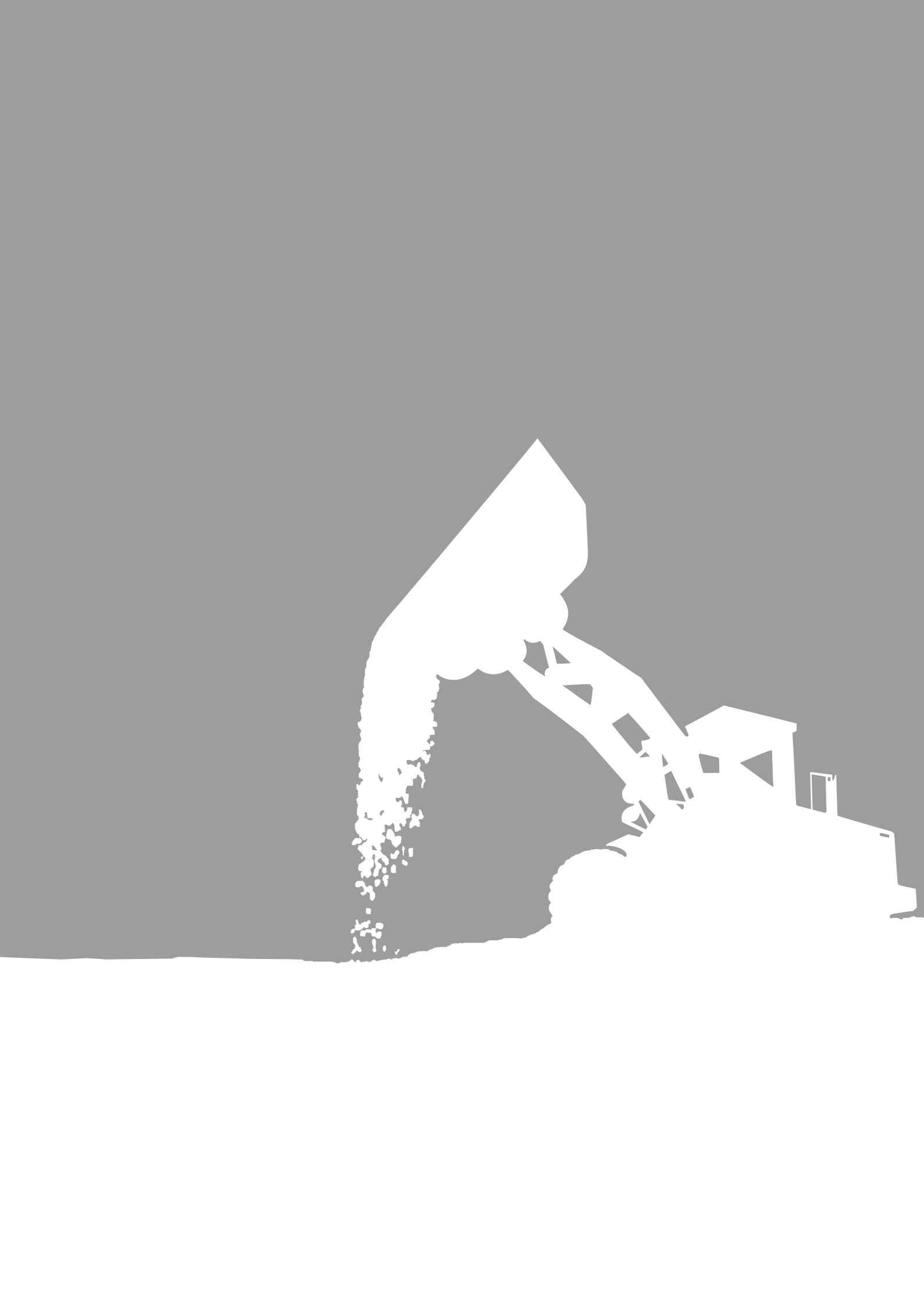
### 1.3 Legislative Mandate

The Mine Health and Safety Inspectorate was established in terms of the Mine Health and Safety Act, 1996 (Act No. 29 of 1996) for the purpose of executing the statutory mandate of the DME to safeguard the health and safety of mine employees and communities affected by mining operations.

### 1.4 Mission Statement

The MHSI strives towards a safe and healthy mining industry. This is to be achieved by reducing mining related deaths, injuries and ill health through the formulation of national policy and legislation, the provision of advice, and the application of systems that monitor and enforce compliance in the mining sector.





PROGRAMME  
PERFORMANCE

2



## 2. PROGRAMME PERFORMANCE

### 2.1. Service Delivery Objectives and Indicators

The MHSI strategic plan and achievements during the reporting period are outlined in the table below. This is an account of progress achieved in the reporting period against the annual targets set for achieving the strategic objectives of the DME.

TABLE 2.1.1: Service delivery achievements

Strategic Objectives	Outcomes / Impact	Key Activities	Measures	Targets 2007/2008	Actual Performance as at 31 March 2008
Actively contribute to sustainable development	Reducing the impact of mining and energy activities on the environment and public health	Conduct volumetric surveys on rehabilitation sites of abandoned mines and mines destined for closure	% of requests dealt with in specified timeframe (4 weeks)	80% surveys	100 %
		Investigate and address Health and Safety related complaints	% of cases investigated and resolved within a specified timeframe (4 weeks)	100%	86 %
		Processing of (and conduct inspections where necessary) mining/ prospecting rights/permits applications	% of requests handled within allotted timeframes (4 weeks)	100%	91 %
		Evaluation of Environmental Management Programmes	% of request handled within allotted timeframes (4 weeks)	100%	89 %
		Evaluation of land use applications (township developments)	% of request handled within allotted timeframes (4 weeks).	100%	95 %

Strategic Objectives	Outcomes / Impact	Key Activities	Measures	Targets 2007/2008	Actual Performance as at 31 March 2008
Govern the minerals and energy sectors to be healthier, cleaner and safer	Sustain and improve health and safety standards in the mining industry	Occupational Health and Safety (OHS) policy formulation and development	Number of OHS policy papers developed and fed into the tripartite process.	100%	18 %
		Monitor compliance with the Mine Health and Safety Act, 1996 (MHSA) and regulations – routine inspections	% of planned inspections conducted	100% as planned	67 %
			% planned audits conducted	100% as planned	68 %
		Conduct accident investigations	% of investigations completed in 4 weeks	100%	80 %
		Conduct accident enquiries	% of enquiries completed in 12 weeks	100%	59 %
		Conduct examinations for Certificates of Competency	% of planned examination boards conducted	100%	109 %
		Promote the implementation of research results	Number of best practice documents developed and distributed	100%	19 %
		Participation in international forums and standard setting	Number of forums attended	20	<ul style="list-style-type: none"> <li>• Symposium on Rock Mechanics, Australia</li> <li>• Workshop on Emergency Preparedness and Mine Rescue Services, China</li> </ul>
		Collection and dissemination of OHS information	Availability of accurate safety information	Monthly/ Annually	<ul style="list-style-type: none"> <li>• System shortfalls are being experienced</li> </ul>

Strategic Objectives	Outcomes / Impact	Key Activities	Measures	Targets 2007/2008	Actual Performance as at 31 March 2008
		Promote health and safety	Number of promotions held (workshops, seminars, expos and OHS summits)	108 newsletters and Bi -annual regional expos	92 % of exhibitions and events 95 % of regional newsletters 113 % participation
		Liaison with key State organs	Regular meeting with Judiciary, Department of Labour, Department of Health and State pathologists.	One meeting quarterly.	Meetings attended: Mpumalanga. <ul style="list-style-type: none"> <li>• Association of Mine Managers</li> <li>• South African Colliery Managers Association</li> <li>• South African Colliery Engineers Association</li> <li>• Mining Summit</li> </ul> Eastern Cape. <ul style="list-style-type: none"> <li>• Director: Public Prosecutions.</li> <li>• Department of Labour</li> </ul> Gauteng: <ul style="list-style-type: none"> <li>• Government Task Team (GTT) on Mine Closure and Water Management.</li> <li>• Regional Mining</li> </ul> Free State: <ul style="list-style-type: none"> <li>• SAPS Explosives Unit</li> <li>• Regional Prosecutors at the South African National Defence Force</li> </ul>

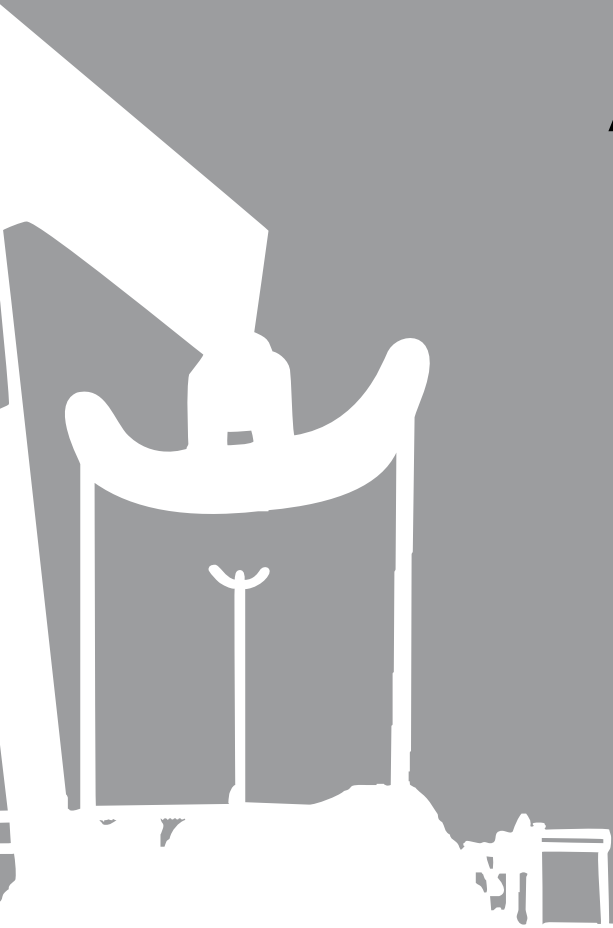
Strategic Objectives	Outcomes / Impact	Key Activities	Measures	Targets 2007/2008	Actual Performance as at 31 March 2008
					Specialist Unit: <ul style="list-style-type: none"> <li>Department of Labour</li> <li>Advisory Council for Occupational Health and Safety (ACOSH)</li> </ul>
Review and develop appropriate structures, processes, policies, systems and skills as well as the maintenance thereof	Aligned structures and appropriate skills, processes and systems to enable the effective and efficient implementation and execution of policy and legislation that is aimed at achieving the key objectives of the Department	Implement the Human Resources Development framework for the Mine Health and Safety Inspectorate	Number studying towards addressing scarce skills Number of Interns Number of Learnerships	In line with budget received	8 Students – bursary holders  17 Interns 23 Learnerships at Goldfields
			Improved skill profile	100%	100 %
		Implement alternative short-term measures to address vacancies and skill gaps	Employ contractors	20% of staff complement	16%
		Develop operational policies, procedures and guidelines	Key operational policies and procedures developed and implemented	50%	40 %
		Facilitate the integration of all mining OHS systems and improve knowledge management	% of operational systems in place from identified needs	50% completed	<ul style="list-style-type: none"> <li>Appointed Gijima as the consultant and is currently behind schedule because of challenges experienced within SDM.</li> </ul>





3

STATE OF  
SAFETY  
**AND**  
**HEALTH**  
**AT MINES**



## 3. STATE OF SAFETY AND HEALTH AT MINES

### 3.1 Occupational Safety

In terms of the requirements of the MSHA regulations, employers must report certain accidents and dangerous occurrences that occur at a mine to the regional Principal Inspector of Mines. The data is then captured onto the South African Mines Reportable Accidents Statistical System (SAMRASS).

The safety performance of the South African mining industry has shown an undesirable downward trend in the year 2007. The fatality rate per million hours worked increased by 0.5% from 0.20 in 2006 to 0.21 in 2007 while the injury rate per million hours worked showed an improvement from 4.14 in 2006 to 3.62 in 2007. It is sad to mention that 220 lives were lost in 2007 compared with 200 lives lost in 2006 in the South African Mining Industry.

It is encouraging to note that the number of injuries decreased from 4169 in 2006 to 3867 injuries in 2007.

#### Labour statistics

The Mineral Economics Directorate of the DME is responsible for the collecting and publishing of the labour figures for the South African Mining industry.

In 2007, the Mineral Economics Directorate reported that there were 485 900 people employed in the South African mining industry. The 2007 labour figure shows that there has been a 6.25% increase in the number of people employed in the South African mining industry compared to a figure of 457 335 workers reported in 2006.

Although the iron sector does not contribute significantly to the South African mining industry labour force compared to gold and platinum, there has been a 72.44% labour increase in the iron sector in 2007. In 2007, 14 042 people were employed in the iron sector compared to 8 143 people employed in 2006.

The number of people employed in the platinum sector increased by 7.77 % from 163 129 employees in 2006 to 175 806 employees in 2007 while the chrome sector has seen an increase of 28.70% from 7 555 employees in 2006 to 9 723 employees in 2007. The increase in the number of workers in the platinum and chrome sector could be attributed to the rise in the commodity prices and the ability for expansion that is known to exist in the mines situated in the Bushveld Igneous Complex.

In the coal sector there has been a 4.61% increase in labour from 55 400 people employed during 2006 compared to 57 955 employees during 2007.

The increase in the gold price resulted in the opening up of areas not previously viable to mine. This contributed to an increase in the number of workers in this sector. The employment figures in the gold mining sector increased by 1.99% from 149 608 employees in 2006 to 152 587 employees in 2007.

The table below shows that there has been an increase in employment in all sectors except in the manganese sector:

**TABLE 3.1: 2007 labour percentages per place of work**  
Persons at work 2006/2007

	2006						2007						% change
	U/G	Surface	O/cast	At sea	Total	U/G	Surface	O/cast	At sea	Total			
Gold	128435	20955	218	0	149608	127629	24727	231	0	152587	1.99		
Platinum	124091	35991	3046	0	163129	131784	40376	3646	0	175806	7.77		
Coal	17576	27912	9912	0	55400	18687	29220	10048	0	57955	4.61		
Diamonds	3845	9032	5841	977	19695	3506	8867	6420	983	19776	0.41		
Copper	1269	2533	83	0	3885	1285	2539	88	0	3912	0.69		
Chrome	4962	2393	200	0	7555	6806	2603	314	0	9723	28.70		
Iron ore	0	5152	2991	0	8143	0	9005	5037	0	14042	72.44		
Manganese	1309	1820	126	0	3255	1293	1722	161	0	3176	-2.43		
Other	1923	36813	7636	294	46665	2309	38458	7763	393	48923	4.84		
<b>TOTAL</b>	<b>283410</b>	<b>142601</b>	<b>30053</b>	<b>1271</b>	<b>457335</b>	<b>293299</b>	<b>157517</b>	<b>33708</b>	<b>1376</b>	<b>485900</b>	<b>6.25</b>		

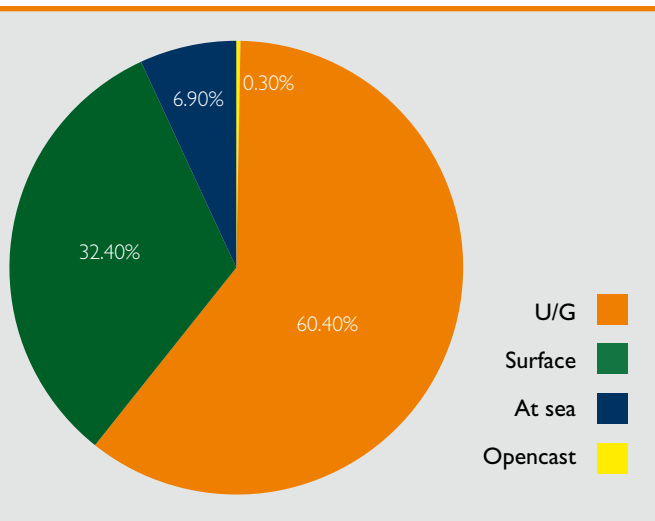
Source: Mineral Economics



# m

In 2007, 60.4% of the total number of persons at work in the South African mines worked underground while 32.4% were working on surface, 6.9% in opencast mines and 0.3% at the sea. A figure below shows the percentages with regard to areas of work of the South African mining industry workers in 2007.

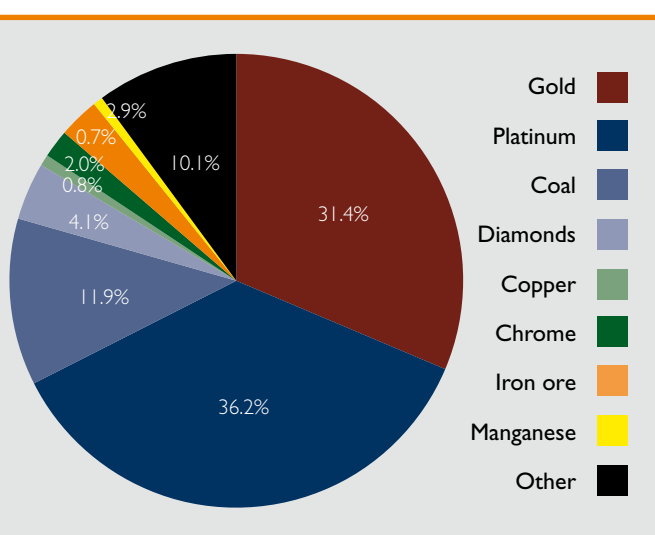
**GRAPH 3.1.1.4: 2007 labour percentages by area of work**



The platinum and gold sectors remain to be the main employers in the South African mining industry. In 2007, the platinum and the gold sectors employed 36.2% and 31.4% of the total workforce of the South African mining industry, respectively.

The copper and manganese sectors were the least employers, employing 0.8% and 0.7%, respectively, of the total number of employees in the South African mining industry. The graph below gives a graphical presentation of 2007 labour percentages per commodity.

**GRAPH 3.1.1.5: 2007 labour percentages per commodity**



### 3.1.1 Analysis of Accident Trends

At the Mine Health and Safety Summit of 2003, it was decided that it was imperative that the safety statistics of the South African mining industry become comparable with international trends. The DME, employers and labour reached an agreement to implement new fatality milestones based on the actual fatality rates of Australia, the United States of America and Canada. This requires a 20% decline in the safety statistics of the South Africa mining industry per year. The milestones will be revised at the end of 2009.

#### 3.1.1.1 Accident Trend Analysis per Region

From table 3.1.1.1, it is disappointing to note that most regions had an increase in the number of fatalities in 2007 when compared to statistics from 2006. However, it is encouraging to note that the number of injuries reported in most regions has decreased in 2007 compared with 2006 as illustrated in table 3.1.1.2.

The fatality rate per million hours worked in the KwaZulu-Natal Region increased by 200% from 0.09 in 2006 to 0.27 in 2007. The injury rate per million hours worked showed an improvement from 1.09 in 2006 to 0.81 in 2007. Six fatalities were reported in 2007 compared with two fatalities reported in 2006.

The safety performance of the Western Cape Region showed an undesirable downward trend in the year 2007. The fatality rate increased from zero in 2006 to 0.22 in 2007, while the injury rate per million hours worked increased from 0.51 in 2006 to 0.95 in 2007. The Western Cape Region reported four fatalities in 2007 compared to zero fatalities in 2006.

The Northern Cape Region has also performed unsatisfactory in 2007 compared with 2006. The fatality rate per million hours worked in the Northern Cape Region increased by 27.3% from 0.11 in 2006 to 0.14 in 2007. Although the injury rates per million hours worked remained the same for 2006 and 2007, a total number of actual reportable injuries increased from 56 in 2006 to 68 in 2007.

# B

Although there is an improvement in the fatality rate per million hours worked (a decrease from 0.39 in 2006 to 0.37 in 2007) and the injury rate per million hours worked (a decrease from 5.14 in 2006 to 4.27 in 2007) in the Gauteng Region in 2007 compared with 2006. The Gauteng Region reported the highest number of fatalities in 2007. The number of fatalities in the Gauteng Region has increased from 77 in 2006 to 80 in 2007.

The safety performance in the Eastern Cape Region has improved in 2007. The fatality rate per million hours worked decreased by 48.7% from 0.39 in 2006 to 0.20 in 2007 and the injury rate per million hours worked decreased by 76.2 % from 2.56 in 2006 to 0.61 in 2007.

The fatality rate per million hours worked for the Free State Region has decreased by 25.0% from 0.28 in 2006 to 0.21 in 2007. The injury rate per million hours worked has increased by 3.9 % from 7.15 in 2006 to 7.43 in 2007. The number of reported fatalities in Free State Region decreased from 27 in 2006 to 20 in 2007.

In the North West Region, the fatality rate per million hours worked increased by 17.7% from 0.14 in 2006 to 0.17 in 2007. The injury rate per million hours worked decreased by 9.5% from 4.54 in 2006 to 4.11 in 2007. A total of 68 fatalities were reported in 2007 compared with 55 fatalities reported in 2006. The total number of actual reportable injuries decreased from 1 771 in 2006 to 1 686 in 2007.

The safety performance of the Limpopo Region with regard to the fatality rates per million hours worked remained the same for 2006 and 2007. The injury rate per million hours worked decreased by 41.2% from 3.01 in 2006 to 1.77 in 2007 as indicated in tables 3.1.1.1 and 3.1.1.2.

Although the actual fatalities increased by 20, the fatality rate for the South African mining industry increased by 5% as a result of an increase in labour:

TABLE 3.1.1.1: Actual fatalities and rates (million hours worked) per region

	2006		2007*		Rates
	Fatalities	Fatality rates	Fatalities	Fatality rates	% change
All mines	200	0.20	220	0.21	5.00
Western Cape	0	0.00	4	0.22	100.00
Northern Cape	6	0.11	10	0.14	27.27
Free State	27	0.28	20	0.21	-25.00
Eastern Cape	2	0.39	1	0.20	-48.72
KwaZulu-Natal	2	0.09	6	0.27	200.00
Mpumalanga	22	0.15	23	0.15	0.00
Limpopo	9	0.12	9	0.11	-8.33
Gauteng	77	0.39	79	0.37	-5.13
North West	55	0.14	68	0.17	17.68

\* Provisional figures because statistics may change due to the late reporting of accidents and subsequent deaths



TABLE 3.1.1.2: Actual reportable injuries and rates (million hours worked) per region

	2006		2007*		Rates
	Injuries	Injury rates	Injuries	Injury rates	% change
All mines	4169	4.14	3867	3.62	-12.56
Western Cape	9	0.51	17	0.95	86.27
Northern Cape	56	0.98	68	0.98	0.00
Free State	697	7.15	697	7.43	3.92
Eastern Cape	13	2.56	3	0.61	-76.17
KwaZulu- Natal	23	1.09	18	0.81	-25.69
Mpumalanga	360	2.47	316	2.07	-16.19
Limpopo	222	3.01	150	1.77	-41.20
Gauteng	1018	5.14	912	4.27	-16.93
North West	1771	4.54	1686	4.11	-9.47

\* Provisional figures because statistics may change due to the late reporting of accidents and subsequent deaths

### 3.1.1.2 Accident Trend Analysis by Commodity

The fatality rate per million hours worked in the diamond sector has increased by 300% from 0.07 in 2006 to 0.28 in 2007. The actual fatalities reported in this sector in 2007 amounts to 12.

Although the fatality rate per million hours worked of the gold sector remains to be high when compared to the other mining sectors, it has decreased by 2.9% from 0.35 in 2006 to 0.34 in 2007. It must be noted that although there was an improvement in the fatality rate per million hours worked for the gold mining sector in 2007, the actual number of fatalities in this sector has increased from 114 in 2006 to 115 in 2007.

The fatality rate per million hours worked in the chrome sector increased by 58.3% from 0.12 in 2006 to 0.19 in 2007. The actual fatalities reported in this sector in 2007 amounts to four while two fatalities were reported in 2006.

In the platinum sector the fatality rate per million hours worked has increased by 27.3% from 0.11 in 2006 to 0.14 in 2007. There were 53 fatalities reported in 2007 compared with 40 fatalities reported in 2006 in this sector.

The fatality rate per million hours worked of the iron ore sector has increased by 18.2% from 0.11 in 2006 to 0.13 in 2007. The actual

fatalities in this sector increased from two fatalities in 2006 to four fatalities in 2007.

The fatality rate per million hours worked of the copper sector has decreased by 47.8% from 0.23 in 2006 to 0.12 in 2007. Two fatalities were reported in 2006 while one fatality was reported in 2007 in this sector:

The fatality rate per million hours worked in the coal sector has decreased by 25.0% from 0.16 in 2006 to 0.12 in 2007. There were 15 fatalities reported in 2007 compared with 20 fatalities reported in 2006 in this sector:

The fatality rate per million hours worked has decreased by 11.8% from 0.17 in 2006 to 0.15 in 2007 in the other sector. There were 16 fatalities reported in 2007 compared with 17 fatalities reported in 2006 in this sector:

The safety performance in the manganese sector should be commended, as there were no fatalities reported in this sector during 2006 and 2007. This sector employed 3 255 and 3 176 workers in 2006 and 2007, respectively. Although the employment figures of this sector is only 0.7% of the total number of people employed in the South African mining industry, it is important for other sectors to benchmark their safety performance with the performance of the manganese operations.

TABLE 3.1.1.3: Actual fatalities and rates (million hours worked) per commodity

	2006		2007*		Rates
	Fatalities	Fatality rate	Fatalities	Fatality rate	% change
All mines	200	0.20	220	0.21	5.00
Gold	114	0.35	115	0.34	-2.86
Platinum	40	0.11	53	0.14	27.27
Coal	20	0.16	15	0.12	-25.00
Diamonds	3	0.07	12	0.28	300.00
Copper	2	0.23	1	0.12	-47.83
Chrome	2	0.12	4	0.19	58.33
Iron ore	2	0.11	4	0.13	18.18
Manganese	0	0.00	0	0.00	0.00
Other	17	0.17	16	0.15	-11.76

\* Provisional figures because statistics may change due to the late reporting of accidents and subsequent deaths

From table 3.1.1.4 it is clear that:

- The injury rate per million hours worked in the diamond sector has increased by 19.2% from 1.04 in 2006 to 1.24 in 2007. The actual reportable injuries recorded in this sector were 45 in 2006 compared with 54 in 2007.
- The injury rate per million hours worked in the gold sector has decreased by 5.3% from 7.04 in 2006 to 6.67 in 2007. The actual reportable injuries recorded in this sector were 2 316 in 2006 compared with 2 239 in 2007.
- Although the injury rate per million hours worked has decreased by 20.8% from 3.13 in 2006 to 2.48 in 2007 in the chrome sector, the actual reportable injuries recorded in this sector increased from 52 in 2006 to 53 in 2007.
- The injury rate per million hours worked in the platinum sector has decreased by 18.4% from 3.74 in 2006 to 3.05 in 2007. There were 1 180 fatalities reported in 2007 compared with 1 344 fatalities reported in 2006 in this sector.
- The injury rate per million hours worked in the iron ore sector has decreased by 60.7% from 1.40 in 2006 to 0.55 in 2007. There were 17 fatalities in this sector in 2007 compared with 25 fatalities reported in 2007.
- The injury rate per million hours worked in the copper sector has decreased by 0.5% from 2.22 in 2006 to 2.21 in 2007. The number of fatalities reported in 2006 and 2007 were 19 in both years.
- The injury rate per million hours worked of the coal sector has decreased by 30.8% from 2.08 in 2006 to 1.44 in 2007. There were 183 injuries reported in 2007 compared with 253 injuries reported in 2006 in this sector.
- The injury rate per million hours worked in the other sector has increased by 4.8% from 1.04 in 2006 to 1.09 in 2007. There were 117 injuries reported in 2007 compared with 107 injuries reported in 2006 in this sector.
- The manganese sector showed a 35.7% decrease in the injury rate per million hours worked as indicated it decreased from 1.12 in 2006 to 0.72 in 2007. There were five injuries reported in 2007 compared with eight injuries reported in 2006 in this sector.



TABLE 3.1.1.4: Actual reportable injuries and rates (million hours worked) per commodity

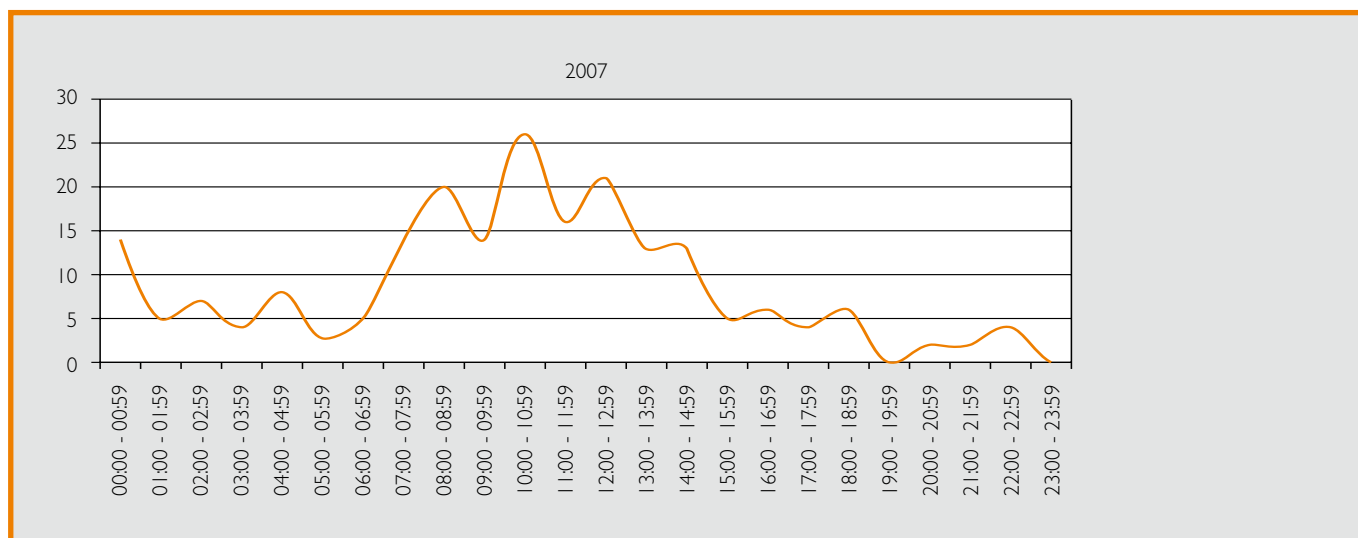
	2006		2007*		Rates
	Injuries	Injury rates	Injuries	Injury rates	% change
All mines	4169	4.14	3867	3.62	-12.56
Gold	2316	7.04	2239	6.67	-5.26
Platinum	1344	3.74	1180	3.05	-18.45
Coal	253	2.08	183	1.44	-30.77
Diamonds	45	1.04	54	1.24	19.23
Copper	19	2.22	19	2.21	-0.45
Chrome	52	3.13	53	2.48	-20.77
Iron ore	25	1.40	17	0.55	-60.71
Manganese	8	1.12	5	0.72	-35.71
Other	107	1.04	117	1.09	4.81

\* Provisional figures because statistics may change due to the late reporting of accidents and subsequent deaths

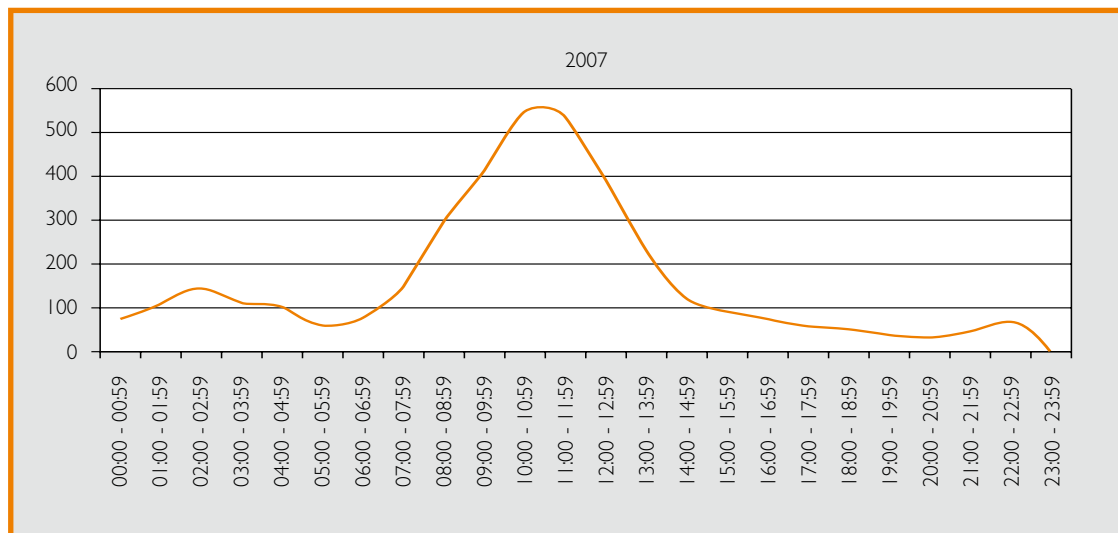
Actual Fatalities and Injuries by Time of Occurrence

It is clear from graph 3.1.1.6 and graph 3.1.1.7 that more fatalities and actual reportable injuries reported in the South African mining industry in 2007 occurred during day shift (between 07H00 and 16H00). This is ironic as most of supervisors are supposed to be on duty during day shift to enforce safety requirements amongst unskilled and semi-skilled workers that are in most of the cases blamed for not taking necessary steps to reduce accidents.

Graph 3.1.1.6: Fatalities by time of day



Graph 3.1.1.7: Injuries by time of day



### Classification of accidents

Although there has been a 22.2% decrease in the fall of ground fatality rate from 0.09 in 2006 to 0.07 in 2007, table 3.1.1.5 shows that fall of ground accidents are still the largest contributor to the cause of fatalities in our mines. A total number of 76 lives were lost as a result of fall of ground accidents in 2007.

Transportation and mining was the second largest contributor to fatalities in our mines. A total number of 47 lives were lost in 2007 in this category. However, a positive is that the fatality rate as a result of transportation and mining accidents decreased by 20.0% from 0.05 in 2006 to 0.04 in 2007.

The largest contributor of reportable injuries, general category, is ironically the third largest contributor of fatalities in the South African mining industry. The injury rate per million hours worked decreased by 11.9% from 1.77 in 2006 to 1.56 in 2007 while the fatality rate per million hours worked increased by 66.7% from 0.03 in 2006 to 0.05 in 2007. A total number of 1 671 injuries were reported in this category in 2007 and a total number of 50 fatalities were reported.

The fatality rate per million hours worked in the machinery category increased by 100% from 0.01 in 2006 to 0.02 in 2007. There were no changes in the injury rate per million hours work in 2007 compared with 2006. A total of 19 fatalities and 286 injuries were reported as a result of machinery accidents in 2007.

The injury rates per million hours worked with regard to conveyance and explosives accidents increased in 2007. In both instances an increase of 50% from 0.02 in 2006 to 0.03 in 2007 were reported.



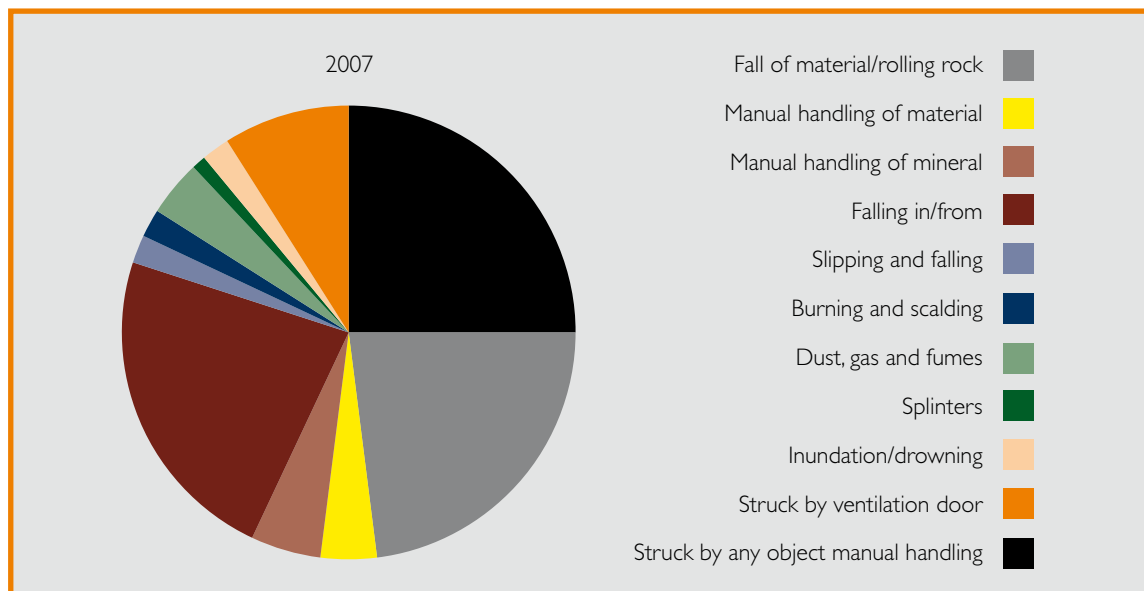
### 3.1.1.3 Accident Trend Analysis by Casualty Classification – All Mines

TABLE 3.1.1.5: Fatality and injury rates per casualty classification (rates per million hours worked)

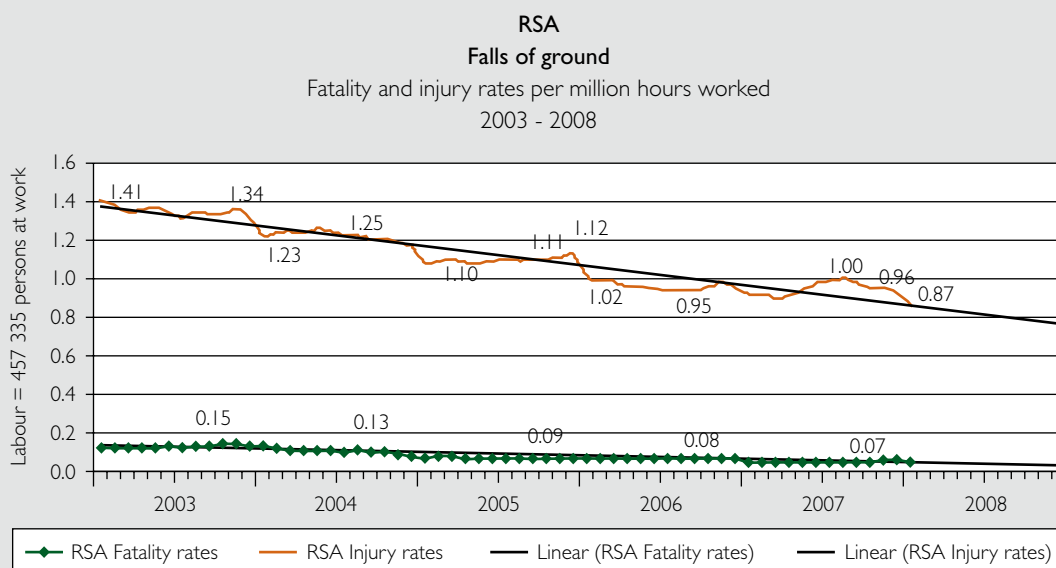
	Fatalities					Injuries				
	Actual		Rates		Rates % change	Actual		Rates		Rates % change
	2006	2007*	2006	2007*		2006	2007*	2006	2007*	
All mines	200	220	0.20	0.21	5.0	4169	3867	4.14	3.62	-12.6
Fall of ground	86	76	0.09	0.07	-22.2	1092	950	1.09	0.89	-18.3
Machinery	15	19	0.01	0.02	100	275	286	0.27	0.27	0.0
Transportation and mining	46	47	0.05	0.04	-20.0	871	787	0.87	0.74	-14.9
General	35	50	0.03	0.05	66.7	1780	1671	1.77	1.56	-11.9
Conveyance accidents	2	5	0	0	0	22	28	0.02	0.03	50.0
Electricity	6	4	0.01	0	-100	27	36	0.03	0.03	0.0
Fires	0	0	0	0	0	11	6	0.01	0.01	0.0
Explosives	5	8	0	0.01	0	25	37	0.02	0.03	50.0
Subsidence / caving	0	1	0	0	0	1	0	0	0	0.0
Heat sickness	0	1	0	0	0	2	12	0	0.01	0.0
Diving sickness	0	1	0	0	0	0	0	0	0	0.0
Miscellaneous	5	8	0	0.01	0	63	54	0.06	0.05	-16.7

Both the fatality (-22.2%) and the fall of ground injury rate (-18.3%) have dropped substantially. A sharp rise (66.7%) in fatalities classified as general (i.e. gassings, slipping and falling, fall of material and rolling rocks) is distressful. Accidents involving explosives have also increased.

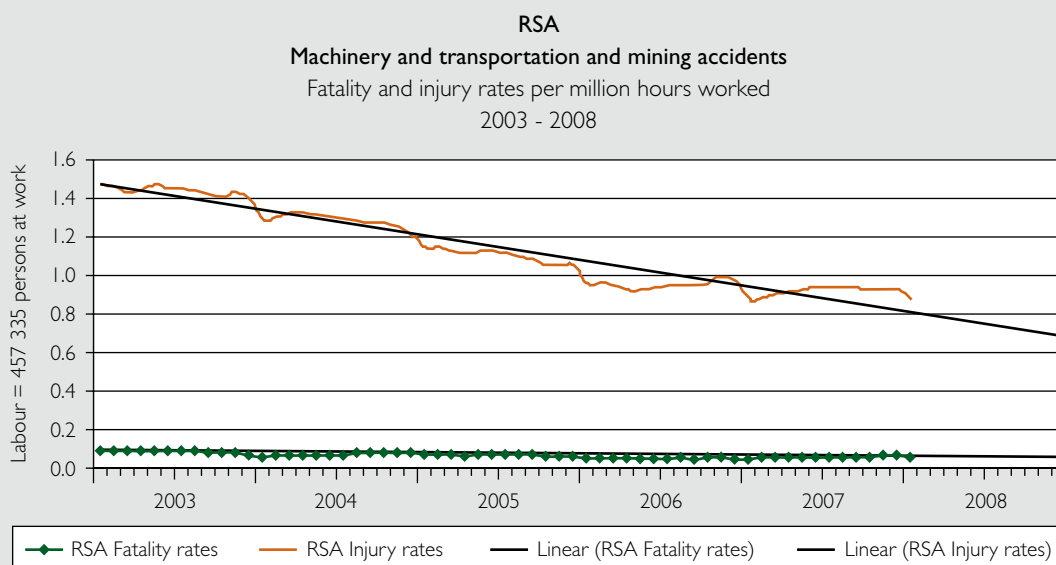
Graph 3.1.2.1: General accidents class contribution



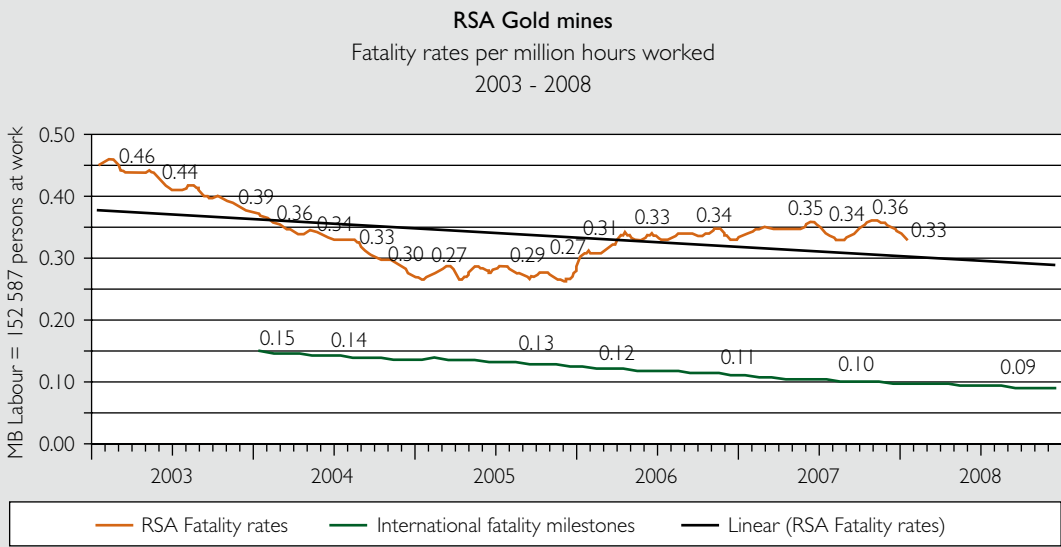
Graph 3.1.2.2: Falls of ground accident rates



Graph 3.1.2.3: Machinery and transportation accident rates



Graph 3.1.2.4: Gold sector fatality rates vs. milestones

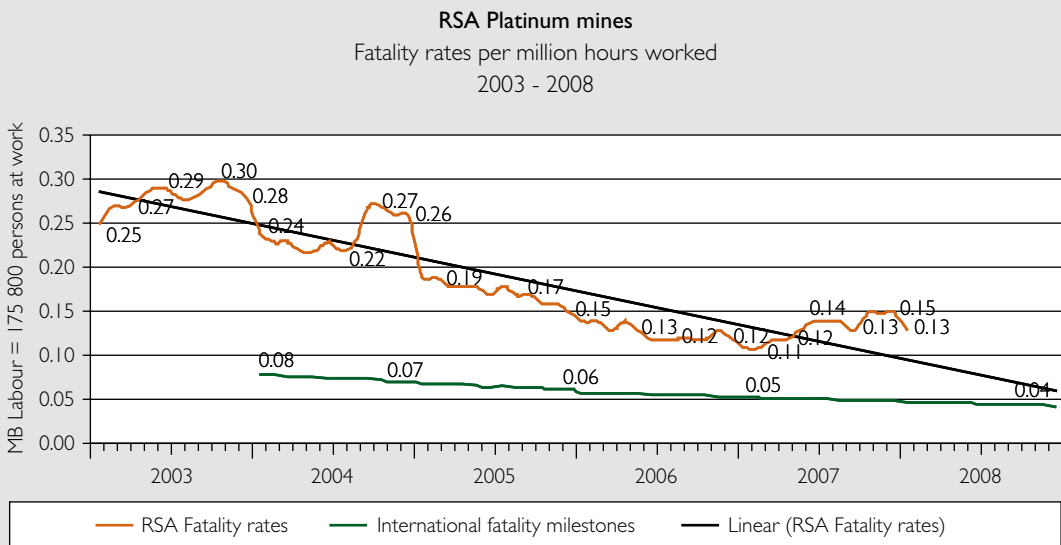


Although the trend line still indicates a decrease in the fatality rates since 2003, the fatality rate has steadily been increasing since 2006 and is moving away from the international milestones. The injury rate seems to be steady and less fluctuating.

Graph 3.1.2.5: Gold sector injury rates

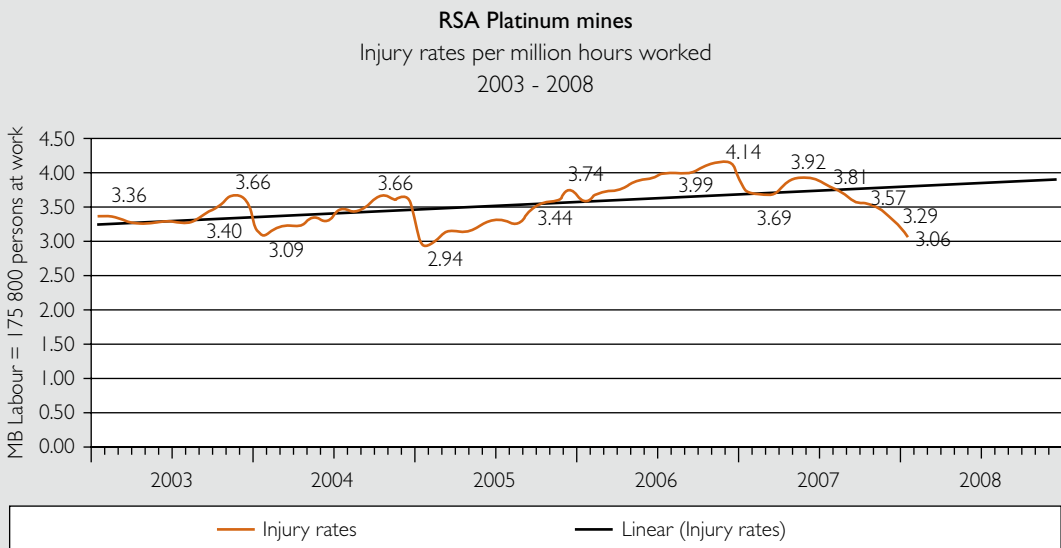


Graph 3.1.2.6: Platinum sector fatality rates vs. milestones



The fatality rates in platinum mines have steadily been decreasing since 2003; it is distressful to note that it is increasing since 2007. Platinum injury rates, however, have steadily been increasing since 2003.

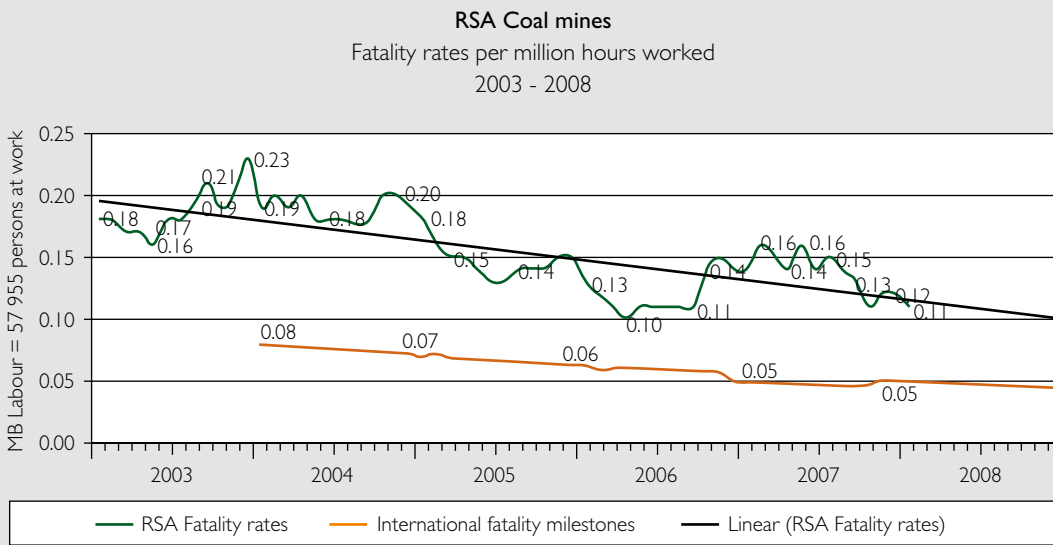
Graph 3.1.2.7: Platinum sector injury rates



Although there has been a decrease since the beginning of 2007, the trend line overall is still rising.

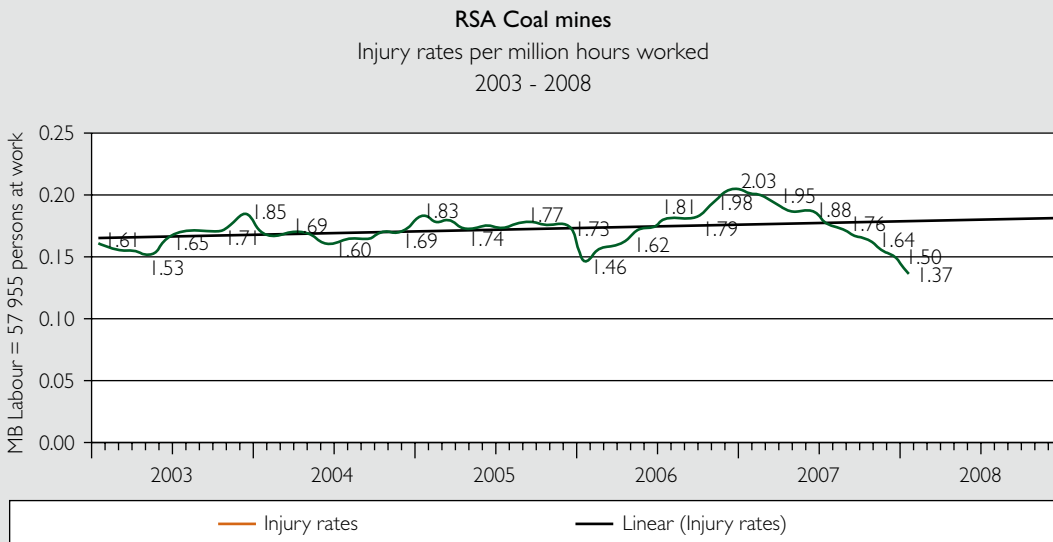


Graph 3.1.2.8: Coal sector fatality rates vs. milestones



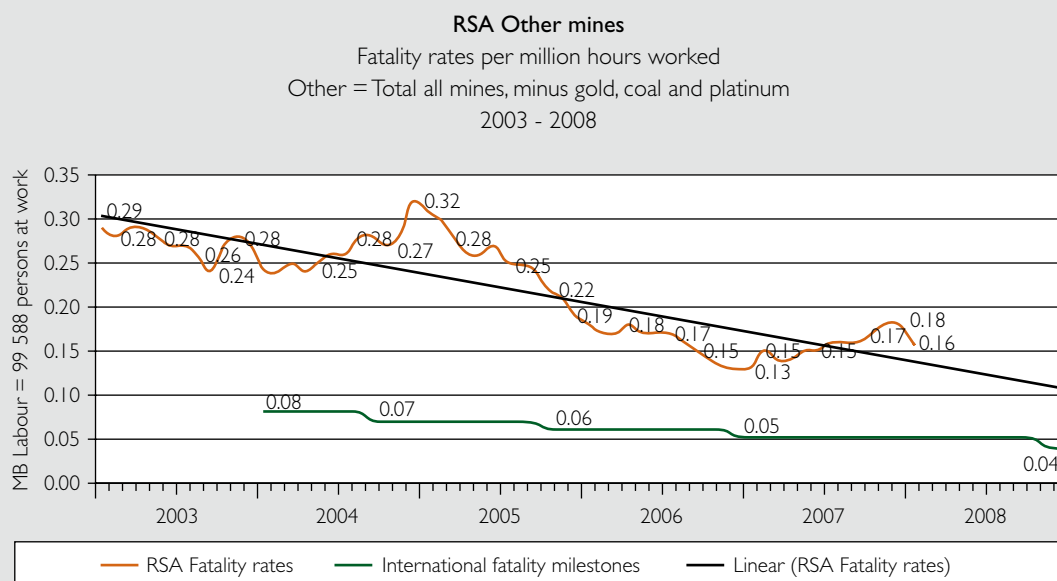
Except for the middle of 2007, the trend line for coal fatalities still indicates a decline since 2003.

Graph 3.1.2.9: Coal sector injury rates

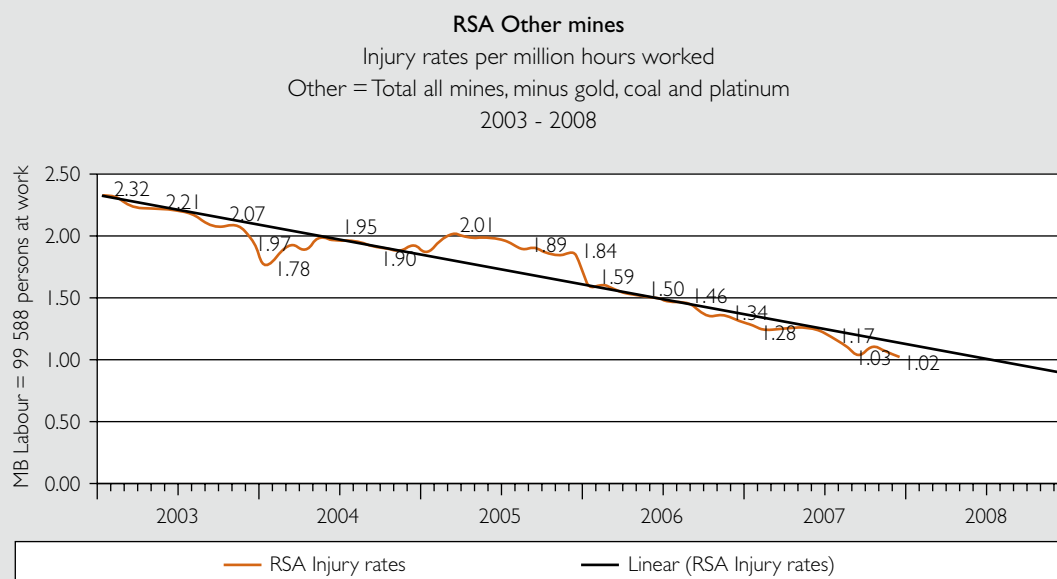


The trend line for coal injuries since 2003 is stable, although it has decrease since 2007.

Graph 3.1.2.10: Other sectors fatality rates vs. milestones



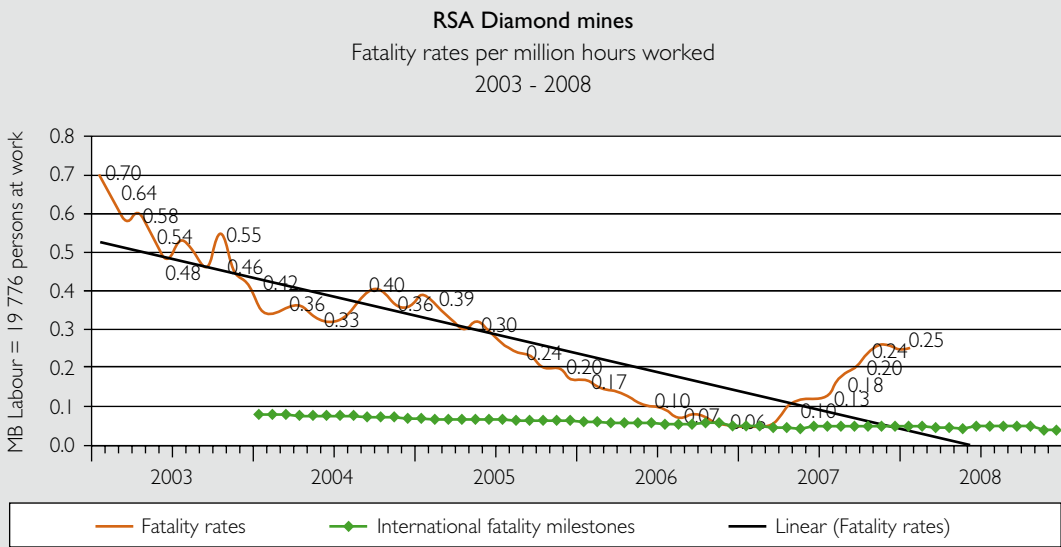
Graph 3.1.2.11: Other sector injury rates



The fatality rate in small mines is steadily increasing. The decrease in the injury rates may be a result of under reporting of accidents in this sector.

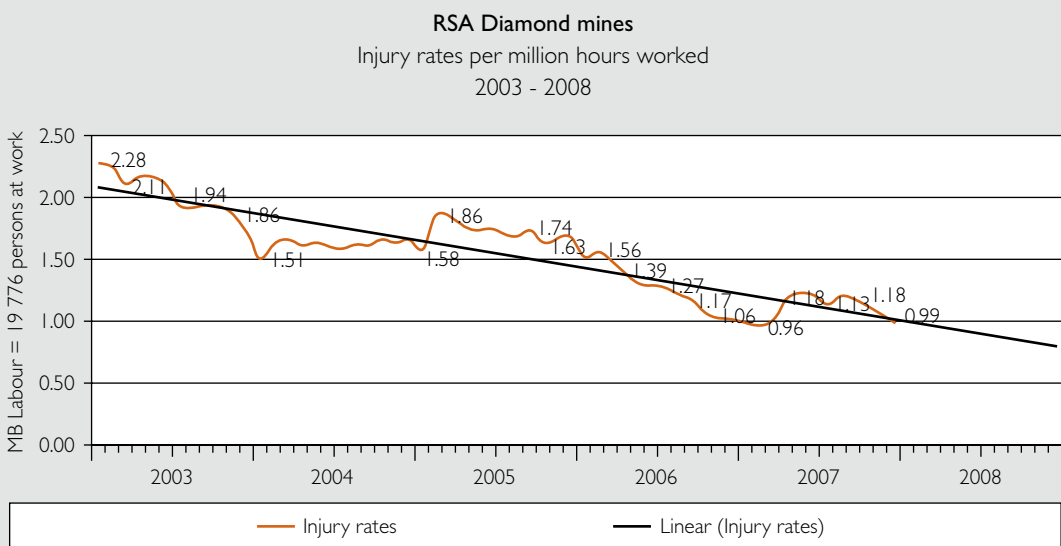


Graph 3.1.2.12: Diamond sector fatality rates vs. milestones



Diamond mines have shown a substantial increase in fatalities since 2007. Most of the fatalities occurred at diggers and other smaller diamond works. The injury rates are decreasing steadily.

Graph 3.1.1.10: Diamond sector injury rates



Although fluctuating, the trend line is still sloping downwards.

## 3.2 OCCUPATIONAL HEALTH

### 3.2.1 Occupational Hygiene

The mining industry has a large workforce, which is exposed to different contaminants like dusts, fibres, chemicals, noise, thermal stresses and radiation. Regulation 9.2(2) read with Section 12 of the MHSA, 1996, requires the employer to establish, maintain and record occupational hygiene measurements.

The information below is collected to help assess the magnitude of the hygiene problems to enable the planning and prioritization of corrective actions. It also shed light on whether current interventions are bearing fruit. The information is further utilised as lead indicators for the industry silicosis and noise milestones.

#### 3.2.1.1 Occupational Hygiene Measurements

##### (a) Airborne Pollutants Exposures

TABLE 3.2.1.1(a): Exposure to airborne pollutants per exposure classification band per commodity

Commodity	Number of Persons Exposed to Airborne Pollutants per Exposure Classification Band				% Persons Exposed to Airborne Pollutants per Exposure Classification Band		
	A	B	C	Total	A	B	C
Gold	3698	9334	10373	23405	15.80	39.88	44.32
Platinum	839	1721	41370	43930	1.91	3.92	94.17
Coal	1426	7147	3291	11864	12.02	60.24	27.74
Diamonds	0	80	3092	3172	0.00	2.52	97.48
Copper	0	671	115	786	0.00	85.37	14.63
Chrome	162	711	1428	2301	7.04	30.90	62.06
Iron Ore	0	240	502	742	0.00	32.35	67.65
Manganese	9	23	43	75	12.00	30.67	57.33
Other Mines	1688	24479	9130	35397	4.77	69.16	25.79
<b>Total</b>	<b>7822</b>	<b>44406</b>	<b>69344</b>	<b>121672</b>	<b>6.43</b>	<b>36.50</b>	<b>56.99</b>

Exposure classification bands:

A = Exposures  $\geq$  the OEL or mixture of exposures  $\geq$  1

B = Exposures  $\geq$  50% of the OEL and  $<$  OEL or mixtures of exposures  $\geq$  0.5 and  $<$  1

C = Exposures  $\geq$  10% of the OEL and  $<$  50% of the OEL or mixtures of exposures  $\geq$  0.1 and  $<$  0.5

Please Note:

- i. The exposure classifications are based on the air quality index (AQI) due to exposure to multiple pollutants in the mining environment.



- ii. The AQI index of multiple pollutants is determined by dividing the dust concentration of each pollutant in the mixture by its Occupational Exposure Limit (OEL) and adding the results together. The sum should not be greater than Unity.
- iii. The number of persons depicted on the table above is derived from the number of samples collected and does not reflect the actual number of people employed in the mining industry.

**TABLE 3.2.1.1(b): Exposure to airborne pollutants per exposure classification band per region**

Regions	Number of Persons Exposed to Airborne Pollutants per Exposure Classification Band				% Persons Exposed to Airborne Pollutants per Exposure Classification Band		
	A	B	C	Total	A	B	C
Gauteng	1346	28004	7113	36463	3.69	76.80	19.51
North West	897	4125	47241	52263	1.72	7.89	90.39
Free State	3008	1315	1255	5578	53.93	23.57	22.50
Limpopo	485	766	2037	3288	14.75	23.30	61.95
KwaZulu-Natal	360	907	1466	2733	13.17	33.19	53.64
Mpumalanga	1620	8706	6138	16464	9.84	52.88	37.28
Western Cape	4	283	155	442	0.90	64.03	35.07
Northern Cape	102	300	3807	4209	2.42	7.13	90.45
Eastern Cape	0	0	232	232	0.00	0.00	100.00
<b>Total</b>	<b>7822</b>	<b>44406</b>	<b>69444</b>	<b>121672</b>	<b>6.43</b>	<b>36.50</b>	<b>57.07</b>

Exposure Classification Band:

A = Exposures  $\geq$  the OEL or mixture of exposures  $\geq 1$

B = Exposures  $\geq 50\%$  of the OEL and  $< OEL$  or mixtures of exposures  $\geq 0.5$  and  $< 1$

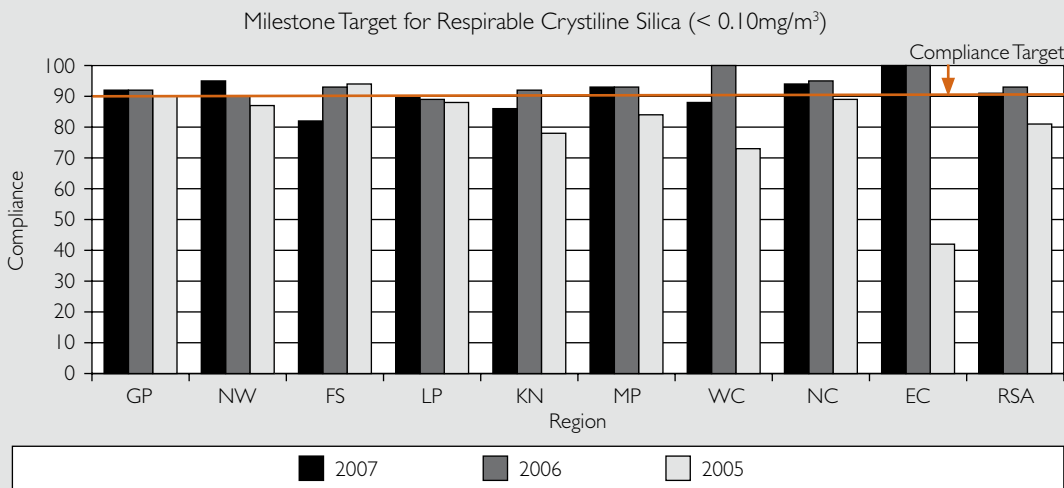
C = Exposures  $\geq 10\%$  of the OEL and  $< 50\%$  of the OEL or mixtures of exposures  $\geq 0.1$  and  $< 0.5$

Tables 3.2.1.1 (a) and (b) shows that the total number of people exposed to A and B classifications has increased in 2007 (6.43% and 36.5%) as compared to (5.35% and 2.77%) in 2006. This can partly be attributed to the fact that more data was captured in classification B for 2007 than in 2006.

**Table 3.2.1.1(c): Achievements against the miles stones for respirable crystalline silica**

Region	No $< 0.10 \text{ mg/m}^3$	Total	Percentage
Gauteng	197	212	92.92
North West	99	104	95.19
Free State	41	50	82.00
Limpopo	56	61	91.80
KwaZulu-Natal	31	36	86.11
Mpumalanga	305	327	93.27
Western Cape	8	9	88.89
Northern Cape	16	17	94.12
Eastern Cape	1	1	100.00
<b>Total</b>	<b>754</b>	<b>817</b>	<b>92.29</b>

Graph 3.2.1.1(c): Achievements against the milestone for respirable crystalline silica



The milestone set by the MHSC regarding the elimination of silicosis is that by:

- December 2008, 95% of all exposure measurement results will be below the occupational exposure limit for respirable crystalline silica of  $0.10 \text{ kg}/\text{m}^3$ .
- December 2013, with present diagnostic techniques, there will be no new cases of silicosis.

All the regions have indicated an overall improvement towards achieving the Respirable Silica Milestone between 2005 and 2006. The Northern Cape Region achieved 96% while the Eastern Cape and Western Cape Regions achieved 100% of the milestones for the period. This is attributed to the low silica content in the Cape Regions. For the period under review, the Eastern Cape Region achieved 100%, followed by the North West Region with 95% achievement. The lowest performer for the period is the Free State Region that achieved 82%. The performances by the regions culminated into a national achievement of 93.4% for the period under review. A concerted effort is required from the South African mining industry to ensure that the milestone targets are achieved by the end of 2008.

(b) Noise Exposures

TABLE 3.2.1.2(a): Exposures to noise per classification band per commodity

Noise	Number of people Exposed to Noise per Exposure Classification Band				% People Exposed to Noise per Exposure Classification Band		
	A	B	C	Total	A	B	C
Commodity							
Gold	1621	22363	567	24551	6.60	91.09	2.31
Platinum	7475	27944	1084	36503	20.48	76.55	2.97
Coal	0	4295	1849	6144	0.00	69.91	30.09
Diamonds	0	69	1682	1751	0.00	3.94	96.06
Copper	0	451	0	451	0.00	100.00	0.00
Chrome	668	1079	183	1930	34.61	55.91	9.48
Iron Ore	8	119	25	152	5.26	78.29	16.45
Other	0	4450	3080	7530	0	59.1	40.9
<b>Total</b>	<b>9772</b>	<b>60187</b>	<b>6758</b>	<b>76734</b>	<b>12.73</b>	<b>78.44</b>	<b>8.81</b>



Exposure classification band:

A = Exposures  $\geq 105 L_{Aeq,8h}$

B = Exposures  $\leq 85 \leq 105 L_{Aeq,8h}$

C = Exposures  $\leq 82 LAeq_{,8h}$

Note:

1. The occupational exposure limit for noise is 85 dB (A) based on an 8 hour exposure shift.
2. No special precautions are required except monitoring for the C classification band.
3. The implementation of hearing conservation programme is required for A and B classification band.
4. Persons in the A and B classification bands are over-exposed.

TABLE 3.2.1.2(b): Exposures to noise per classification band per region

Noise	Number of people Exposed to Noise per Exposure Classification Band				% People Exposed to Noise per Exposure Classification Band		
	A	B	C	Total	A	B	C
Regions							
Gauteng	2289	16120	813	19222	11.91	83.86	4.23
North West	7475	34662	1348	43485	17.19	79.71	3.10
Free State	0	8	160	168	0.00	4.76	95.24
Limpopo	0	2323	881	3204	0.00	72.50	27.50
Mpumalanga	8	5630	1387	7025	0.11	80.14	19.74
KwaZulu-Natal	0	1268	470	1738	0.00	72.96	27.04
Western Cape	0	86	5	91	0.00	94.51	5.49
Northern Cape	0	90	1711	1801	0.00	5.00	95.00
Eastern Cape	0	583	1712	2295	0	25.4	74.6
<b>Total</b>	<b>9772</b>	<b>60187</b>	<b>6775</b>	<b>76734</b>	<b>12.73</b>	<b>78.44</b>	<b>8.83</b>

Exposure classification band:

A = Exposures  $\geq 105 L_{Aeq,8h}$

B = Exposures  $\leq 85 \leq 105 L_{Aeq,8h}$

C = Exposures  $\leq 82 LAeq_{,8h}$

Note:

1. The occupational exposure limit for noise is 85 dB (A) based on an 8 hour exposure shift.
2. No special precautions are required except monitoring for the C classification band.
3. The implementation of hearing conservation programme is required for A and B classification band.
4. Persons in the A and B classification bands are over-exposed.

Table 3.2.1.2(a) and (b) indicates that 12.73% and 78.44 % of the work force is exposed to classification A and B respectively for 2007 as compared to 11.4% and 69.29% respectively during 2006. There is an improvement in the data collection from the regions. However, more effort is required to reduce the noise from the source.

(c) Thermal stress Exposure

TABLE 3.2.1.3(a): Exposure to heat per exposure classification band per commodity

Thermal Stress	Number of people Exposed to Heat Stress per Exposure Classification Band				% People Exposed to Heat Stress per Exposure Classification Band		
	A	B	C	Total	A	B	C
Commodity							
Gold	0	8143	6398	14541	0	56	44
Platinum	0	465	44779	45244	0	1	99
Coal	0	0	170	170	0	0	100
Diamonds	138	0	0	138	100	0	0
Chrome	0	0	2805	2805	0	0	100
Manganese	0	0	68	68	0	0	100
Other	71	66	1022	1159	6	5.7	88.2
<b>Total</b>	<b>209</b>	<b>8674</b>	<b>55242</b>	<b>64125</b>	<b>0.33</b>	<b>13.53</b>	<b>86.15</b>

Heat stress exposure classification band:

A = WB > 32.5 °C or DB > 37 °C or Globe Temperature > 37 °C

B = 29.0 >WB ≤ 32.5 °C and DB ≤ 37 °C Globe Temperature as for DB

C = 27.5 >WB ≤ 29.0 °C and DB ≤ 37 °C Globe Temperature as for DB

TABLE 3.2.1.3(b): Exposure to heat per exposure classification band per region

Thermal Stress	Number of people Exposed to Heat Stress per Exposure Classification Band				% People Exposed to Heat Stress per Exposure Classification Band		
	A	B	C	Total	A	B	C
Regions							
Gauteng	0	6432	7481	13913	0	46.2	53.8
North West	0	465	44936	45401	0	1.0	99.0
Free State	0	217	573	790	0	27.5	72.5
Limpopo	172	0	2454	2628	6.54	0	93.38
Mpumalanga	207	1889	3045	5141	4.03	36.74	59.23
KwaZulu-Natal	37	38	441	516	7.17	7.36	85.47
Western Cape	0	0	70	70	0	0	100
Northern Cape	0	240	1649	1889	0	12.7	87.3
<b>Total</b>	<b>416</b>	<b>9281</b>	<b>60649</b>	<b>70348</b>	<b>0.59</b>	<b>13.19</b>	<b>86.21</b>

Heat stress Exposure Classification Band:

A = WB > 32.5 °C or DB > 37 °C or Globe Temperature > 37 °C

B = 29.0 >WB ≤ 32.5 °C and DB ≤ 37 °C Globe Temperature as for DB

C = 27.5 >WB ≤ 29.0 °C and DB ≤ 37 °C Globe Temperature as for DB

Table 3.2.1.3 (a) and (b) shows that only 0.59% of the workers are in the A and 13.19% are in the B heat stresses classification band for 2007. These figures were (A) 1.86% and (B) 27.3% heat stress classification bands in 2006. There is a reduction of 15.4% in the number of people exposed to heat stress exposure classification band A and B as compared to 2006. The mining industry must continue to put more effort into reducing the number of workers exposed to heat stress classification A and B.



TABLE 3.2.1.3(c): Exposure to cold stress per exposure classification band per commodity

Cold Stress	Number of people Exposed per Cold Stress per Exposure Classification Band				% People Exposed to Cold Stress per Exposure Classification Band		
	A	B	C	Total	A	B	C
Commodity	A	B	C	Total	A	B	C
Gold	0	275	222	497	0	55.33	44.67
Platinum	0	0	0	0	0	0	0
Coal	207	76	2504	2787	7.43	2.73	89.85
Diamonds	0	0	1505	1505	0	0	100
Chrome	0	0	0	0	0	0	0
Manganese	0	0	0	0	0	0	0
Other	0	256	1178	1434	0	17.85	82.15
<b>Total</b>	<b>207</b>	<b>607</b>	<b>5409</b>	<b>6223</b>	<b>3.33</b>	<b>9.75</b>	<b>86.92</b>

Cold stress exposure classification band:

A = Temperature  $\leq -30.0^{\circ}\text{C}$

B = Temperature  $\leq 5.0^{\circ}\text{C}$ , Temperature  $\leq -30.0^{\circ}\text{C}$

C = Temperature  $>5.0^{\circ}\text{C}$

Note:

1. Temperature ranges are given in terms of equivalent chill temperature.
2. CSM: Cold Stress Management.
3. Thermal environment in excess of  $10.0^{\circ}\text{C}$  Dry – Bulb must not be reported.
4. Generally for Cold Stress: Quarter – June to August.

TABLE 3.2.1.3(c): Exposure to cold stress per exposure classification band per region

Cold Stress	Number of people Exposed per Cold Stress per Exposure Classification Band				% People Exposed to Cold Stress per Exposure Classification Band		
	A	B	C	Total	A	B	C
Regions	A	B	C	Total	A	B	C
Gauteng	0	312	534	846	0	36.9	63.1
North West	0	0	0	0	0	0.0	0.0
Free State	0	0	41	41	0	0.0	100.0
Limpopo	0	0	317	317	0.00	0	100.0
Mpumalanga	207	83	2590	2880	7.19	2.9	89.9
KwaZulu-Natal	0	38	350	388	0.00	9.8	90.21
Western Cape	0	0	70	70	0	0	100
Northern Cape	0	174	1505	1679	0	10.4	89.6
<b>Total</b>	<b>207</b>	<b>607</b>	<b>5407</b>	<b>6221</b>	<b>3.33</b>	<b>9.76</b>	<b>86.92</b>

Cold stress exposure classification band:

A = Temperature  $\leq -30.0^{\circ}\text{C}$

B = Temperature  $\leq 5.0^{\circ}\text{C}$ , Temperature  $\leq -30.0^{\circ}\text{C}$

C = Temperature  $>5.0^{\circ}\text{C}$

Note:

1. Temperature ranges are given in terms of equivalent chill temperature (ACGH).
2. CSM: Cold Stress Management.
3. Thermal environment in excess of 10.0° C Dry – Bulb must not be reported.
4. Generally for Cold Stress: Quarter – June to August.

Table 3.2.1.3 (c) and (d) shows that only 3.33% of the workers are in the A and 9.76% in the B cold stresses classification band for 2007 as compared to A (4.3%) and B (13.99%) in 2006. This is an indication that the mining industry is putting more efforts and resources together to reduce the number of workers exposed to extremely cold conditions.

## General

1. Data collection from the regions is still a challenge. The accepted format must be used by all and it must be made available in an electronic format in order to enhance the analysis of the information.
2. Road shows must be conducted involving the MHSI and the mining industry to bring all stakeholders on board in addressing the correct reporting channels, format and frequency.
3. Audits must be conducted on the respective mines to ensure that the sampling and data collection are done correctly on the accepted templates.
4. Data Collection from the Regions must be evaluated and assessed on quarterly basis in order to ensure a creditable data for the final MHSI Annual Report.
5. Occupational Exposure Limits (OELs) and Air Quality Indices (AQIs) must be properly used.
6. There must be an agreement on the validity of the data collected between the different offices of the Department.

## 3.2.2 Occupational Medicine

In terms of Section 16 of the MHSA, 1996 every Occupational Medical Practitioner at a mine must compile an Annual Medical Report, covering the employees' health based on the employee records of medical surveillance and give an analysis of the status of the mentioned employee's medical conditions as far as occupational diseases are concerned.

The information helps the inspectorate to analyse disease trends in different commodities and see if the industry will be able to achieve the milestones set in terms of eradicating silicosis and noise induced hearing loss (NIHL) by 2013.

### Annual Medical Report 2007/08

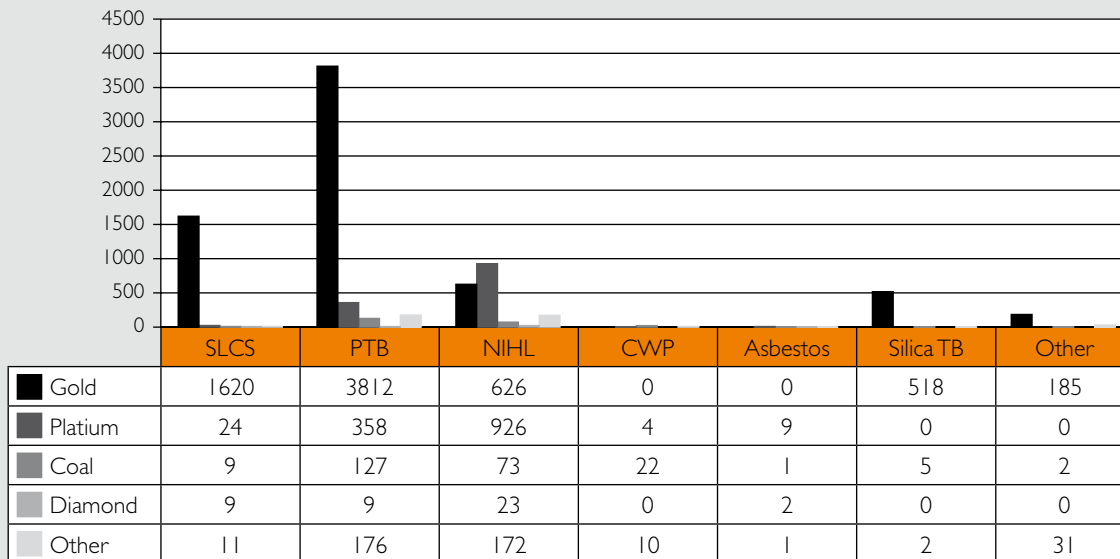
#### Medical examinations

Year	Initial	Periodic	Exit
2006	157828	265450	54195
2007	172714	266145	63858



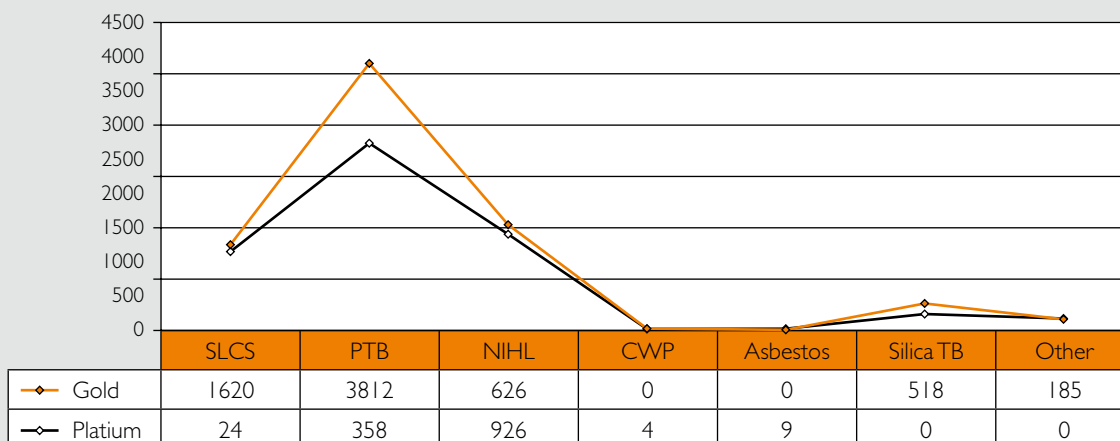
There is a slight increase in the number of employees who went through medical surveillance. The following graphs show diseases of significance that were captured from the Annual Medical Report. A total number of 493 Annual Medical Reports have been submitted for the year 2007-2008 as compared to the previous reporting period, where only 226 mines submitted in terms of Section 16 of the MSHA, 1996.

Occupational diseases captured per commodity from annual medical reports: 2006 & 2007



Gold mines have the highest incidence of silicosis and Pulmonary Tuberculosis (PTB) in the mining industry as compared to the platinum sector. PTB cases are even higher since silicosis predisposes employees to tuberculosis (TB) and concomitant HIV infection exacerbates the situation. NIHL is significantly high in the platinum mines but this could be due to influx of employees from the gold mining sector to the platinum mines who already had NIHL.

Comparison of occupational diseases captured from annual medical reports: 2006 & 2007



In terms of the milestones for silicosis and NIHL, it seems to be increasing rather than decreasing as expected. This might be due to the early recognition of the two occupational diseases in an effort to eradicate it by 2013, hence an increase in reporting of the diseases. The fact that we have had more submissions of annual medical reports could also be contributory.

Disease trends by region

<b>1. Silicosis</b>	<b>Region</b>	<b>2006</b>	<b>2007</b>
	Gauteng	660	596
	North West	506	499
	Free State	522	501
	Limpopo	3	9
	Mpumalanga	18	64
	KwaZulu-Natal	2	0
	Eastern Cape	0	1
	Western Cape	0	0
	Northern Cape	0	11
<b>Total</b>		<b>1348</b>	<b>1681</b>
<b>2.TB</b>	<b>Region</b>		
	Gauteng	1070	1825
	North West	1394	1162
	Free State	1186	1796
	Limpopo	71	40
	Mpumalanga	313	299
	KwaZulu-Natal	16	40
	Eastern Cape	2	7
	Western Cape	7	0
	Northern Cape	8	7
<b>Total</b>		<b>4067</b>	<b>4588</b>
<b>3.NIHL</b>	<b>Region</b>		
	Gauteng	296	293
	North West	1647	1023
	Free State	352	326
	Limpopo	102	187
	Mpumalanga	157	126
	KwaZulu-Natal	2	36
	Eastern Cape	0	5
	Western Cape	5	9
	Northern Cape	0	44
<b>Total</b>		<b>2561</b>	<b>2049</b>
<b>4. Coal Miners' Pneumoconiosis</b>	<b>Region</b>		
	Gauteng	7	6
	North West	0	0
	Free State	149	6
	Limpopo	0	4
	Mpumalanga	25	41
	KwaZulu-Natal	5	2
	Eastern Cape	0	0
	Western Cape	0	1
	Northern Cape	0	0
<b>Total</b>		<b>186</b>	<b>60</b>
<b>5.Asbestos</b>	<b>Region</b>		
	Gauteng	1	12
	North West	2	0
	Free State	0	1
	Limpopo	2	14
	Mpumalanga	19	18
	KwaZulu-Natal	0	0
	Eastern Cape	0	0
	Western Cape	0	0
	Northern Cape	2	1
<b>Total</b>		<b>26</b>	<b>46</b>

# 3



6. Silica TB	Total		
	Gauteng	13	12
	North West	257	142
	Free State	78	370
	Limpopo	0	2
	Mpumalanga	1	0
	KwaZulu-Natal	0	0
	Eastern Cape	1	0
	Western Cape	0	0
	Northern Cape	0	0
<b>Total</b>		<b>350</b>	<b>526</b>
7. Other			
	Gauteng	99	76
	North West	107	116
	Free State	86	92
	Limpopo	3	0
	Mpumalanga	7	1
	KwaZulu-Natal	1	5
	Eastern Cape	0	0
	Western Cape	3	0
	Northern Cape	1	0
<b>Total</b>		<b>298</b>	<b>290</b>

#### Disease trends by commodity

1. Silicosis	Total	2006	2007
	Gold	1450	1556
	Platinum	74	24
	Coal	2	9
	Diamonds	0	9
	Other	10	11
<b>Total</b>		<b>1536</b>	<b>1609</b>
2. TB			
	Gold	3115	3846
	Platinum	338	358
	Coal	88	127
	Diamonds	12	9
	Other	95	176
<b>Total</b>		<b>3648</b>	<b>4516</b>
3. NIHL			
	Gold	705	626
	Platinum	874	952
	Coal	83	73
	Diamonds	3	23
	Other	210	172
<b>Total</b>		<b>1875</b>	<b>1846</b>
4. Coal PNEU			
	Gold	0	0
	Platinum	0	4
	Coal	29	22
	Diamonds	0	0
	Other	0	10
<b>Total</b>		<b>29</b>	<b>36</b>

5.Asbestos			
	Gold	1	0
	Platinum	12	9
	Coal	4	1
	Diamonds	0	2
	Other	17	1
<b>Total</b>		<b>34</b>	<b>13</b>
6.Silica TB			
	Gold	175	518
	Platinum	141	0
	Coal	1	5
	Diamonds	0	0
	Other	3	2
<b>Total</b>		<b>320</b>	<b>525</b>
5.Other			
	Gold	209	185
	Platinum	5	0
	Coal	9	2
	Diamonds	19	0
	Other	34	31
<b>Total</b>		<b>276</b>	<b>218</b>

#### Medical appeals

	2007	2008
Heat stress	1	1
Vision	12	7
Hearing	18	12
Injuries	19	35
Coad	8	1
Hypertension/diabetes	8	5
Tuberculosis	5	3
Silicosis	0	0
Other diseases	0	13
Pneumoconiosis	0	2
Epilepsy	10	8
<b>Total</b>	<b>83</b>	<b>87</b>

#### Outcomes / findings:

	2007	2008
Fit for surface as well as underground	9	15
Fit for surface work only	20	9
Unfit	30	15
Compensation matters	24	20





4

ACTIVITIES OF THE  
**INSPECTORATE**



## 4. ACTIVITIES OF THE INSPECTORATE

### 4.1 NATIONAL OVERVIEW

The Inspectorate is responsible for regulating health and safety in the mining sector. Its activities entails the monitoring of operations by conducting audits and inspections, investigating accidents and health related occurrences, enforcing legal requirements, processing of land use applications and conducting examinations for industry qualifications. The head office components of the MHSI are responsible for the development of policy and legislation, offering specialist support to the regions, administrative and technical support and training.

Increased activity is experienced in the mining industry because of better commodity prices and the strategy of Government to open opportunities for new entrants amongst others. This requires the Inspectorate to increase its resources in order to deal with the new challenges adequately. The increase in both the demand for residential land and mining permits and rights have a tremendous effect on the work load of the Inspectorate as this results in increased land-use applications coupled with complaints by communities due to residential and mining areas getting closer to one another.

During the reporting period, the MHSI staff managed to achieve most of the targets that were set. With respect to the head office functions, the streamlining of activities is being improved through the restructuring of the MHSI. It is envisaged that notable results with respect to policy and legislation matters, strategy implementation, employment equity and skills development will be realised in the future. Retaining skills and attracting new recruits continues to be a problem.

A national overview of the activities of the Inspectorate with respect to:

- Inspections and audits;
- Total accidents reported;
- Investigations and inquiries;
- Disaster-type accidents and outcomes of inquiries and investigations;
- Statutory notices; and
- Administrative fines.

Exception reports by the various components with emphasis on challenges related to the statistics presented at sub-headings 3 and 4 above.

### 4.2 REGIONAL OPERATIONS - COAL

#### 4.2.1 Regional Operations Manager's Overview

##### 4.2.1.1 General

The Chief Directorate consists of KwaZulu-Natal, Limpopo and Mpumalanga regional offices. The labour force is about 105 000 employees and represents about 32% of the mining industry labour force in South Africa.

The MPRDA, 2002 through the Regional Mining Development and Environmental Committees (RMDEC) engaged the Inspectorate and other stakeholders to make the mining fraternity aware of the requirements of the MHSA, 1996 prior to commencement of and during mining operations. An initiative to organize small- and medium-sized operators into a form of an association in order to share expertise, experience and resources is currently underway.

The high demand for coal and building materials, such as sand, stones, aggregates and cement, have been realised during the period under review. This effect had a positive impact on the development of the mining industry in South Africa.

The challenge that faces the coal mining industry is the supply and demand of coal to the current and new generators in the production of electricity. Due to the lack of scarce skills in the mining industry and within the Inspectorate created by labour marketing, the mines cannot operate efficiently and effectively.

The Chief Directorate will embark on a change in the health and safety mindset strategy to enforce compliance with health and safety measures and the reduction of accidents and occupational diseases at the mines. An enforcement policy will also be employed in the process to bring about change in the status quo on accidents for the better. In

# 4

In addition to this approach, more focus will be given to the auditing of health and safety management systems.

During the period under review, two Principal Inspectors of Mines were appointed and the vacant posts of a Principal Inspector of Mines and a Regional Operations Manager still exist. The promotions within the regional operations were mainly internal.

## 4.2.1.2 Occupational Health

The effects of TB, pneumoconiosis, HIV and AIDS as well as NIHL are the main occupational health challenges faced by the mining industry. The mines have been implementing awareness and wellness programmes to improve on the status. Some of the mines are administering anti-retroviral medication to boost the health status of infected employees. The effort and level of success by these mines are commendable and all the mines are encouraged to develop and implement similar programmes.

Although there is still a challenge on achieving the health milestones, various initiatives and strategies have been implemented in a number of mines in these regions. The initiatives are aimed at ensuring compliance to the limits of both noise and silica hazards and / or risks encountered at mines.

## 4.2.1.3 Accidents

During the period under review the Regional Operations: Coal experienced 38 fatalities. This is a 13% regression when compared to the results achieved in 2006.

The fatality rates for KwaZulu-Natal, Limpopo and Mpumalanga for 2007 are 0.27, 0.11 and 0.15 respectively and injury rates are 0.81, 1.77 and 2.07 following the same order.

There have been about 25% year-on-year improvements achieved on fatalities and about 31% improvements on injuries in the coal mining sector.

The co-operation between the MHSI, employers, trade unions and their representatives on mine health and safety is continuously encouraged and promoted. Nevertheless, mines have been stopped where serious contraventions have been revealed during inspections, audits and accident investigations. The mines had to present the details of the steps that they will be taking to prevent recurrence of the accidents.

The Inspectorate will focus on leading indicators as opposed to lagging indicators to work towards a goal and a vision of zero harm to mine employees.

## 4.2.1.4 Challenges

The skills shortages currently experienced by the growing mining industry are of great concern. Retaining



inspectors and attracting qualified new recruits is vital to achieve the Mine Health and Safety Council Summit milestones and targets, and particularly with the growth that is currently being experienced in the mining industry.

A significant effort is still needed for achieving the Mine Health and Safety Council Summit milestones. The recurring fatal accidents at some of the mines is still of major concern. Appointments of employees (supervisors and managers) at the mines must come with an element of due diligence.

Illegal and criminal miners remain the biggest threat to the health and safety of employees and Inspectors at the mines. Effective access control at the mines is continuously encouraged.

#### 4.2.1.5 Achievements

During the period under review, the KwaZulu-Natal, Mpumalanga and Limpopo regions achieved an improvement of about 26%, 16% and 41% respectively on injury rates as compared to 2006.

#### 4.2.1.6 Concluding Remarks

The health and safety challenges, as experienced during the period under review, calls for a due diligence, mindset change and zero harm attitude by all stakeholders. We can only achieve our goals and visions by effective communication and adopting a common approach.

The challenge ahead is to maintain a safe working environment for all persons at the mines and the communities surrounding the mining operations.

The spirit of tripartism and awareness campaigns will be continued to ensure that all stakeholders in the regions are well informed about health and safety challenges, the changing legislation and achieving the milestones. The Inspectorate did not only take critical actions on serious transgressions but also commended all the managers, and their staff and stakeholders, who continued to maintain acceptable working conditions at their mines.

The managers who walk the talk and who have a caring attitude towards employees will go a long way in the mining fraternity in particular and social responsibility in general.

The Regional Operations Manager extends his sincere gratitude to all the regional staff members for their hard work under trying circumstances in striving to ensure compliance with the requirements of the MHSA, 1996 at the mines.

### 4.2.2 Regional Report – KwaZulu-Natal

#### 4.2.2.1 Overview of the Region

The year 2007 was not a good year when compared with 2006 in terms of serious and fatal injuries sustained by mine employees in the region. There was a regression of about 83% on fatal casualties. The region is booming with small-scale mining operations especially brick works and aggregate stones. The challenge is the fact that these small operations are not fully conversant with the requirements of the MHSA, 1996.

Major mining operators are being converted to small operations in the region. Smaller or medium size operations appear to be on the increase resulting in challenges in complying with the requirements of the MHSA, 1996. Most of the operators appear to have less adequate technical expertise and insufficient financial resources allocated for health and safety issues, which is negatively affecting the health and safety of mine employees in the region.

The MPRDA, 2002 through Regional Mining Development and Environmental Committees (RMDEC) engage the Inspectorate and other stakeholders to make the mining fraternity aware of the requirements of the MHSA, 1996 prior to commencement of and during mining operations. An initiative to organize small and medium size operators into a forum of associations in order to share expertise, experience and resources is currently underway. However, there has been little progress in this area because of staff shortages.

The region will embark on a change in the health and safety attitudes and mindsets strategy to enforce compliance with health and safety

measures and reduction of accidents and occupational diseases at mines. An enforcement policy will also be employed in the process to bring about change in the status quo for the better. In addition to this approach, more focus will be given to auditing of health and safety management systems such as the legal audits and the Presidential Audits.

### 4.2.2.2 Inspections and Audits

Category	Inspections	Audits
Planned	541	244
Actual	279	168
% Compliance	51,6%	68,9%

A total of 279 inspections were conducted instead of 541 inspections due to preference to the completion of Presidential Audits. The same is applicable where 168 audits were conducted instead of 244 audits.

### Mine Safety

Some of the coal mines and brick works, and most of the quarries audited are showing good performance in terms of audits and inspections conducted. Albeit, two mining fatalities were experienced.

There is a skills shortage of mine managers. Other challenges include the availability of Rock Engineers in the region in dealing with rock engineering aspects especially with the falls of ground and slope stability Codes of Practice.

There has been regression in mining personnel within the region.

### Mining Equipment

The main challenge is still related to a lack of technical expertise (scarcity of artisans and engineers), skills and funding by both small and big mining operators in the region. This resulted in a lack of good quality artisans. An outright effort has been made to instruct the mines to appoint adequately qualified artisans, other competent persons and engineers.

A lack of engineering training centres poses the greatest challenge in terms of skills development especially scarce engineering skills required by the mines in the region. Mines identified to be having lower compliance scores have been given more attention in order to have them back on track. There is some improvement in this regard.

There has been some regression in mining equipment personnel within the region.

Available mining equipment personnel within the Inspectorate is a cause for concern taking into account a large proportion of mining equipment related accidents. Achieving the operational plans of the Inspectorate and



focusing on priority areas are limited by the current staff complement. An increase in the staff complement will go a long way in ensuring the achievement of the regional operational objectives.

## Occupational Hygiene

There has been a general improvement in occupational hygiene issues except the submitting of Occupational Hygiene Returns, which need parallel sampling to confirm some of the results. It seems not to match the actual conditions on the mines. Issuing of inappropriate personal protective equipment and non-provision of suitable and adequate change-house facilities is another major challenge, which has shown some improvement. The linking of occupational hygiene exposures to medical surveillance records has improved in some mines; more improvements are expected because of established occupational health working groups, which include tripartite structures.

The lack of appointing Occupational Hygienists at smaller operations was a major contributor to most of the challenges experienced in the region. Occupational Hygiene is a scarce skill taking into account the legislative requirements, availability and production of these professionals.

## Occupational Medicine

There is a marked improvement compared to the previous years. There are still sections, such as occupational health training, appointments, health and safety policies and comprehensive occupational health promotion programmes, that need improvement or to be developed at the mines. Scarcity of Occupational Medicine professionals or medical doctors qualified in occupational medicine poses a challenge in the achievement of the occupational health milestones or improvement of health conditions of mine employees.

### Reasons for Non-achievements of Targets:

- Vacant posts for some of the Inspectors at the region are difficult to fill.
- Change management in the region has led to uncertainties to some of the staff members.

- Relocation of the regional office is resulting in Inspectors leaving the Inspectorate.
- No target adjustments were made in light of situational changes (strength v/s complement).

### 4.2.2.3 Total Accidents Reported

Fatal accidents	5(6)
> 14 Day Accidents	26
1 to 13 day reportable Accidents	No record

A total of 26 reportable accidents were reported with six fatal casualties (from five fatal accidents).

There has been an increase in the actual number of accidents reported in the region for the 2007/08 financial year compared to 2006/07 financial year. The years 2002 and 2006 were relatively the best years with the least number of fatal accidents and the years 2003 and 2007 being the worst years. There has been a 83% regression in the year 2007 compared to 2006, especially with regard to fatalities increasing from one in 2006 to six in 2007 and injuries showing an increase of 15% from the previous year in terms of numbers. Most contributors to the causes of these accidents were transport and mining, equipment related accidents, falling from structures, blasting operations and falls of ground.

Even though there is no accident trend, where one can deduce the causes of accidents experienced, there were some indications, which were observed. These included less technical expertise and sufficient financial resources by the small operators, inadequate training, inadequate staffing especially supervisors and engineers and other technical staff and high labour turnover negatively affecting retention of experienced personnel within the organisations.

### Occupational diseases reported

There has been a slight decrease in the submission of Annual Medical Reports. There were about 25 lung related diseases reported and about 34 NIHL for the year under review. There has been a general decrease in reported occupational diseases in 2007 compared to 2006.

## 4.2.2.4 Investigations and Inquiries

	Investigations	Inquiries	Total
Initiated	16	5	21
Completed	12	4	16
% Completed	75%	80%	76.2%

Of the 16 investigations, 12 investigations were completed (Presidential Audit). Four inquiries out of five fatal inquiries were completed. Most delays experienced were because of officials leaving the services of the Inspectorate and other human resources issues.

Outcomes of the investigations have highlighted the following shortcomings:

- Poor or inadequate training or non-existence of training programmes.
- Poor supervision or inadequate staffing.
- Hazard identification and risk assessment not being properly conducted and inadequate standard working procedures.

## 4.2.2.5 Disaster Type Accidents

Disaster-type accidents / incidents were not experienced in the region during the reporting period.

## 4.2.2.6 Statutory Notices

Section 54 Notices	Section 55 Notices
21	77

A total of 21 Section 54 notices were issued and 72 Section 55 notices were issued. Issues of concern included the following:

- Appointment of qualified mining professionals as required by the MHSA, 1996.
- Guarding of moving parts of machinery.
- Hazard Identification, Risk Assessment and Risk Management.
- First Aid Equipment, Rescue and Emergency Procedures and Preparedness.
- Issuing of protective equipment and hygiene facilities.
- Submission of occupational hygiene returns and codes of practice documents.
- Medical surveillance issues.
- Training of employees in terms of Section 10 of MHSA, 1996.
- Allowing employees to work under substandard acts / conditions.



#### 4.2.2.7 Administrative Fines

No of fines recommended by Inspector	1
No set aside by Principal Inspector	0
No imposed by Principal Inspector	0
Value of fines imposed	60 000
Appeals	0
Value of fines paid	0

One administrative fine was recommended by the Inspectorate and the mine in question was liquidated. An amount of R60 000 was imposed.

The use of the administrative fine system is still cumbersome to implement taking into account the system of appeals and legal challenges, resulting in most Inspectors not effectively using this legal enforcement measure.

#### 4.2.2.8 Examinations

Four blasting examination boards were conducted and four candidates passed.

Certificate	Exam Boards	No of Candidates	Certificates Issued
Mine Overseers	0	0	0
Blasting	4	4	4
Onsetter	0	0	0
Lampsman	0	0	0

#### 4.2.2.9 Land Use Applications and Complaints

	Received	Completed	Percentage
Township developments	50	42	84%
Mining and Prospecting Rights	207	202	97.5%
Closure Certificates	0	0	0
Environmental Management	0	0	0
Complaints	9	9	100%

#### 4.2.2.10 Topical Issues and Matters of Interest

##### Sustainable Development (MPRDA)

Nine complaints were received and all of them were completed.

A total of 207 mining and prospecting permits / authorizations were received, but 202 of them were completed (staff shortage).

No Environmental Management Programmes (EMPs) were received. The regional office received 50 township developments and 42 of it were completed. No mine closure certificates were issued.

##### Machinery and Mining equipment related accidents

Working in confined spaces, operating faulty equipment / machinery, trackless mobile machinery and state of repair of mining equipment is a cause for concern. Some mines have been instructed to ensure the appointment of competent persons / engineers to be in charge of mining equipment and machinery. A slight decline was noted in this regard.

##### Submission of Occupational Hygiene Measurements

A slight improvement has been noted compared to previous years. More effort is still required in this area to ensure good compliance. In some instances, the set milestones and targets were not achieved.

##### Submission of Occupational Hygiene Related COP's

An improvement has been noted in this area with an increase in submission rates, but some new mining operations are still outstanding. Of concern are the mines who are not revising their mandatory Codes of Practice (COP's).

##### Small-scale Mining

The region has been divided in some ten areas containing about 50 places where small-scale and illegal mining operations are likely to take place. Most areas have been inspected in order to determine

the extent of any operations and determine further action and required assistance. In most of the areas inspected, there were no activities identified. Collaboration and consultations with other stakeholders is ongoing with positive results in most cases.

#### NIHL, TB and Lung Related Cases

There are still cases that are diagnosed, even though they are not at the reportable stage. Though new cases are still diagnosed, most employees are provided with TB medication or treatment which appears to be well complied with. Working groups have been established to ensure the alignment of processes on the mines and the achievement of the Mine Health and Safety Council Summit milestones and targets.

#### HIV and Aids Initiatives

Good initiatives have been noted on the number of mines in the region. The regional office is embarking on awareness campaigns targeting employers, employees and local communities in conjunction with the Department of Health.

#### 4.2.2.1 I Strategy Adopted to Improve Status Quo

- Fall of Ground Accidents and Highwall and Bench Stability

There has been an improvement in the implementation of fall of ground regulations in the region. A few incidents / accidents on fall of ground have been reported. The strategy will include the analysis of these accidents / incidents and will be based on the outcomes, device effective strategies to combat fall of ground accidents / incidents.

- Transport and Mining Equipment Related Accidents

Lack of adequately qualified competent persons or engineers is still a problem. Most mines have been instructed to appoint suitably qualified persons as per the legal requirement. Transport and equipment related accidents still account for a portion of reported accidents in the region. The appointment of drivers / operators who are not properly trained to operate machinery is increasing. More effort is still required in this area. Ensuring the appointment of engineers in mining operations with the power rate exceeding 2 500 kilowatts will be a challenge in the next financial year taking into account, the availability of this type of skill in the country. Appointment of suitably qualified engineers will assist the mines to deal with mining equipment related challenges.

- Coal Mines Explosions and Fires

Current initiatives and measures in place appear to be effective in dealing with fires and explosions, but there



is always scope of improvement in this regard. No incidents of methane ignitions or flashes were reported during the period under review. It has been noticed that some mines were not building brick walls as the underground sections advances. New strategies will be implemented to improve the situation and include other disciplines to deal with explosion prevention.

- Emergency Preparedness

Improvement in this critical area is required, taking into account the size of most operators in the region. Auditing and reassessment of measures currently in place on the mines for preparedness by mines to handle emergency situations is ongoing. We need to increase the number of mines belonging to Mine Rescue Services, in collaboration with mines in the region, to ensure that there is a stand-by team available in case of emergency to deal with rescue operations. Taking into account the location and possible response time of the current Mine Rescue Services centres, located in excess of 350 km from most of the mining operations in the region.

- Linking of Occupational Hygiene Exposures to Medical Surveillance Records.

Mines in the region are beginning to understand the importance of having a linkage between the occupational hygiene exposure measurements and the results of medical surveillance. The lack of communication between Occupational Hygienists and Occupational Medical Practitioners appears to be improving. Working groups to address milestones on occupational health have been established on the mines. Working group meetings are held on a regular basis to assess progress in the achievement of the milestones.

- Mines Compliance with Occupational Hygiene Issues

There has been some continued improvement in the environmental conditions in underground and surface operations. Problems have been experienced at smaller mines especially hard rock quarries and brickworks in terms of the

appointment of Occupational Hygienists. Submission of quarterly occupational hygiene exposures returns, which is critical in dealing with occupational diseases, is still a challenge although slight improvements were noticed. Issuing of administrative fines appears to be successful in ensuring improvement in submission of legal returns.

- General Strategy in Addressing Challenges Facing the Region

The challenge is to reduce the number of injuries as well as fatal injuries in the region. A culture of health and safety at the mines needs to prevail. The region will continue to embark on an initiative of zero tolerance to non-compliance. If the mining project is not safely and economically viable, the operation needs to be ceased in the interest of health and safety and to protect the health and safety of employees. Progress has been made on areas of small-scale mining and dealing with occupational diseases by mines. More co-operation from employers, mine employees, communities affected by mining operations and the Inspectorate will continue to ensure that there are effective ways or strategies in dealing with health and safety matters relating to mining operations in the region.

## 4.2.3 Regional Report – Limpopo

### 4.2.3.1 Overview of the Region

A wide variety of minerals is mined in the Limpopo Region with platinum being the main commodity. Diamonds, gold, zinc, copper, coal, chrome and various other base minerals are mined. There are also a large number of crushers, granite quarries and brickworks in the region.

There are 12 underground mines operating in the region and seven major open cast mines. The rest, approximately 220 mines, are other mines including borrow pits.

Labour statistics (average) for the region: 38 600, of which platinum were 20 500 and other mines 18 100.

### 4.2.3.2 Inspections and Audits

Category	Inspections	Audits
Planned	1115	561
Actual	861	517
% compliance	77	92

Inspections and audits were planned for a full staff complement and the region managed to maintain a staff complement of approximately 72% for ten months and then 61% for last three months of the reporting period.

### 4.2.3.3 Total Accidents Reported

	Fatalities	Accidents	Dangerous Occurrence
No accidents reported	–	157	–
No of persons injured	–	161	–
No of fatalities reported	8	–	–
No of persons killed	9	–	–
Dangerous occurrence reported	–	–	22
1 – 13 days reported	–	148	–

(January to December 2007)

### 4.2.3.4 Investigations and Inquiries

	Reported	Investigated/Inquiry	% completed
Fatalities	8	6	75
Accidents	157	120	76

(January to December 2007)

### 4.2.3.5 Disaster-type Accidents

- There were no disaster-type accidents in this region.
- No feedback from Director: Public Prosecutor regarding any of the inquiries that were forwarded this year as well as last year was received.
- The majority of the investigations that were conducted were not recommended for prosecution. Letters were sent to the mine for action to improve the conditions that were hi-lighted during the investigations.

8 x Fatalities	Caused by
1	Explosives
2	Fire hydrant pipe
3	Drowning
4	Diamond drill
5	Emulsion
6	RLT chute
7	Load Haul Dump – Trackless Mobile Machinery
8	Compressed pipe



### 4.2.3.6 Statutory Notices

Section 54 notices	Section 55 notices
290	8

### 4.2.3.7 Administrative Fines

3 x Admin Fines	Set aside	Imposed	Amount paid
No 1	Yes	–	–
No 2	No	Yes	R 5 000.00
No 3	No	Yes	R 25 000.00

No of fines recommended by Inspector	3
No set aside by Principal Inspector	1
No imposed by Principal Inspector	2
Value of fines imposed	
Appeals	
Value of fines paid	R 30 000.00

### 4.2.3.8 Topical Issues and Matters of Interest

#### Challenges

During the reporting period, there was a large exodus of Inspectors negating many years of training. These Inspectors have left for better prospects, remuneration and promotion to other regions, and unfortunately, one passed away. This has impacted negatively on the performance of the region in that 48% of the staff complement have left, leaving 52% available, which is ten Inspectors. From these ten Inspectors, three are on training. To reduce the accidents and fatalities with limited staff was a great challenge.

#### Training

Training in the region is still of paramount importance. Most of the mines have an agreement with the local communities to employ from locals that has little or no mine experience. The establishment of a centralised training centre is underway. Another training issue in the region is the quality of training offered by the mines. This can be seen from the pass/failure rates from the various examinations held by the region. This will negate the quality of training in the region.

#### Housing

A different challenge is encountered by the mines due to a lack of housing in close proximity to the mines. This causes the inability of the mines to retain their well-trained personnel, from the level of miners upwards including artisans.

#### Achievements

- Lebowa Platinum Mine, UG2 section achieved 4 years fatality free shifts.
- Lebowa Platinum Mine also received the CEO Safety Award for best performer for large operations as well as overall award for best performer in the Anglo Platinum Group.
- Modikwa Platinum Mine achieved 2 000 000 fatality free shifts
- Potgietersrust Platinum Mine 600KTPM Concentrator Project achieved 4 000 000 lost time injury free man-hours.
- Grootegeluk Mine achieved 4 000 000 fatality free shifts

### 4.2.3.9 Strategy Adopted to Improve Status Quo

- Mines have been prioritised in order to place more emphasis on where the accidents are occurring. Each of these priority mines have been analysed with regard to the different types of accidents and it has been found that priorities differ from mine to mine. An Inspector is expected to know where the priority of each mine lies and to concentrate on these during inspections and audits. The audits conducted indicated systems failures that were helpful in assisting and alerting mine management, who, in turn, attempted to rectify these failures.
- One fatal accident is one too many and the Inspectorate will continue to work towards eradicating these accidents. We have to become pro-active in identifying weaknesses in management systems and implementing programmes and strategies that will upgrade the working conditions and limit the risks. It is the intention of this region to investigate each and every accident that occurs in order to identify the basic cause and come up with remedial actions and recommendations to eliminate these accidents.

# 4

- Certain mines were instructed to immediately report certain types of accidents, such as Trackless Mobile Machinery related accidents, winch related accidents and electricity related accidents.
- Inspectors will be stricter when encountering substandard acts / conditions

## 4.2.4 Regional Report - Mpumalanga

### 4.2.4.1 Introduction

A wide variety of minerals is mined in the region with coal being the main commodity. Gold, platinum, chrome and various other base minerals are mined and there are a large number of brickworks, crushers and quarries in the region.

There are 39 underground coal mines operating in the region, most of which employ continuous miners to carry out bord and pillar conventional mining. Of the 44 open pit collieries, most operate by means of dozing, although a large number utilize draglines to remove the overburden. Loading is by means of mechanical shovels onto haul trucks.

The ten gold and platinum mines are mostly underground mines and there is 90 other mines including chrome, crushers, quarries, sandworks, brickworks, lime, granite and manganese mining operations.

Labour statistics (average): coal - 52 746; gold - 7 420; platinum - 7 857; other - 9 876

### 4.2.4.2 Inspections and Audits

During the period under review, the following number of inspections and audits were conducted:

Category	Inspections	Audits
Planned	1548	858
Actual	822	397
% Compliance	63%	45%

Inspections and audits were planned for a full staff complement and the region managed to maintain a staff complement of approximately 65% for the year.

### 4.2.4.3 Accidents Reported

Fatal accidents	23
> 14 day reportable accidents	334
1 to 13 day reportable accidents	287

(From 2007-01-01 to 2007-12-31)



#### 4.2.4.4 Investigations and Inquiries

	Investigations	Inquiries	Total
Initiated	432	23	455
Completed	482	28	510
% Completed	115%	121%	

(From 2007-01-01 to 2007-12-31)

Types of accidents and outcomes of inquiries and investigations:

The fatalities were mainly caused by the following categories of accidents:

- Trackless mobile machines = 8
- Fall of ground = 7
- Fall of material = 2
- Track bound mobile machines = 2
- Falling from structures in excavations = 2
- Electrocution = 1
- Mudrush = 1

Administrative penalties and prosecutions were recommended after the completion of most of these accident inquiries. Meetings with various stakeholders have been attended and presentations were done on the prevention of repetitive accidents.

#### 4.2.4.5 Disaster-type Accidents

There were no disaster type accidents during the reporting period.

#### 4.2.4.6 Statutory Notices

Section 54 notices	Section 55 Notices
171	210

Notices were inter alia issued for the following:

- Inadequate machine guarding.
- Inadequate electrical protection.
- Inadequate explosion protection (flameproofing).
- Non-compliance with Fall of Ground Code of Practice.

- Non-compliance to Occupational Hygiene Codes of Practice.
- Persons working without medical certificates of fitness.
- Change house facilities not provided.
- Inadequate availability of trained first aiders.

#### 4.2.4.7 Administrative Fines

No. of fines recommended by Inspector	10
No. set aside by Principal Inspector	1
No. imposed by Principal Inspector	0
Value of fines Imposed	0
Appeals	0
Value of Fines Paid	0

Administrative fines were used as a last resort after the provisions of the DME Guideline for Enforcement of the Mine Health and Safety Act has been exhausted.

#### 4.2.4.8 Examinations

The Regional Inspectorate conducted examinations for industry qualifications and the table below reflects the number of Examination Boards, Candidates and Certificates Issued during the reporting period.

Qualification	Exam Boards	Number of Candidates	Certificates Issued
Mine Overseers	21	247	24
Blasting *	35	355	105
Onsetter	3	13	12
Lampman	3	4	4

\* combined fiery, scheduled and surface blasting boards

Candidates for examinations are often very poorly prepared.

## 4.2.4.9 Land Use Applications and Complaints

	Received	Completed	Percentage
Township Developments	125	122	98%
Mining and prospecting permits/rights	384	378	98%
Closure Certificates	6	1	17%
Environmental Management	431	406	94%
Complaints	18	11	51%

The complaints investigated by Inspectors often relates to dust and blasting on mines close to residences. The investigations improved relationships between the mines and the complainants and the incidences of DME involvement has reduced.

## 4.2.4.10 Topical Issues and Matters of Interest

Strategy adopted to improve status-quo:

### 1. Illegal miners - Barberton area

The illegal miners in the Barberton area became a problem to the extent that they pose a threat to the safety of mine employees and Inspectors that visit these mines. These illegal miners carry firearms and have shot and wounded a police officer underground. During the past two years, as many as 20 illegal miners died underground because of their activities. They frequently threaten the lives of mine employees and damage safety equipment provided by the mine.

Strategies adopted:

A recommendation has been made to the Minister with regard to the following:

- Reviewing and possible amendment to legislation to address illegal mining.
- Involvement of all stakeholders such as Government, the community and mine management.
- Involvement of law enforcement agencies.
- The nomination of special investigation teams to expose and arrest the syndicates or persons responsible for buying the gold from the illegal miners.

### 2. Increase in mining activity in the platinum division.

There has been a marked increase in the activities of platinum mining in the region. The consequence is that the number of accidents increased by 27% in this industry. The platinum mines contributed to 7.6% of the accidents that occurred in this region.

Strategies adopted:

Emphasis has been placed on inspections and audits on the platinum mines. Meetings were held with high-level management and more meetings and summits are planned.



3. Other strategies adopted to improve status-quo
  - Presentations were done on various forums and meetings with regard to strategies to reduce accidents. The annual strategic planning meetings of institutions such as the South African Colliery Managers' Association and the South African Colliery Engineers' Association were attended where the strategic issues of the DME was communicated.
  - Meetings were held with the Department of Labour - Occupational Health and Safety Inspectorate to communicate strategies, work methods and actions taken.
  - Many of the mines in the region did very well and achieved various safety awards. The management and staff of these mines were commended for their efforts.

## 4.3 REGIONAL OPERATIONS – GOLD AND PLATINUM

### 4.3.1 Regional Operations Manager's Overview

#### 4.3.1.1 General

The section is made up of the North West, Gauteng and Free State regions. A wide variety of minerals are mined in these regions with gold and platinum group metals being the main commodities. The Regional Operations: Gold and Platinum labour force is approximately 325 942 and represent about 67% of the mining industry labour force in South Africa.

The promulgation of the MPRDA, 2002 has increased the regulatory responsibilities in the regional operations on mandatory consultations and inspections. However, there is a sustained effort of ensuring that the respective township development, prospecting and mining right applications are considered timeously.

Record-high gold and platinum prices have been experienced during the period under review. This encourages growth of the mining industry albeit the recent electricity challenges. However, one of the major challenges facing the industry is the lack of sufficient skilled persons to support the growth. Hence, the Inspectorate is seriously affected by the shortage as Inspectors are continuously being recruited by the

mines and it is becoming more difficult to attract suitably qualified persons.

During the period under review, the Regional Operations Manager and two Principal Inspectors of Mines were appointed. The promotions within the regional operations were mainly internal.

#### 4.3.1.2 Occupational Health

TB and the effects of HIV and AIDS and NIHL are the main occupational health challenges faced by the mining industry. The large mines have mainly been implementing awareness and wellness programmes to improve on the current status. Most of the mines are administering anti-retroviral medication to boost the health status of infected workers. The effort and level of success by these mines are commendable and all the mines are encouraged to develop and implement similar programmes.

Although there is still a challenge on achieving the health milestones, various initiatives and strategies have been implemented in a number of mines in the region. The initiatives are aimed at ensuring compliance to limits of both noise and silica hazards encountered at mines.

The regional working groups have been formed and maintained by the Inspectorate to support and monitor progress made by the mines on the health milestones.

#### 4.3.1.3 Accidents

During the period under review the Regional Operations: Gold and Platinum experienced 167 fatalities. This is a 5% regression as compared to the results achieved in 2006. Of major concern are the recurring fatalities, which have occurred at some of the mines.

The fatality rates for the Free State, Gauteng and North West for 2007 are 0.21, 0.37 and 0.17 respectively and injury rates are 3.92, 16.93 and 9.47 following the same order.

There have been about a 28% year-on-year improvement achieved on rock related fatalities in the gold sector. However, the platinum sector

# 4

experienced an increase of about 36% regarding the fall of ground fatalities.

It has been noted with concern that the contribution of contractor employee fatalities, in the platinum sector, increased from 26% in 2006 to 36% during the reporting period.

The co-operation between the Inspectorate, employers and unions on mine health and safety is continuously encouraged and promoted. However, the respective working places and mines have also been stopped where serious contraventions have been revealed during inspections and accident investigations. The mines had to do a presentation giving details on the steps they will be taking to prevent recurrence.

#### 4.3.1.4 Challenges

The skills shortage currently experienced by the growing mining industry is of great concern. Retaining Inspectors and attracting qualified new recruits is vital to achieve the Mine Health and Safety Council Summit milestones and particularly with the growth that is currently being experienced in the mining industry.

It appears that a significant effort is still needed for achieving the Mine Health and Safety Council Summit milestones. The recurring fatal accidents at some of the mines is still of major concern.

Illegal and criminal miners remain the biggest threat to the health and safety of employees at mines. Effective access control at the mines is continuously encouraged.

#### 4.3.1.5 Achievements

During the period under review, the Free State region achieved a 25% reduction in the number of fatalities over the 2006 figure. In addition, the Gauteng and North West regions achieved an improvement of 17% and 9% respectively on injury rates when compared to 2006.

#### 4.3.1.6 Concluding Remarks

The health and safety challenges as experienced during the period under review calls for a collaborative and well-dedicated effort by all the stakeholders. We can only achieve our goals through effective communication and adopting a common approach.

The challenge ahead is to maintain a safe working environment for all persons at the mines.

The collaboration and awareness campaigns will be continued to ensure that all the stakeholders in the regions are well informed on the health and safety challenges, the changing legislation and the milestones achieved. In addition, the Inspectorate did not only take critical actions on serious transgressions but also commended all the managers, and their staff, that continue to maintain acceptable working conditions at their mines.



Although, the performance on health and safety during 2007 was not as expected, the level of commitment and effort that has been shown by all the stakeholders is commendable and encouraging.

The Regional Operations Manager extends his gratitude to all the respective regional staff for their hard work in striving to ensure compliance with legal requirements at the mines.

### 4.3.2 Regional Report – Free State

#### 4.3.2.1 Overview of the Region

The main commodities in this region are:

- Gold: employing 36 860 people.
- Diamonds: employing 1 651 people.
- Coal: employing 2 459 people working underground and in open pit strip mining.
- Other small mines employing 5 121 people working in open pit quarries, sand pumping, brick making and diggings.

#### 4.3.2.2 Inspections and Audits

During the period under review, Inspectors conducted 1 100 underground inspections, 716 surface inspections and 139 statutory inspections. A total of 83 audits were done on various systems and 19 Presidential audits were conducted during the reporting period.

Category	Inspections	Audits
<b>Planned</b>	2512	119
<b>Actual</b>	1955	116
<b>% Compliance</b>	78%	97%

The low compliance percentage can be attributed to a shortage of staff. Some of the generic irregularities found during the audits are as follows:

- a) Safety Risk Management  
Not all sources of hazards are identified and those identified are not periodically reviewed by the employer.

- b) Occupational Health and Safety Policy  
This policy is not widely communicated and only the employer signed the document. The policy does not include the protection of persons who are not employees but who may be affected by mining activities. The policy is available only in the manager's office.

- c) Health Risk Management  
Baseline risk assessments in place do not cover all possible hazards. (In most cases, only four). Those identified are not periodically reviewed by the employer. Not every serious illness and health-threatening occurrence is investigated. Some smaller diamond mines do not have a HIV and AIDS programme.

- d) Training  
Section 20 awareness is not contained in the training programme. Not all records of training could be provided. Emergency procedure training is not reflected when employees are asked about such matters. Smaller diamond mines do not make use of accredited training providers. They provide on the job training.

- e) Health and Safety Representatives and Committees  
This is not a problem experienced on the large gold mines. The smaller diamond mines do not have representatives trained and appointed. Representatives are not made aware of Codes of Practices and Procedures.

- f) Explosives Control  
No problems were found with the correct ordering and delivery of explosives. However, records of explosives control are lacking. They are kept only for a short period of time. Procedures are in place but not fully implemented.

- g) Public Health and Safety  
Risk assessments do not take public health and safety risks into consideration, some partially only.

### 4.3.2.3 Investigations and Inquiries

During 2007, the Inspectors conducted 141 accident investigations and 20 accident inquiries.

	Investigations	Inquiries	Total
Initiated	190	20	210
Completed	141	20	161
% Completed	77%	100%	77%

### 4.3.2.4 Total Accidents Reported

Fatal Accidents	20
> 14 Day Reportable Accidents	697

Falls of rock accidents increased slightly from 24% to 25% of the total accidents, while machinery related accidents decreased from 27% to 26% of the total figure. A noticeable improvement in the number of fatalities was seen. The region gladly reports an improvement of 25% in 2007 compared to 2006.

### 4.3.2.5 Disaster-type Accidents

This region can gladly say that no disaster-type accidents occurred during the year under review.

### 4.3.2.6 Statutory Notices

During the year under review, Inspectors issued 589 orders to stop unsafe and unhealthy practices (Section 54) and 303 orders to comply with health and safety requirements (Section 55) to the employers of the mines.

Section 54 notices	Section 55 Notices
589	303

### 4.3.2.7 Administrative Fines

A total of seven administrative fines were recommended of which the Principal Inspector imposed four. The employers paid an amount of R56 000-00. An amount of R100 000-00 is still to be paid before 7 April 2008.

No of fines recommended by Inspector	7
No set aside by Principal Inspector	3
No imposed by Principal Inspector	4
Values of fines imposed	156 000-00
Appeals	None
Value of fines paid	56 000-00



The region did not impose many fines. However, there is a noticeable improvement when a shaft or working places are stopped until instructions are carried out.

#### 4.3.2.8 Examinations

Qualification	Exam boards	No. of candidates	Certificates issued
Mine Overseers	46	517	
Blasting	36	371	262
Onsetter	39	165	133
Lampsman	11	11	11

#### 4.3.2.9 Land Use Applications and Complaints

	Received	Completed	Percentage
Township development	37	30	81%
Mining/Prospecting permits/rights	172	172	100%
Closure certificates	10	9	90%
EMP	159	159	100%
Complaints	14	14	100%

#### 4.3.2.10 Topical Issues and Matters of Interest

On 18 September 2007, harmful gases (carbon monoxide) were detected in a workplace (stope) of a mine. The mine's evacuation procedure was initiated and all mine employees were safely withdrawn from underground.

Arrests followed when illegal miners fled the effected areas due to gases and wanted to exit the mine.

On 4 October 2007, some of the illegal miners contacted a mine employee who was asked to inform mine management of their fellow workers whom were overcome by the gases in the area where they found themselves. The area was determined to be a remote area 1,5 km underground, disused and 8 km away from the mines operational areas. By word of mouth from the illegal miners, the fire was started in the area where they found themselves. A pack caught fire and they could not extinguish the fire.

On 7 October 2007, mine personnel was informed that 23 bodies were on a Level station. The matter was reported to the Inspectorate and the South African Police Services (SAPS).

#### Challenges

All the shafts in the Welkom area are interconnected by haulages, raises and worked-out areas. Illegal miners go down the various operating shafts from where they move to specific areas. Various methods are used by illegal miners to bypass the access control systems of the mines. Some methods involve bribery. Huge amounts of money are being paid to employees at the mine to get them underground. Many of the illegal miners are illegal immigrants. These illegal miners stay underground for long periods of time. Water and food are supplied to them.

#### Remedial action after the incident

Not long ago, the Welkom regional office had discussions with the Department of Justice and suggested that charges formulated must consider Section 86 of the MHSA, 1996, not merely instituting charges for trespassing.

A meeting was held on 7 October 2007 between Harmony mine management, Harmony security personnel and officials from the MHSI to discuss remedial action.

The following remedial action was proposed for immediate implementation:

- To improve on access control systems and monitor access control.
- To conduct more searches on individuals.
- More involvement from the SAPS.
- To increase the frequency of underground raids by security.

### 4.3.2.1.1 Strategy Adopted to Improve Status Quo

This region launched the following projects during the year in an effort to improve the status quo:

- a. Employer participation in accident prevention strategy presentations to this office.
- b. Arial support in all work places.
- c. Preconditioning for identified areas.
- d. Establishment of working groups to monitor and mitigate occupational diseases.
- e. Emphasis on milestones for the elimination of silicoses and NIHL.
- f. Review of mandatory Codes of Practice.
- g. Developing closer partnerships with other Government Departments, trade unions and other key stakeholders.
- h. Increased visibility of Inspectors.

### 4.3.3 Regional Report – Gauteng

#### 4.3.3.1 Overview of the Region

The major commodity mined in the region is gold, which is mined in the large, deep mines of the West and Far West Rand and the old mining areas of the Central and East Rand. Diamond mining is carried out at the underground Cullinan Mine and numerous small surface operations. Chrome and platinum are mined in the Brits district. In addition, there are a large number of hard rock quarries, clay quarries and sand mines. The labour force in the region is approximately 96 200 persons.

#### 4.3.3.2 Inspections and Audits

During the year under review, Inspectors of the region conducted 1 792 inspections and 199 audits. The underground inspections and audits carried out, were less than those planned due to the shortage of Inspectors.

Even though the region is under staffed, every effort is made to increase Inspector visibility at the underground mines. Audits on safety systems at the mines have revealed alarming shortcomings at some mines.

Category	Inspections	Audits
Planned	3468	205
Actual	1792	199
% Compliance	52%	97%

#### 4.3.3.3 Investigations and Inquiries

Mines are reporting accidents and incidents to the responsible inspectors on a daily basis. This allows such occurrences to be investigated very soon after the event. Risk profiles of working areas are being carried out so



that the "hot spot" areas can be identified and targeted.

	Investigations	Inquiries	Total
Initiated	276	84	360
Completed	276	29	305
% Completed	100%	35%	85%

#### 4.4.4.4 Total Accidents Reported

During the reporting period, mines in the region had 71 fatal accidents in which 80 persons were fatally injured. This is a further regression when compared to the results achieved in 2006. During 2006 there were 66 fatal accidents that resulted in 77 bodies. During this year 1 018 accidents were reported by the mines in the region, which is a significant improvement when compared with 2006.

During the period under review there were a large number of persons fatally injured on small mines and surface operations. These mines accounted for a total number of 11 of the fatalities that occurred, but account for a fraction of the labour force.

Fatal accidents	80
> 14 Day Accidents	912
1 to 13 day reportable Accidents	378

#### 4.4.4.5 Disaster-type Accidents

During 2007, four in-stope workers were fatally injured at Mponeng Mine. A magnitude 2.3 event caused the multiple fatalities on 28 September 2007 and was seismic related.

On 3 October 2007, at approximately 06:15, a segmented bend of a 700 mm diameter compressed air column ruptured at the sub-bank of the Main Shaft at Elandsrand Gold Mine. A section of the pipe pulled free from the supporting brackets and fell down the shaft. Severe damage resulted, which also caused total electrical power failure. After limited power was restored it took approximately 24 hours to evacuate the 3 000 underground workers via an adjacent shaft. The last person was hoisted to surface some 32 hours after the incident. No persons were injured in the incident.

On 10 October 2007 three spillage crewmembers were fatally injured when they were struck by a run-away skip in an inclined spillage winze at the bottom of No 4 Sub-vertical shaft at Kloof Mine. The run-away resulted when the 19 mm steel wire winch rope fractured.

#### 4.4.4.6 Statutory Notices

During the year, Inspectors of the region issued 365 notices to stop unsafe and unhealthy practices (Section 54) and 2 008 orders to comply with health and safety requirements (Section 55) to the employers of the mines.

Section 54 notices	Section 55 Notices
365	2008

#### 4.3.3.7 Administrative Fines

Fifteen administrative fines were recommended by the Inspectors of the region. To date only one has been paid.

No of fines recommended by Inspector	15
No set aside by Principal Inspector	Nil
No imposed by Principal Inspector	15
Value of fines imposed	R587 666
Appeals	1
Value of fines paid	R50 000

#### 4.3.3.8 Examinations

As seen in the table below, the success rate for candidates, especially for the Mine Overseers examination, is very poor. Candidates are generally poorly prepared for the examinations, which occupies a lot of time from Inspectors in the region. In future mines will be requested to be stricter when screening candidates for examinations.

Certificate	Exam Boards	No of Candidates	Certificates Issued
Mine Overseers	60	713	43
Blasting	120	655	336
Onsetter	29	282	118
Lampman	10	19	13

### 4.3.3.9 Land Use Applications and Complaints

Much time is spent by the individual Inspectors in processing applications for townships and new mining activities. An increasing number of complaints emanate from townships that are encroaching on established mining activities.

	Received	Completed	Percentage
Township developments	297	257	87%
Mining and Prospecting Rights	118	109	92%
Closure Certificates	Nil	Nil	
Environmental Management	173	146	84%
Complaints	54	49	91%

### 4.3.3.10 Topical Issues and Matters of Interest

- Government Task Team (GTT) and Regional Mining Development and Environment Committee (RMDEC)  
Three inspectors from the region regularly attended the Government Task Team on Mine Closure and Water Management meetings. These meetings are held every three months and the last meeting was in March 2008. The GTT essentially comprises of members from the Departments of Minerals and Energy, Environmental Affairs and Tourism and Water Affairs and Forestry. Issues that are discussed include the problems associated with acid mine drainage, mine closure strategies, safeguarding of old mine shafts and holdings and pumping subsidies. The main areas of concern are Gauteng, North West and Mpumalanga although mining areas throughout South Africa are considered.

RMDEC meetings are held monthly and are chaired by the Regional Manager of the Gauteng Region. Issues that are discussed include considering objections regarding the Environmental Management Programmes or Environmental Management Plans submitted by applicants and making recommendations thereon to the Minister of Minerals and Energy.

- Gautrain Rapid Rail Link  
Tunnelling work on this 22km long underground project is progressing satisfactorily from six separate shafts along the route between Park Station in the south to Marlboro in the north. Tunnel boring operations from the Rosebank Station commenced early in 2008.
- Presidential Audits  
The legal compliance audits of all the high risk, deep gold mines have been completed. The compliance by the mines can generally be said to be good, but shortcomings were identified at some of the mines. The mines all welcomed these audits. The same cannot be said about the audits that have been carried out at the small mines and surface operations. At the small mines and surface operations there are generally a lack of knowledge about the required management systems.



### 4.3.3.1.1 Strategy Adopted to Improve Status Quo

The following are some of the strategies that have been adopted to improve health and safety in the region:

- Meaningful and effective safe declaration of tools and working places by all concerned.
- Coercion of mine management to be more proactive in the prevention of dangerous situations and to initiate their own action measures following an accident.
- An increase in systems audits by Inspectors with follow-up underground inspections.
- Increased interaction between Inspectors, mine management and unions.
- Monitoring emergency preparedness and response at the mines.
- Participating in working groups to monitor and mitigate occupational diseases.
- Back analysis to evaluate strategy effectiveness.
- Effective co-operation between MHSI and the Mineral Regulations Branch of the DME to avoid upsets at source of infancy.

## 4.3.4 Regional Report – North West

### 4.3.4.1 Overview of the Region

The North West Region is made up of two distinguishable mining areas, namely the Klerksdorp-area where the main commodities mined are gold, uranium and alluvial diamonds along the Harts- and Vaal Rivers. The second mining area is Rustenburg-area where the Platinum Group Metals (PGMs) and chrome are predominantly being mined. The region has a variety of other commodities such as iron ore, dimension stones (granite and slate), lime, fluorspar, vanadium, fissure diamonds and clay that are also being mined. The gold, uranium, PGMs, chrome and fissure diamond mines are predominantly made up of labour intensive underground operations. There are numerous slate and granite quarries with the rest being open pit operations.

### 4.3.4.2 Inspections and Audits

Category	Inspections	Audits
Planned	1682	48
Actual	1112	67
% Compliance	66%	140%

Planned targets for inspections were not achieved due to the Presidential Audit, vacancies and under staffing of the region. Other workload factors contributing to this were examination boards, accident inquiries and investigation, administrative work, land use applications and complaints. Audits exceed requirements as a result of the Presidential Audits.

### 4.3.4.3 Investigations and Inquiries

	Investigations	Inquiries	Total
Initiated	1721	59	1780
Completed	1373	25	1398
% Completed	80%	41%	79%

The accident reporting systems at the various mines are continuously audited to ensure compliance. Medical centres and hospitals are also visited from time to time to compare statistics with accidents reported.

### 4.3.4.4 Total Accidents Reported

Fatal Accidents	65
> 14 day reportable accidents	1686
1 to 13 day reportable accidents	1147

During 2007, the North West Region experienced 65 fatal accidents in which 68 persons died, compared to 53 fatalities reported in 2006. This is a 28% regression. The contribution of fall of ground accidents reduced from 41, 5% to 35% and 5% of the total. Of concern is the number of fatal accidents that occurred on small mines and surface operations. These mines accounted for a total of 12% of the fatal accidents, but account for a fraction of the labour force.

#### 4.3.4.5 Disaster-type Accidents

No disaster type of accidents was experienced in the region from April 2007 to March 2008. The Region had two multiple fatalities which include a mud rush at Rustenburg Platinum Mines – Paardekraal Shaft where three people lost their lives and Moab Khotsong where two people died after a seismic event.

#### 4.3.4.6 Statutory Notices

Section 54 notices	Section 55 Notices
309	209

Section 54 instructions were issued for poor barring, poor ventilation in stopes, substandard support, substandard and broken rail switches and tracks, locomotive braking systems not complying with standards, lock-out procedures and systems not available and unsafe electrical systems. All the Section 54 instructions issued by the region resulted in the closing of the work place or equipment until it was fixed.

#### 4.3.4.7 Administrative Fines

No of fines recommended by Inspector	4
Value recommended	200 000
No set aside by Principal Inspector	1
Value set aside	0
No imposed by Principal Inspector	2
Values of fines imposed	200 000
Appeals	0
Value of fines paid	0

#### 4.3.4.8 Topical Issues and Matters of Interest

- With record prices for platinum and PGMs, the mines in the Rustenburg-area are expanding at an astronomical rate. This expansion resulted in an increase in labour force and thus the increase in novices employed by the mines. Novices are more accident-prone and they can have an influence on the number of accidents.
- With the increased mining activities in the Region, the complement of Inspectors for the Region remained constant and is not enough for sufficient visibility and inspections on the mines.
- The exodus of inspectors continued. Nine inspectors which include four senior inspectors left during the reporting period. Although five positions were filled with new inspectors, the experience that was lost will take several years to be replaced.



#### 4.3.4.9 Strategy Adopted to Improve Status Quo

The following are some of the strategies adopted by the region to improve the Status Quo:

- In order to notify the mines of the intent of the Inspectorate to reduce accidents, the working places as well as the shafts were closed with almost all reported fatalities and system failures. Mines had to do a presentation giving details of how they are going to ensure that recurrence of a similar occurrence / accident will be prevented.
- In order to increase the number of underground inspections with the small number of Inspectors available, examinations as well as some inquiries were conducted by the Senior Inspectors enabling Inspectors to handle inquiries.
- Involvement of the unions in health and safety management at mines are encouraged and promoted.
- In cooperation with the Association of Mine Managers and Unions (NUM, UASA, Solidarity and Alliance), Safety and Health Forums have been introduced and meetings with regard to health and safety matters in the region are conducted once in two months.
- All accident investigations are attended by the Section 3(1) appointed managers to ensure their involvement. Inquiries into fatalities and employer representatives are compelled to attend.
- Where possible, Inspectors from the Region participate in health and safety activities at mines such as Health and Safety Summit both by unions and mines.
- Joint meetings and inspections at hostels are conducted with the Department of Labour.

## 4.4 REGIONAL OPERATIONS – OTHER MINES AND OFFSHORE

### 4.4.1 Regional Operations Manager's Overview

#### 4.4.1.1 General

The Other Mines Chief Directorate is made up of the regional offices of the Eastern Cape, Northern Cape and Western Cape as established in terms of the MHSA, 1996.

Mining operations in the area vary greatly and comprise mainly of offshore alluvial diamond mining off the West Coast, the mechanized underground manganese and diamond mines as well as big open pit iron ore operations in the Northern Cape and quarries, pit mines and diggings found across the three regions.

Reported labour employed in the three regions is approximately 2 300 in the Eastern Cape, 31 000 in the Northern Cape and 8 000 in the Western Cape, which bring the total reported labour to approximately 42 000.

The technical staffing (excluding support staff) compliment for the three regions is five in the Eastern Cape, 14 in the Northern Cape and six in the Western Cape. The number of Inspectorate posts for the three regions at 25 at the end of the financial year; the occupied posts were four, 10 and five respectively. This translates to a 24% vacancy rate.

#### 4.4.1.2 Topical Issues and Matters of Interest

The current increased demand for commodities globally and its resultant increase in market prices has affected activities in the regions. Of particular interest is the advent of an old underground uranium mine in the Western Cape (Beaufort-West) which may be reopened and an opencast coal mine in the Eastern Cape (Lady Frere). Due to their high risk nature, these may require a review of the staffing requirements for the regions.

# 4

There is also an increased demand for aggregate materials for the construction of 2010 FIFA World Cup related infrastructure in the Port Elizabeth and Cape Town areas which has increased activities in the quarrying sector. All these mean increased labour at work and thus increased exposures to occupational hazards.

### 4.4.1.3 Challenges

Most of the accidents experienced in the regions are machinery related. The vacancy rate for Machinery Inspectors is unacceptably high as the Northern Cape region has spent the last several years without a certificated electrical/mechanical engineer.

This situation has clearly influenced safety performance with actual fatalities increasing almost twofold from eight people losing their lives in 2006 to 15 in 2007. Ten of the afore-mentioned fatalities occurred in the Northern Cape and of these four were machinery related.

### 4.4.1.4 Improvement Strategies

In order to achieve improvement of safety and health there will be a focus on the auditing of health and safety management systems employed by the mines to identify opportunities for improvement.

The findings of the Presidential Audits will serve as a baseline for monitoring activities. The aim will be to achieve incremental improvement of compliance levels.

In line with the DME Strategic Plan, which requires a Balance Scorecard approach, the focus will be on improving financial planning and budgeting to ensure that the limited resources that are available are allocated properly to ensure that goals are achieved optimally. In order to improve service delivery, the improvement of the knowledge base of staff within the regions by enabling them to attend courses and conferences will equip staff with the knowledge and skills to support the work within the MHSI.

There will also be increased collaboration with other Government institutions such as the Departments of Labour and Health, the SAPS and the National Prosecutions Authority. The collaboration will ensure an integrated approach in dealing with the common challenges facing Government.

## 4.4.2 Regional Report – Eastern Cape

### 4.4.2.1 Overview of the Region

The Eastern Cape is the second largest province of South Africa in terms of area and the third largest in terms of population. The province includes the former homelands of Transkei and Ciskei and is inhabited with almost seven million people who speak mainly Xhosa, Afrikaans and English.



There are some 246 mining operations in the Eastern Cape employing approximately 2 300 people in the medium and high risk operations. Mining takes place in some 57 hard rock quarries and many gravel and clay quarries to provide the necessary materials for the construction industry. There continues to be much activity through the region in repair and upgrading of roads from materials mined from many borrow pits.

#### 4.4.2.2 Audits and Inspections

Inspections were not performed in accordance with the annual planning as Presidential Audits have taken precedence over inspections. The post of Inspector of Mines (Machinery) has been vacant since September 2007 and the Assistant Inspector of Mines has spent three months in Welkom for practical experience and also attended Mine Overseer training at Gold Fields Training and Leadership Academy during January 2008.

Category	Inspections	Audits
Planned	500	44
Actual	431	96
% Compliance	86%	122%

#### 4.4.2.3 Accidents

One fatal accident occurred in this period:

- At a Quarry, a front-end loader operator who had tipped a load of broken rock into the crusher bin. It was nearing the end of the working day and the crusher had already been switched off. The crusher operator was walking away from the crusher when the loader operator placed the loader in neutral with its bucket in an elevated position whilst going to load up a diesel container. The loader started moving backwards down an incline, which is part of the roadway that the crusher attendant was walking down. The loader ran-over the crusher attendant fatally injuring him.

Fatal Accidents	1
> 14 day reportable	3
1 to 13 day reportable	17

Period January 2007 to December 2007

#### 4.4.2.4 Investigations and Inquiries

The investigations and inquiries have been completed and the report has been send to the Chief Inspector of Mines.

	Investigation	Inquiries (Including investigation)	TOTAL
Initiated	1	1(1)	1
Completed	1	1	1
% Compliance	100%	100%	100%

#### 4.4.2.5 Disaster-type Accidents

Nil to report.

#### 4.4.2.6 Statutory Notices

Occupational Hygiene: Section 54 notices were sent to mines for non-compliance with provision of personal protective equipment, dust control, training and provision of change houses.

Machinery: Section 54 notices were issued for sub-standard mobile machinery and guarding.

No administrative fines were issued as the non-compliances were rectified before Inspectors left the site.

One instruction resulted in a work place stoppage.

Section 54 notices	Section 55 notices
9	256

#### 4.4.2.7 Administrative Fines

No Administrative Fines were imposed during the reporting period.

#### 4.4.2.8 Topical Issues and Matters of Interest

Elitheni Coal has been granted a mining permit for opencast mining. This mine is situated in the Indwe / Lady Frere area in the Eastern

# 4

Cape. Mining is expected to commence once the infrastructure has been finalised which will include fencing off the mining area stopping access to illegal mining in the area.

The construction of the 2010 Football Stadium seems to be on schedule. This project is consuming large volumes of construction materials provided by the mining industry in the Port Elizabeth area.

Power outages are fairly regular in the regional office leading to decreased productivity as well as a safety risk to persons in the building using the dark stairways.

## 4.4.2.9 Strategy Adopted to Improve Status Quo

The Eastern Cape Region embarked on Presidential Audits in December 2007, which is planned to be completed at the end of June 2008. The audits are in keeping with the schedule submitted in December 2007. These Audits are serving to increase awareness to the MHSA, 1996 and thereby increase disappointing compliance levels revealed by the Presidential Audits.

Various meetings have been made to promote the Inspectorate and in so heightening the awareness of health and safety viz. regional offices of NUM, Department of Labour; employer organisations such as Clay Brick Association and ASPASA, and the Director Public Prosecution.

In February 2008 a workshop was held with stakeholders regarding amendments to the MHSA, 1996. A major concern in this region is that in terms of Section 3(1) of the Act, an Employer must appoint a manager with prescribed qualifications, while there are no such prescribed qualifications for 'Other' mines. This contributes to low compliance levels as has been highlighted in the Presidential Audits.

Newsletters are a good source of communication with the mines and these are dispatched on a monthly basis.

## 4.4.3 Regional Report – Northern Cape

### 4.4.3.1 Overview of the Region

The Northern Cape Region is a vast widely spread area with manganese, diamond and zinc underground mines, many opencast mines and diggers. De Beers Finsch achieved six million fatality free shifts making them one of the top achievers in the Mine Health and Safety Council Award Scheme. The Northern Cape Mines' Safety Competition was well supported as usual and the Northern Cape Mine Managers Association (NCMMA) Health and Safety Day held at Danielskuil (Idwala Lime) was a success. Several innovations were displayed by different mines, which lead to improvements in health and safety.



#### 4.4.3.2 Inspections and Audits

Inspections were not performed according to the annual planning, because Presidential Audits had taken precedence over inspections. The posts of a Senior and two Inspectors of Mines (Machinery) have been vacant since 2005. The Assistant Inspector of Mines (Machinery) spent most of his time on training and resigned in September 2007 after requiring his Government Certificate of Competency. One Assistant Inspector of Mines (Mining) is still on training and continues with his Mine Managers Certificate.

Category	Inspections	Audits
Planned	1910	36
Actual	1239	92
% Compliance	64.9%	255.5%

#### 4.4.3.3 Total Accidents Reported

Ten fatal accidents occurred in the region. There has been an increase in the number of large scale and small scale digging activities, and the lack of training has become evident. Most of the accidents in this region are related to Trackless Mobile Machinery. The region has been without a qualified Inspector (Machinery) for more than two years. There were also two large mining expansion projects proceedings during the year, which could have accounted for the increase in the number of accidents. This is a 47.3% shortfall against the 20% milestone.

Fatal accidents	10
> 14 Day Accidents	57
1 to 13 day reportable Accidents	25

#### 4.4.3.4 Investigations and Inquiries

	Investigations	Inquiries	Total
Initiated	81	27	108
Completed	81	22	107
% Completed	100%	81%	95%

#### 4.4.3.5 Disaster-type Accidents

There were no disaster-type accidents in the Northern Cape during the reporting period.

#### 4.4.3.6 Statutory Notices

Instructions for non-compliance were issued. Administrative fines were recommended where serious non-conformities and sub-standard practices were found. Some mines were stopped for serious unsafe practices.

Section 54 Notices	Section 55 Notices
102	57

#### 4.4.3.7 Administrative Fines

No of fines recommended by Inspector	19
No set aside by Principal Inspector	3
No imposed by Principal Inspector	15
Value of fines imposed	R295 000.00
Appeals	0
Value of fines paid	R120 000.00

#### 4.4.3.8 Examinations

Certificate	Exam Boards	No of Candidates	Certificates Issued
Mine Overseers	4	6	1
Blasting	26	41	39
Onsetter	2	2	0
Lampman	1	1	1

#### 4.4.3.9 Land Use Applications and Complaints

	Received	Completed	Percentage
Township developments	2	2	100%
Mining and Prospecting Rights	90	88	99%
Closure Certificates	36	33	98%
Environmental Management	83	83	100%
Complaints	24	20	80%

#### 4.4.3.10 Strategy Adopted to Improve Status Quo

Random multi-disciplinary audits were conducted where injury trends are observed to be increasing and the occurrence of accidents is also observed to be increasing. However, the trend in this Region is downward which implies that this strategy is working. Various meetings were held with the different stakeholders, mine managers and employees to increase and share health and safety discussions. Non-compliances identified during the Presidential Audits were followed up through written reports of the remedial action taken by the mines.

#### 4.4.4 Regional Report – Western Cape

##### 4.4.4.1 Introduction

The Western Cape Region stretches from Vanrhynsdorp in the northwest to Murraysburg in the east. The most prevalent language is Afrikaans, followed by Xhosa and English. It is characterised by the farmers who are also miners and thus mining is seasonal (i.e. during the rainy seasons the clay brick operations close and the people work on the farms). There are about 246 mining operations, which mainly comprise of clay, rock and sand and a little bit of lime, phosphate, diamonds and heavy mineral sands. The Western Cape waters are home to three offshore installations, which mine gas and condensate and these are the PetroSA FA Platform, the Orca and the Glas Dowlr ship (contractor run for PetroSA).

##### 4.4.4.2 Inspections and audits

A total of 303 inspections and 45 audits were conducted in the Region. The Region started off at a slow pace of one group audit per quarter and gained momentum in July 2007, when it came to the attention of Inspectors that they had to do four group audits per month. The Presidential Audits started in December 2007 (which is in essence group audits too) and 26 were conducted from December 2007 to March 2008, which contributed to the number of the total audits performed for the year. The number of achieved inspections is lower than planned because for the period May to November 2007, the Region did not have an Inspector: Occupational Medicine and the Inspector: Occupational Hygiene resigned in February 2008.

Category	Inspections	Audits
Planned	456	48
Actual	303	45
% Compliance	66.44%	93.8%

##### 4.4.4.3 Total accidents reported

A total number of 63 accidents were reported with the breakdown as follows:



Type of accident	Number
1-13 day	33
Reportable	21
Fatal accidents	5
Dangerous occurrences	4

The prevalent type reportable type accidents are fires, struck by and caught between types of incidents. Two fatal accidents were caused by asphyxiation over a brick clamp; two were caused by machinery and one by electrocution. The dangerous occurrences were four. The actual number of fatal accidents in the Region is four, as one case of asphyxiation was not classified as a mine accident.

Fatal accidents	5
> 14 Day Accidents	21
1 to 13 day reportable Accidents	33

#### 4.4.4.4 Investigations and Inquiries

The total number of investigations conducted was 30 of which 25 was done with regard to reportable accidents and dangerous occurrences inclusive and five inquiries into fatal accidents. The Senior Inspector: Machinery also rendered assistance as a Presiding Officer in the Northern Cape for an inquiry into one of the mines. Of the fatal accidents, four were recommended for prosecution.

	Investigations	Inquiries	Total
Initiated	30	5	35
Completed	30	5	35
% Completed	100%	100%	100%

#### 4.4.4.5 Disaster-type Accidents

The region is fairly fortunate in that there have never been disaster-type accidents.

#### 4.4.4.6 Statutory notices

A total number of 100 statutory instructions were issued of which 36 were Section 54 notices and 64 were Section 55 notices to various mines. The common crimes are inadequate guarding, not performing

medical examinations, poor hygiene conditions and late reporting.

Section 54 notices	Section 55 Notices
64	36

#### 4.4.4.7 Administrative Fines

A total number of nine administrative fines were issued. One came to an imposition of a fine and has since been appealed and most were set aside after representations. A referral to the Public Prosecutor instead of administering a fine was done to a mine that reported that they had fixed matters that arose from inspections whereas they did not.

No of fines recommended by Inspector	9
No set aside by Principal Inspector	8
No imposed by Principal Inspector	1
Value of fines imposed	R15 000
Appeals	1
Value of fines paid	0

#### 4.4.4.8 Topical issues and matters of interest in area of responsibility

The Western Cape, especially the Beaufort West area has become a prospecting hive for uranium. Some mines are making substantial progress such as the mine that is working towards reopening an underground shaft. The shaft was closed in 1978 when the uranium price hit a low and currently the mine aims to quantify and qualify the reserve.

With the advent of the Presidential Audits, all mines in the Region were risk rated to determine which mines posed the highest risk and to get priority in audits. The criteria used to determine the risk were:

- Size of mine in terms of number of employees.
- Amount and type of machinery in place (inherent risks of the type of machinery in use).
- Physical risk caused by mining in relation to habitation.
- Accident track record of mine.
- Safety culture at the mine.

# 4

- Attitude of the mine management/owner.
- Level of safety system compliance.
- Does the scale of operation warrant the commitment of resources in the form of a group audit.

Generally speaking, brickworks are the operations with the highest risk rating and have been receiving highest priority.

Security and the use of mine sites outside of working hours by members of the public is becoming more and more of a problem. The problem is enhanced by urban spread and the attractiveness of mining sites for recreational activities such as quad biking, swimming and four-by-four activities.

Some mines are being forced to employ security personnel twenty four hours per day, seven days per week in order to keep people off the property albeit that they are simple sand mines.

In the past there have been persons seriously injured in quad bike accidents and fatal drowning in one of the quarries, which was later reported as a murder and dumping in the quarry.

Mines tend to employ safety practitioners and the role they play tends to be a grey area in some mines in that they cannot be held liable for what happens in the mine due to their omission, as they are not appointed.

Qualification of competent persons is not clearly defined in the MHSA, 1996 apart from the definition and that is very subjective.

#### 4.4.4.9 Strategies adopted for improving status-quo

The Principal Inspector took the opportunity of the review of the MHSA, 1996 and held an information session with the managers. During the information session issues such as requirements by law from the mines, the expectations from the DME and consequences of non-compliance. Medical surveillance issues, which are the most problematic in terms of compliance, were discussed in-depth and another forum for hygienists and medical practitioners will follow shortly. These information sessions will drive the mines to include occupational health in their risk assessments, to place the workers accordingly, to have a hierarchy of controls and to do the medical surveillance, especially the exit medicals as required by law.

Safety practitioner appointments should be regarded as legal appointments and be made to account for their omission or non-actions.



## 4.5 POLICY UNIT

The main purpose of the Policy Unit is to oversee the research and development of occupational health and safety policies and legislation as well as the advice thereon.

The objectives of the Policy Unit are to provide support to the MHSI through conducting research, policy formulation, occupational health systems review and legislative support.

Employees of the Unit represent Government at the Mine Health and Safety Council (MHSC), the permanent committees established in terms of the MHSA, 1996 and the MQA.

Responsibilities include participation in the Medical Bureau of Occupational Diseases (MBOD) and the South African National Aids Council (SANAC). The AIDS and HIV effort entails participation in the Mining Industry Tripartite HIV and AIDS committees.

The Unit also works closely with the Department of Labour (DoL), the South African Bureau of Standards (SABS), the National Institute of Health (NIOH) and the Council of Scientific and Industrial Research (CSIR).

## 5.5.1 Policy and Legislative Development

During the reporting period, the process of reviewing the following guidelines was initiated and will be completed during the next reporting period:

- Guideline for the compilation of a mandatory code of practice for the prevention of flammable gas explosions in mines other than coal mines.
- Guideline for the compilation of a mandatory code of practice for the prevention of flammable gas explosions in coal mines.
- Guideline for the compilation of a mandatory code of practice for the assessment of personal exposure to airborne pollutants

A position paper on the Medical Surveillance of Contractors was completed and studies on the management of incapacity due to occupational injuries and ill health was undertaken.

Of the 76 topics initially identified for legislation, 11 topics were still outstanding as at the end of the reporting period. The table below depicts the status of the outstanding topics:

### MHSA – Legislation outstanding

Topic	COP	Regulations	Standards	Status
Chairlifts		Yes	Yes	Awaiting Promulgation
Conveyor Belts	Yes	Yes		Awaiting Promulgation
Electrical		Yes	Yes	Awaiting Promulgation
Hazardous Locations		Yes		Awaiting Promulgation
Lifts		Yes	Yes	Awaiting Promulgation
General Machinery		Yes		Awaiting Promulgation
Offshore Installations	Yes	Yes		With the LDC
Shafts and Winders		Yes	Yes	With the LDC
Vessels under Pressure		Yes		Awaiting Promulgation
Flammable Gas		Yes	Yes	Awaiting Promulgation
Chapter 10		Yes		Under consideration by TTG and the LDC

### 5.5.1 The Technical Research Group (TRG) Meetings

Members of the Unit were involved with the validation of unit standards, qualifications and skills programmes with the MQA. These members had a direct input into the following work:

# 4

Qualifications registered on the NQF

- NC: Mining Operations for Underground Hard Rock – Level 2
- NC: Rock Breaking for Underground Hard Rock - Level 3
- NC: Occupational Safety – Level 5
- ND: Occupational Safety – Level 5

Qualifications submitted to SAQA (expected registration – early 2008)

- NC Rock Engineering: Strata Control Level 2 – gone through CP and gazetted
- NC Rock Engineering: Strata Control L3 – submitted 12 December 2007

Skills Programmes registered

- Occupational Health and Safety, Environment and Quality (basic)
- Blasting Assistant within Underground Hard Rock (Version 4)
- Competent person A: The examination and Declaring safe of a Workplace in Underground Hard Rock Operations (Version 4)
- Competent person B: The Installation and Maintenance of any Support Unit and the removal of a Temporary Support Unit in Underground Hard Rock Operations (Version 4)
- Secondary Blasting Operations for Underground Hard Rock (Version 3)
- Competent Person B: To Install, Maintain and Removal of Support in Underground Hard Rock Operations (Version 3)

## 5.5.1 HIV and AIDS Issues

A high level HIV and AIDS Principal's meeting was held at the Department in Pretoria under the auspices of the Mining Industry Tripartite HIV and AIDS Committee, on 5 November 2007. It was attended by representatives of the State, employers and labour. High on the agenda were presentations on the National Strategic Plan (NSP) of 2007-2011 and recommendations that were made during the second Summit.

### 5.5.1.1 National Strategic Plan for 2007-2011

The presentation on the current plan was ably done by the Cluster Manager of HIV and AIDS and STI's from the Department of Health. The presentation centred on the four key priority areas of the plan namely:

i. Prevention

The overall target is to reduce the rate of new HIV infections with 50% by 2011. The intention is to ensure that the large majority of South Africans who are HIV negative remain HIV negative and through specific interventions, prevent new infections.

ii. Treatment, care and support

The second priority area is to reduce the HIV infection and AIDS morbidity and mortality as well as socio-



economic impacts. The overall target is to provide appropriate packages of treatment, care and support to 80% of HIV positive people and their families by 2011.

iii. Research, monitoring and surveillance

The NSP recognizes monitoring and evaluation as an important policy and management tool. National, provincial and district level indicators to monitor inputs, process, outputs, outcomes and impact will be used to assess collective effort.

iv. Human Rights and Access to Justice.

Stigma and discrimination continue to present challenges in the management of HIV and AIDS. This priority area seeks to mainstream programs to mitigate these fundamental human rights challenges.

### 5.5.1.1 Recommendations of the Second Summit

Like the presentations on the NSP, the presentation on the recommendations of the second summit was also ably done by the Chief Director: Policy Unit. Central to the recommendations was a centralized HIV and AIDS database. The recommendations are being incorporated into the Implementation Plan, which will be implemented with immediate effect.

### 5.5.2 Interaction and Participation in other Stakeholder Activities

Members of the Unit collaborated with the Department of Labour in the following activities:

- TC 7 in the revision of Occupational Exposure Limits
- The SADC Crysolite Technical Task Group

Members of the Unit also participate significantly within other committees and associations and interact on regular basis with stakeholders, including the following, where they provide valued input in the established forums with stakeholders:

- Association of Mine Resident Engineers
- Department of Health
- South African Society for Occupational Medicine
- The Mine Ventilation Society of South Africa

- First National Battery
- SABS – explosion protection standards and caplamp standards
- Regional Offices – discuss national health and safety milestones

## 4.6 TECHNICAL SUPPORT UNIT

The core business of the Technical Support Unit is to provide a centre of excellence in order to provide specialist and technical services to the Inspectorate with particular focus on the regional components.

Some of the key responsibilities of the Unit are:

- Participate in specialist investigations and inquiries within regions when required;
- To marshal / mobilise specialist skills when required;
- To provide integrated professional advice and make recommendations from incidents, accidents, health trends and legislation to other Government Departments, the mining sector and other key stakeholders;
- Liaise with national and international key stakeholders in order to identify key research areas and influence key research agenda via the policy unit for research institutions and conduct literature research to maintain specialist knowledge;
- Ensure quality assurance of the performance of the inspectorate by providing mentorship knowledge transfer and promotion of health and safety to the inspectorate; and
- Liaise with other Governmental departments and other key stakeholders for the development of standards and specifications.
- Attend to Medical Appeals in terms of section 20 of the MHSA by employees in the mines who are not satisfied with decisions of the OMP.

Some of the notable activities of the Occupational Health component of the Unit are summarized below.

- The unit is part of the task team comprised of the Department of Labour, the technical support unit and Rand Mutual, whose responsibility is to investigate claims lodged by the ex-mine workers.
- The unit is involved in assisting with the classification of certain deaths as due to natural causes or mine injuries

The Health Component was responsible for the development of the following:

- Policy for conducting inspections and audits at mining operations
- Internal procedure to be followed by the Technical Support Unit for the evaluation of research
- Internal procedure to be followed by the Technical Support Unit for the evaluation of monthly statistics
- The terms of reference for the technical audit of the Presidential Audit: occupational health.

## 4.6.1 Directorate: Surveying

The main functions of this Directorate are the continuous monitoring of mine surveying standards and practices in order to promote a culture of safety and health on mines, the safe utilisation of undermined land for development purposes, the safe and optimal exploitation of mineral resources as well as the rendering of mapping and draughting services. Additionally, the identification of hazards and risk control together with the training of new personnel are imperative functions.

### 4.6.1.1 Occupational Safety

#### 4.6.1.1.1 Surveying matters

The Directorate is rendering a continued service to the Regional offices, in particular with regard to the maintenance of surveying and mapping standards and the monitoring of compliance by mines with the relevant Health and Safety Regulations in order to ensure a safe mining environment and the protection of surface structures and underground workings.

The auditing of the Departmental copies of mine plans in all regions is an ongoing function.

There was, however, a decrease in both the number of underground and opencast mine surveying inspections and physical checks carried out due to an acute staff shortage. Underground inspections and check measurements in restricted mining areas, where underground and surface structures are to be protected, were still given priority.

The following table shows a comparison of tasks completed during the year:

	2006/2007 Actual	2007/2008 Planned	2007/2008 Actual
Mine survey inspections (underground and surface mines)	485	540	430
Underground control measurements	224	270	214
Special tasks (control surveying projects)		3	3
Regional files received and completed			
• Carried over from previous year	20	-	108
• Received during the year	868	-	1085
• Completed during the year	876	-	1177
• Carried over to next year	108	-	16
Miscellaneous tasks (Examinations, projects, etc.)	21	-	21



Regional files include applications for exemptions and permissions, surface utilisation applications including applications for undermining of surface structures, land use applications (township establishments, roads, railways and other rights affected by past, present and future mining operations).

#### 4.6.1.1.2 Rehabilitation and special surveys

The Directorate: Mine Surveying is constantly involved in practical surveying projects. These mostly assist in monitoring the rehabilitation of old discard dumps of defunct asbestos mines in the Northern Cape, Limpopo and Mpumalanga regions. It also assists with any mining boundary disputes as well as verifying the accuracy of survey data submitted by candidates undertaking the trial survey part of the Mine Surveyors Certificate of Competency examination.

The verification surveys of rehabilitation earthworks, carried out by contractors who are paid out of State funds, are normally conducted from time to time on a spot check basis during the life of the projects as time permits.

#### 4.6.1.1.3 Mapping Services

- Management of mine survey data

The Sub-directorate: Mapping and GIS, strives to maintain and promote the sustainable data management of the defunct and current mines in South Africa. This includes prescribed mine plans, maps and related spatial survey data for the lasting benefit of the nation, future land use applications and ensuing possibilities of arising mining activities which include indexing and storage of recently closed and current mine plans as an ongoing process.

- Scanning of defunct mine plans

Several mine plans have been scanned, including the cadastral maps showing the undermined areas. A project plan is to be developed to monitor different phases along the data capturing and other procurement processes involved.

#### 4.6.1.1.4 Technical Draughting

An ongoing mapping and technical draughting service of the Sub-directorate includes modern Survey, Mapping and Geographic Information Systems (GIS) technology, which places great emphasis on survey data linkages, database management, spatial queries, data manipulation, specialized analysis and large format scanning and printing. The Sub-directorate has, in recent years, accomplished technological advancements on Mapping and GIS software (Arc view) and related equipment in producing the following maps and/or plans:

- Processing of mine dump models, volumetric calculations for earthworks and rehabilitation of the closed mines
- Updating of undermined areas on topo-cadastral maps, which will later be integrated on NMPS.
- The provincial maps of the country, which depict active mines, closed mines, mineral points and related cadastral data has been developed, with few of them being finalised.

## 4.7 INTERNAL CONTROL UNIT

PURPOSE: To provide and internal assurance service for the MHSI by identifying opportunities for improving effectiveness of management controls, service delivery and compliance.

Key Activities	Measures	Targets 2007/8	Actual Performance as at 30 April 2008	Comment
Develop Internal Control guidelines	Number of identified subjects addressed	6 Topics identified: Overall audit procedure=1 Procedure for each discipline=4 Administration procedure=1	5 procedures in place: 83% Achieved	Draft procedures and standard work practices in place for: 1. Overall Auditing 2. Monthly Planning 3. Filing 4. Occupational Hygiene 5. Occupational Medicine
Conduct Internal Control Audits	Number of audits conducted	24 Audits = 2 per month	Monthly Business Plan Report Audits = 12 SAMODD Audit = 1 63% Achieved	Audits commenced in the second half of the year. The first half of the year was used for developing auditing protocols.

### 4.7.1 Staffing

The Unit has a compliment of six officials, being the Internal Control Manager, four Internal Control Inspectors and an Administrative Secretary.

Three of the officials were absorbed into the Unit because of restructuring and the three posts for the Inspectors Mining, Hygiene and Machinery where advertised and filled October 2007.

The Machinery Inspector terminated his service at the end of February 2008. The post was advertised and none of the applicants met the requirements.



## 4.8 LEGAL SUPPORT SERVICES UNIT

### 4.8.1 Legislation and Review of the Mine Health and Safety Act, 1996

Occupational health and safety policy, prevention, research and enforcement within the mining industry in South Africa are regulated under the MHSA, 1996. The MHSA came into force, on 15 January 1997.

The Department is currently in the process of amending the MHSA. This is done with the objective of ensuring that the MHSA is responsive to the ever-changing mining and legal environment in South Africa.

The main purpose of the Amendment Bill is to:

- Simplify the fine system and increase the maximum amount from R200 000 to R1 million.
- Strengthen offences and penalties. Amend Section 91 to include Corporate.
- Substitute, add and remove ambiguities in certain definitions and expressions.
- Effect certain amendments necessary to ensure consistency with other laws, particularly the MPRDA, 2002.
- Amends Section 47 of the MHSA, 1996 to re-establish the MHSI as an organ of state and juristic person to be incorporated under the MHSC.
- Empower the MHSA, 1996 to grant health and safety permits

The first draft of the Bill has been completed. The Department is in the process of obtaining Cabinet approval of the draft Bill for public consultation and the subsequent tabling at Parliament.

### 4.8.2 Regulations

The following regulations approved by the Minister were promulgated in the last quarter of the year:

- Conveyor Belts
- Hazardous Location
- General machinery

- Flammable Gas Regulations
- Water storage and pumping and
- Fires and explosions.

## 4.9 SUPPORT SERVICES UNIT

### 4.9.1 Management Information Systems (MIS)

The MIS Sub-directorate of the Inspectorate is responsible for the day-to-day running of four occupational health and safety databases:

- The South African Mines Reportable Accidents Statistics System (SAMRASS) is a database, which captures and stores accident data reported by the mines. The database was established in 1988 and since then the data have been used for analysing the safety performance of the mining industry.
- The MIS Section also administers two medical databases, SAMODD and the Annual Medical Reports database. These provide a uniform and centralised platform for recording the occurrence, morbidity and mortality of occupational diseases in the mining industry. SAMODD is still not regulated, therefore the mines continue to supply data on a voluntary basis, resulting in an inconsistency in the available data.
- A hygiene database, stores records of exposure to noise, dust, gasses and fumes, as reported by mines.

During 2007, the databases continued to be plagued with network and server problems, which hamper the Inspectorate's ability to provide accurate and reliable statistical information.

### 4.9.2 Administration Sub-unit

#### 4.9.2.1 Staffing MHSI

The establishment of the Inspectorate provides for 337 posts of which 245 are currently filled and 92 are vacant. The demographics of the Inspectorate as on 31 March 2008 was as follows:

Gender	African	White	Asian	Coloured	Total
Male	92	60	2	3	157
Female	64	21	0	3	88

Since April 2007, the Inspectorate has lost 42 staff members due to resignations, retirements and transfers.

#### 4.9.2.2 Staffing Support Services Unit

The establishment of the Support Services Sub-Unit provides for 28 posts of which 17 are currently filled and 11 are vacant. The demographics of the staff as on 31 March 2008 was as follows:

Gender	African	White	Asian	Coloured	Total
Male	5	1	0	0	6
Female	7	4	0	0	11

#### 4.9.2.3 Administrative Fines Account

The Administrative Fines Account in April 2007 reflected a credit balance of R 1 561 731-09. Payments totalling R 277 000-00 were received for fines issued by the Inspectorate during the financial year.

No funds were utilised during the year and the account closed the financial year with a credit balance of R 1 841 769-38.

### 4.9.3 Training Sub-unit

#### 4.9.3.1 Training

During the reporting period, the MHSI has continued to develop the skills and knowledge of its staff members in order to meet the new challenges that were necessitated by the restructuring process. A grand total of 56 staff members within the MHSI were trained, comprising of 39 managerial and administrative courses and 17 technical courses.

In an effort to address the skills shortage gap and past imbalances within the mining sector, the Inspectorate in collaboration with Human Resources Development Directorate of the DME, initiated the following interventions:

- Twenty-three Learner Inspectors (10 females and 13 males) have been appointed and commenced their two-year training internship programme on 1 August 2007. They were placed at the Gold Fields Academy, which has entered into a Service Level Agreement with the Department.
- The Director-General has approved the request to fund eight more bursaries to study towards engineering, surveying and mining, hence the total number of bursary holders in the Inspectorate will increase from the



current eight (five females and three males) to sixteen, once new bursary holders have been selected.

#### 4.9.3.2 Examinations

Qualifications	Applications	Certificates Issued
Mine Managers	822	25
Mine Overseers	593	173
Mine Surveyors	191	11
Winding Engine Drivers	81	71
Engineers (Mechanical + Electrical)	134	73

#### 4.9.4 Promotions Sub-unit

##### 3.3.4.1 MHSC Award Scheme

The Promotions Sub-unit is responsible for administering the MHSC Award Scheme. In the category Million Fatality Free Shifts, 29 mines achieved a million fatality free shifts of which 14 mines achieved two million and more fatality free shifts. Of the latter five mines achieved three million and more fatality free shifts and one mine achieved an exceptional 10 million fatality free shifts.

In the category Thousand Fatality Free Production Shifts, 23 mines achieved a thousand fatality free production shifts, of which 22 achieved two thousand and more fatality free production shifts. Fourteen of these achieved four thousand and more fatality free production shifts and one mine achieved an exceptional 29 000 fatality free production shifts.

##### 3.3.4.2 Exhibitions

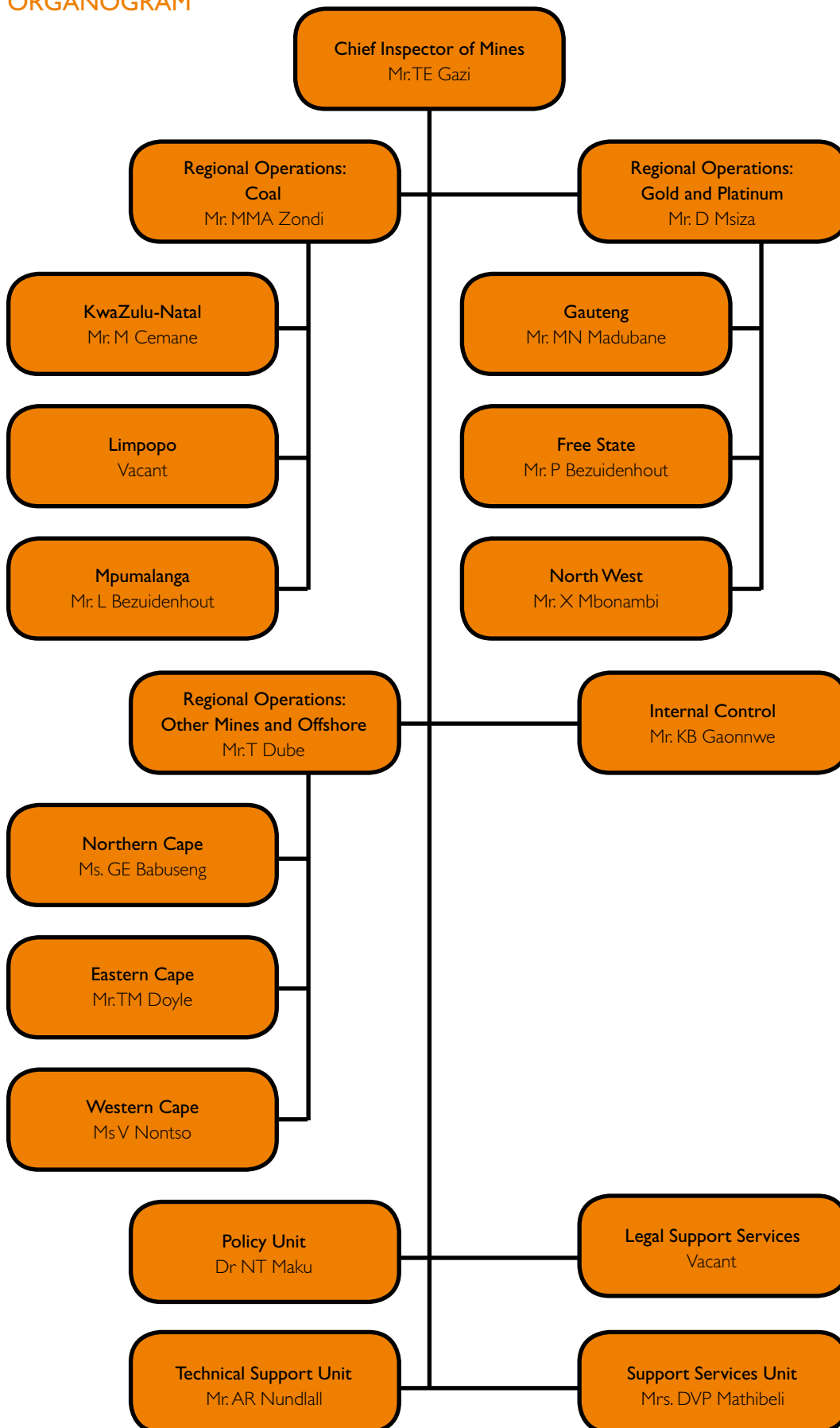
In the drive to promote awareness of available safety and health products and information at mines and communities where mines are located, the Sub-directorate attended five smaller exhibitions that were held at specific mines, SHERCON and NOSHCON (both international events), as well as the NCMMA Health and Safety Day.

#### 3.3.4.3 Media Monitoring

During June 2007, the Promotions Sub-directorate initiated a media monitoring service for the CIOM. The purpose of this service is to keep the CIOM as well as the Regional Operations Managers informed about mine health and min safety media reports.

# ANNEXURE A

## ORGANOGRAM



## ANNEXURE B

### CONTACT LIST

Subject	Official	Work Tel	Work Fax	Address	E-mail
Chief Inspector of Mines	Mr TE Gazi	012 317 8208	012 317 8974	Private Bag X59 Pretoria 0001	ane.pieterse@dme.gov.za
Regional Operations Manager: Gold and Platinum	Mr D Msiza	012 317 8169	012 317 8966	Private Bag X59 Pretoria 0001	arista.muller@dme.gov.za
Regional Operations Manager: Coal	Mr MMA Zondi	012 317 8349	012 320 6869	Private Bag X59 Pretoria 0001	lindiwe.sekwati@dme.gov.za
Regional Operations Manager: Other Mines	Mr TT Dube	012 317 8158	012 322 0810	Private Bag X59 Pretoria 0001	freda.seema@dme.gov.za
Head: Technical Support Unit	Mr AR Nundlall	012 317 8451	012 322 1345	Private Bag X59 Pretoria 0001	funanani.mugodi@dme.gov.za
Head: Policy Unit	Dr NT Maku	012 317 8822	012 322 1345	Private Bag X59 Pretoria 0001	mamello.ratikane@dme.gov.za
Head: Support Services	Ms DVP Mathibeli	012 317 8462	012 322 2519	Private Bag X59 Pretoria 0001	Patrick.sikhosana@dme.gov.za
Head: Surveying	Vacant	012 317 8116	012 320 2178	Private Bag X59 Pretoria 0001	goitseman.sekwati@dme.gov.za
Principal Inspector of Mines- Gauteng	Mr MN Madubane	011 358 9776	012 339 6910	Private Bag X5 Braamfontein 2017	nokhaya.magudumana@dme.gov.za
Principal Inspector of Mines- Free State	Mr P Bezuidenhout	057 391 1373	057 352 2270	Private Bag X33 Welkom 9460	jessica.erasmus@dme.gov.za
Principal Inspector of Mines- North West	Mr X Mbonambi	018 462 7480	018 462 9039	Private Bag XA1 Klerksdorp 2570	engela.daffue@dme.gov.za
Principal Inspector of Mines- Kwa-Zulu Natal	Mr M Cemane	031 333 9430	031 305 5803	Private Bag X54307 Durban 4000	sindy.dlamini@dme.gov.za
Principal Inspector of Mines- Limpopo	Vacant	015 287 4700	015 287 4740	Private Bag X9467 Polokwane 0700	violet.mautjane@dme.gov.za
Principal Inspector of Mines- Mpumalanga	Mr LJA Bezuidenhout	013 656 1448	013 690 2390	Private Bag X7279 Witbank 1035	loraine.coetsee@dme.gov.za
Principal Inspector of Mines- Western Cape	Ms V Nontso	021 419 6105	021 419 6260	Private Bag X9 Rogge Bay 8012	sandra.sobhayi@dme.gov.za
Principal Inspector of Mines- Eastern Cape	Mr TM Doyle	041 502 0300	041 585 9097	Private Bag X6076 Port Elizabeth 6000	megan.singh@dme.gov.za
Principal Inspector of Mines- Northern Cape	Mrs GE Babuseng	053 830 0802	053 830 0827	Private Bag X6093 Kimberley 8300	rosysereko@dme.gov.za
<b>MQA and MHSC</b>	<b>Contact List</b>				
MQA Chief Executive Officer	Mr L Nenghovhela	011 630 3506	011 832 1044	Private Bag X118 Marshalltown 2017	HeileneS@mqa.org.za
MHSC General Manager	Vacant	011 358 9180	011 403 1821	Private Bag X63 Braamfontein 2017	BMoisuoqa@mhsc.org.za

# ANNEXURE C

## ACRONYMS

ACOSH	Advisory Council for Occupational Health and Safety
AIDS	Acquired Immune Deficiency Syndrome
AQI	Air Quality Index
ASPASA	Aggregate and Sand Producers' Association of South Africa
CIOM	Chief Inspector of Mines
COAD	Chronic Obstructive Airway Disease
COP	Code of Practice
CSIR	Council for Scientific Industrial Research
CSM	Cold Stress Management
DG	Director-General
DME	Department of Minerals and Energy
EE	Employment Equity
EMP	Environmental Management Plan
EMPR	Environmental Management Programme Report
FIFA	Federation of International Football Associations
GIS	Geographic Information Systems
GTT	Government Task Team on Mine Closure and Water Management
HDI	Historically Disadvantaged Individuals
HDSA	Historically Disadvantaged South Africans
HIV	Human Immune Virus
JIPSA	Joint Initiative for Priority Skills Acquisition
KRA	Key Responsibility Areas
LDC	Legal Drafting Committee
MBOD	Medical Bureau of Occupational Diseases
MHSA	Mine Health and Safety Act, 1996
MHSC	Mine Health and Safety Council
MHSI	Mine Health and Safety Inspectorate
MOHAC	Mine Occupational Health Advisory Committee
MPRDA	Mineral and Petroleum Resources Development Act, 2002
MQA	Mining Qualification Authority
NCMMA	Northern Cape Mine Managers' Association
NIHL	Noise Induced Hearing Loss
NIOH	National Institute of Occupational Health
NMPS	National Minerals Promotion System
NOSHCON	National Occupational Safety and Health Conference
NQF	National Qualifications Framework



NSP	National Strategic Plan
NUM	National Union of Mineworkers
OEL	Occupational Exposure Limit
OHS	Occupational Health and Safety
OMP	Occupational Medical Practitioner
PGM	Platinum Group Metals
PTB	Pulmonary Tuberculosis
RMDEC	Regional Mining Development and Environment Committee
SABS	South African Bureau of Standards
SADC	Southern African Development Community
SAMINDEX	South African Minerals Information Database
SAMODD	South African Mines Occupational Diseases Database
SAMRASS	South African Mines Reportable Accidents Statistical System
SANAC	South African National Aids Council
SAPS	South African Police Service
SAQA	South African Qualifications Authority
SDM	Systems Development and Maintenance Directorate
SIMRAC	Safety in Mines Research Advisory Committee
SMME	Small Micro and Medium Enterprises
STI	Sexually Transmitted Infections
TB	Tuberculosis
TRG	Technical Research Group
TTG	Technical Task Group
UASA	United Associations of South Africa



